THE DRIVE YOU DEMAND

VOLATILITY STRATEGY: A FINANCIAL GAME OF MUSICAL CHAIRS

Using an overlay strategy to cope with challenging markets

For Qualified Investors in Switzerland or Professional Investors or Eligible Counterparties as defined by the relevant laws

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Key points

- *The combination of low to negative rates and low volumes has forced yield hungry investors into crowded trades, which get challenged from time to time, creating flash crashes, spectacular squeezes and abrupt rotations.*
- *The market correction and volatility spike of December 2018 is an illustration of how nervous investors can become when central banks are less supportive. Despite the market's recent strong recovery, it would be unwise to dismiss December's volatility spike as a one-off.*
- *When volatility is low, it is typically expensive to carry, testing the patience of hedgers. Nonetheless, while volatility can stay low, exogenous events have surprised the markets over and over again.*
- *Being able to navigate this environment is key, in order to produce good risk-adjusted returns. As we approach the end of the cycle, some protection seems justified. However, one needs to be selective when it comes to implementing a hedging strategy.*

Starting from the lessons learnt in 2018, this white paper will draw parallels between the current volatility outlook and a game of musical chairs. Whenever central banks slow the supply of liquidity or "stop the music", the next vulnerable asset misses a chair. Furthermore, in an overextended cycle, there are fundamentally fewer chairs. We will then show how a dynamic overlay strategy can help investors cope with these challenging markets.

Volatility outlook: a financial game of musical chairs

Musical chairs is a game of elimination involving players, chairs, and music, with one chair fewer than players. When the music stops whichever player fails to sit on a chair is eliminated, with a further chair then being removed and the process repeated until only one player remains.

The current market dynamic is like 'a game of musical chairs' whereby any reduction in central bank liquidity could result in a severe correction, where the next most vulnerable asset could miss out on one of those few remaining chairs.

As a matter of fact, in 2018, while the Federal Reserve was in tightening mode, we experienced both one of the worst days (5 February) and one of the worst months (December) for global equities, as well as one of the worse years for multi-asset portfolios (with almost all asset classes negative on the year, including global bonds).

Don't dismiss the Q4 2018 volatility spike as a one-off

The depth and intensity of December's market correction and volatility spike came as a shock to investors.

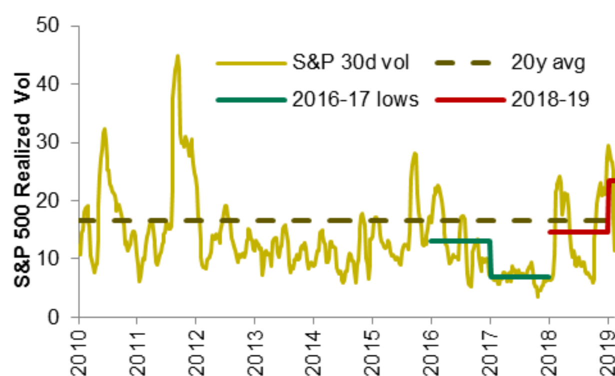
A mere two months later, however, what looked like a very bad omen in December seems to be being viewed as a minor statistical disturbance that is best quickly forgotten. This view seems to be driven by the remarkable speed and strength of the subsequent recovery and drop in volatility. Furthermore, there was little risk of spill-over beyond of US equities.

After all, risk assets are performing well again. However, **it would be unwise to dismiss December's volatility spike as a one-off.**

Several explanations for this sudden and violent market behaviour have been suggested. It seems likely that fears of a hard Brexit, the US government shutdown and the threat of additional trade tariffs on China all played a role. Alternative explanations for this short-lived volatility increase have pointed to more technical factors, such as a rotation out of technology and growth sectors and hedge fund deleveraging.

But the fundamental factors behind the expected shift to a higher-volatility regime are slowing economic growth and the very poor market underlying liquidity. Two such volatility flares in less than twelve months is no coincidence.

