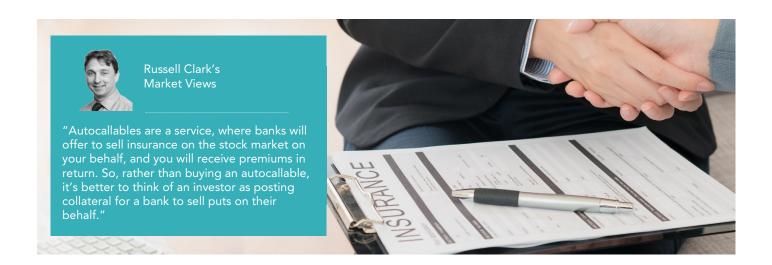


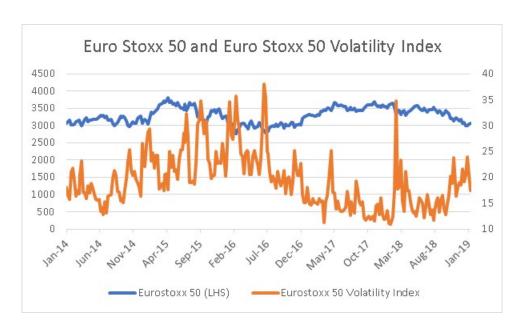
AUTOCALLABLES, EURO STOXX 50 AND SUPPRESSED VOLATILITY



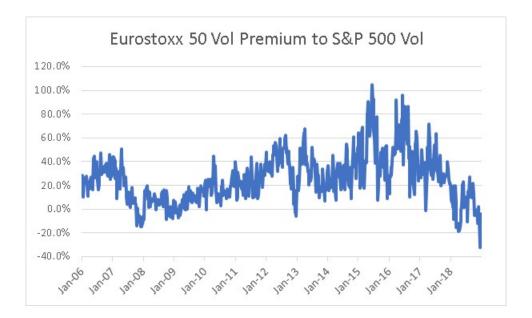
Autocallables (or structured products) are best thought of as a service. A bank will offer to sell insurance on the stock market on your behalf, so that you can generate an income from the premiums received. So rather than buying an autocallable, it's better to think of an investor as posting collateral for a bank to sell puts on their behalf. Typically, the bank will tell the investor what sort of yield they can generate, for a certain level of insurance. For example