S&P 500 30-day' volatility vs. 20-year historical average



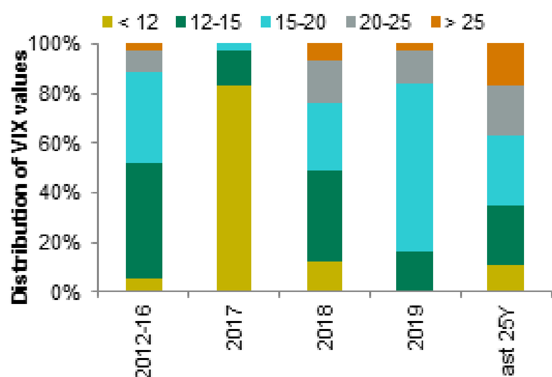
Source: UBP, Bloomberg Finance, L.P.

It's a late-cycle party and we might run out of chairs or music or both

These volatility spikes almost confirm that we are now in a very late stage of the economic cycle. Overlaying that with the structural headwinds of elevated debt levels, expensive valuations, weak growth, poor liquidity, frail geopolitics and trade wars, we think that the global economy could be entering a more challenging period, as fundamentally, there are 'fewer chairs'.

We actually believe that 2017 was as much as an outlier (in terms of low volatility) as 2008 had been (in terms of high volatility) and that the process of normalisation towards long-term average levels will continue from 2018 into 2019, even without another systemic crisis.

Distribution of VIX values per period



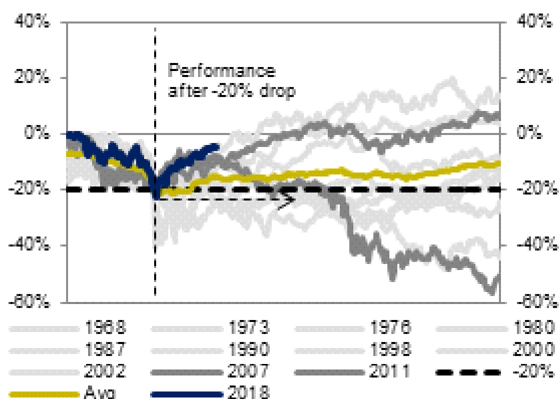
Source: UBP, UBP, Bloomberg Finance, L.P.

Central banks turned the music on once again

In the midst of the weakness, monetary policy at the major central bank unambiguously turned more dovish during January 2019. Chairman Powell took a resolutely more dovish stance and the ECB may now stand ready to launch another TLTRO. The PBoC has also announced liquidity measures.

These dovish positions helped equity markets to quickly recover December's losses, suddenly **transitioning from the worst December since 1931 to one of the best Januarys in fifty years**. In the chart below, we have plotted any non-overlapping performance of the S&P 500 Index after drops of -20%: the current rally is definitively one of the steepest (so far).

Market drawdowns and subsequent recoveries



Source: UBP, UBP, Bloomberg Finance, L.P.

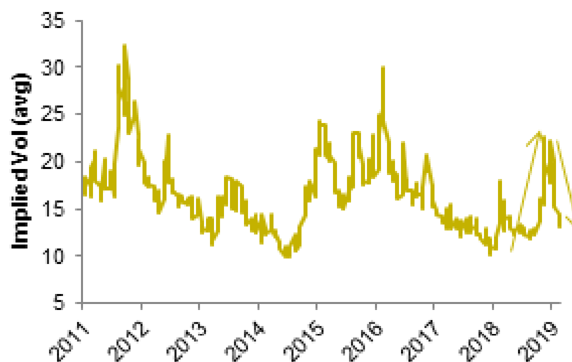
Ultimately, we do not believe central banks want to upset the current economic cycle and are acutely aware of the need to be cautious. A Fed on hold would most likely result in the music continuing to be played and an extension of the business cycle.

The (unintended) consequence of this is that more and more asset classes will be left standing without support when the 'music stops again'.

The music (liquidity) may stop (dry up) once again

Forward-looking option implied volatilities collapsed to new multiyear lows and the move was both deep and broad-based across most asset classes, strikes and maturities.

Cross-Asset Average Implied Volatility Index

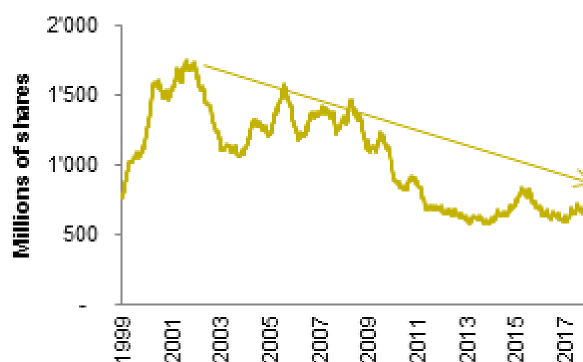


Source: UBP, UBP, Bloomberg Finance, L.P.

Central banks but also corporate buybacks continue to be a large part of the explanation for the wedge between asset prices and the underlying fundamentals.

To add to this puzzle, trading volumes are continuing their secular fall. With the traditional short-term and sell-side providers taken out by regulation (e.g. Basel III, Dodd-Frank and bans), markets are now structurally very shallow, especially in the so-called over-the-counter segments, therefore asset price attractiveness to institutional investors is the only driver of liquidity beyond the central banks.

Total volume of shares traded for members of the SPX Index



Source: UBP, UBP, Bloomberg Finance, L.P.

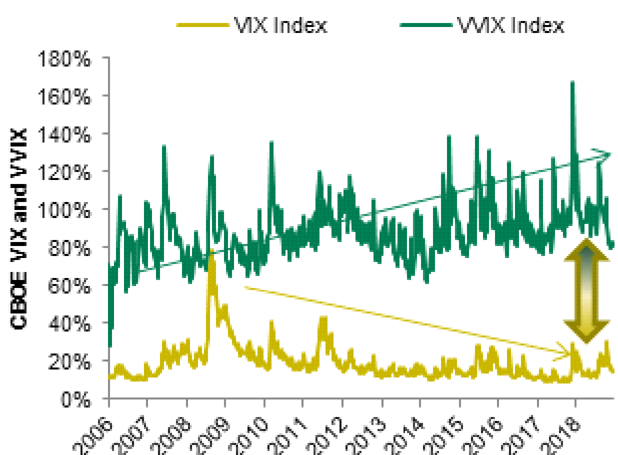
On the one hand, the S&P 500 (which is arguably the most liquid equity index in the world) is registering one of the least volatile periods; on the other, flash crashes, spectacular squeezes and abrupt rotation are becoming the norm. This is because the combination of low volatility and low volumes inevitably forces yield hungry investors into crowded trades, which get challenged from time to time creating risk-on risk-off waves that test investors.

As we have learnt from the recent sell-offs, when volatility spikes, liquidity is not there to take risk off, exacerbating the short-term price action, forcing the liquidation of speculative positions and triggering spectacular short-term volatility of volatility. These market dynamics are closely overseen by central banks, which systematically intervene or at least step up the dovish rhetoric when there is a technical over-extension of a sell-off, causing assets correlation to “melt-up”.

In their quest to control market volatility, **global monetary authorities have tamed deflation but also unbalanced the “volatility of volatility”.** CBOE, who calculates the VIX Index, also distributes the VVIX index (short-term implied volatility of VIX derivatives), which in turn has been nicknamed at the new “fear” index. If the volatility market is relatively stable, markets ability to forecast the near future is good. But, if volatility itself is volatile, market visibility becomes murky.

Markets are both fragile (e.g. illiquid) and uncertain (e.g. volatility itself does not trend) at the same time, which is a worrying mix.

Volatility vs. “Volatility of volatility”



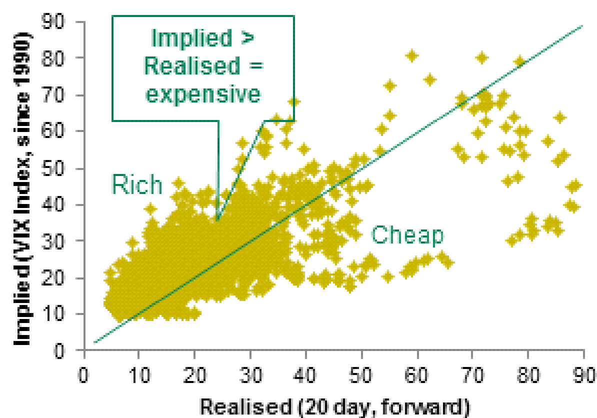
Source: UBP, UBP, Bloomberg Finance, L.P.

Volatility Value Trap

Volatility can be the quintessential value trap. **Investors may be attracted by its historically cheap levels but bleed a lot of money** when carrying out various forms of volatility trades. Consolidated behavioural patterns will eventually lead to the removal (purchase) of insurance at the worst possible point of the financial cycle.

The main explanation for this phenomenon is that low absolute levels of volatility tend to be associated with expensive levels of volatility relative value, the latter driving its cost of carry, affecting the efficiency of standard hedges during quiet regimes. Just because volatility is low, it doesn’t mean it’s cheap!

Implied volatility vs. realised volatility



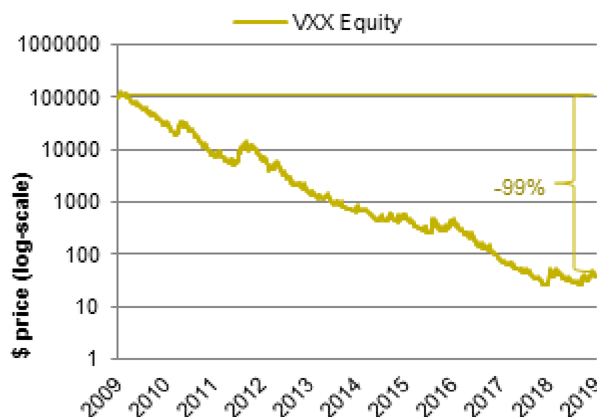
Source: UBP, UBP, Bloomberg Finance, L.P.

Low volatility regimes can be prolonged; therefore, there is room to sell expensive forms of volatility to finance and stay with cost-efficient tail hedges until a new market regime is established.

To paraphrase John Mayanrd Keynes’ line, “Markets can remain irrational longer than you can remain solvent”, “volatility can stay low(er) longer than investors can stay patient”.

Carefully pick which volatility you want to buy and which one you want to sell

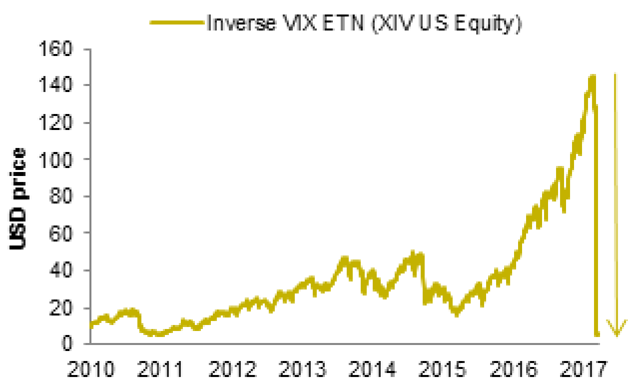
Counter-intuitively, it may not be the time to buy volatility outright and actually you ought to be very careful about which volatility you want to sell and which risk(s) to hedge. For example, VXX, which is a listed note that buys systematically into front VIX futures contract, - i.e. goes long volatility - has lost almost its entire value over the last ten years.



Source: UBP, UBP, Bloomberg Finance, L.P.

Once again, we believe that market interventions and dovish central bank policies have cut immediate downside risks. Nonetheless, while volatility can stay low, **exogenous events have surprised the markets time and again.**

Furthermore, in a low to negative rate environment, structured products are enhanced by embedding direct or indirect short volatility trades in order to create extra yield. When volatility falls, products break even and more money flows in to them, compressing volatility further. However, more issuance and tighter risk-premia are often a toxic mix as witnessed during **February 2018's "volmaggedon"** whereby a large short volatility exchange-traded note (XIV) went bankrupt in less than a day.



Source: UBP, UBP, Bloomberg Finance, L.P.

Fundamental knowledge of volatility flows is a must in order to pick the correct volatility to own.

Add a line of defence to your equity portfolio

As previously mentioned, the cycle has been elongated and we may well be approaching its end. In addition, we are witnessing **regime changes in the market, both in terms of volatility and interest rates**. These changes are impacting the risk appetite of investors who may feel it's **time to add a line of defence to an existing equity portfolio.** The question remains how to build and implement it.

We believe there is an important distinction between 'short-bias' and 'tail-risk' strategies, as they do not hedge the same risks. The former is meant to offset normal corrections while minimising the cost of protection; the latter is instead meant to kick in during extreme corrections and maximise the asymmetry of returns. **Investors need to choose which risk they want to hedge and a financing leg may be needed to stay with the hedge.**

	Short Bias	Tail Risk
Objective	To hedge standard market corrections	To hedge extreme and unexpected corrections
Description	Dynamic short exposure to markets	Dynamic long exposure to volatility futures
Drivers	Trend regime analysis	Volatility and market regime
Instruments	Listed vanilla options & futures on indices (S&P 500, EuroStoxx 50, etc.)	Listed VIX and Vstoxx futures (front maturities, the most liquid)

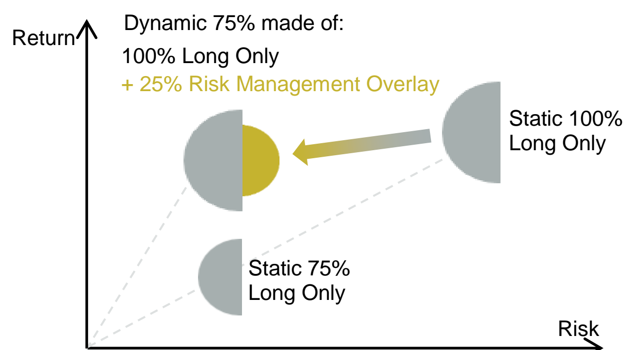
Hedging standard market corrections via popular hedges may be both expensive and ineffective at this stage while **a valid alternative exists by going long risky assets together with an active defensive overlay.**

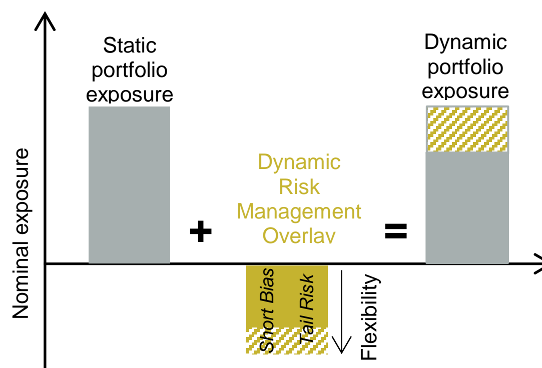
Our solution: a dynamic overlay strategy to improve the risk-adjusted return of your portfolio

Our overlay solution is a hedging strategy which reduces the exposure of a given portfolio dynamically, simultaneously aiming at:

- Minimising the cost of protection during "normal" market phases
- Maximising the effectiveness of the protection during "hectic" market phases.

To achieve both objectives, we combine the short bias and tail risk strategies, which enables us to be flexible and adapt the strategy to the market and volatility environment. With this strategy, we seek to improve the risk/return profile of a portfolio by reducing risk without compromising on returns.

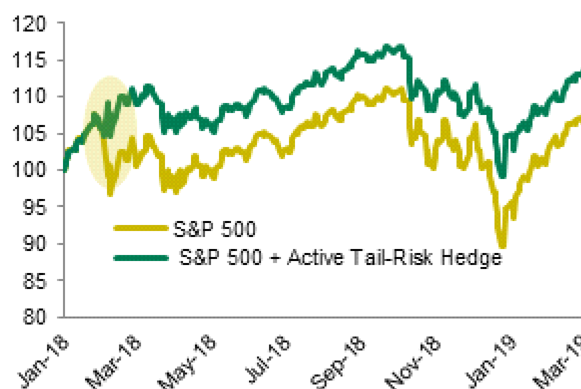




Source: UBP, for illustrative purposes

This approach allows investors to play along market momentum but also set an insurance budget against exceptional events in order to be able to 'sleep at night'.

Such methodology recently proved its reactivity in 2018 when retail investors were forced out of some speculative products.



Source: UBP, Bloomberg Finance, L.P.

With this sort a defensive investment solution, we also aim to **respond to the new challenges posed by the regime-dependent equity/bond correlation** and to provide an alternative to balanced funds thanks to the more stable relationship between equity spots and volatility markets.

Our overlay strategy is **highly customisable,** can meet various needs and can adapt to a client's existing allocation. It can be **delivered in different investment formats** and we only use **cash efficient, listed and very liquid instruments**.

In conclusion, **it may be time to invest in equities - without taking the full equity (downside) risk -** before the "music stops again".

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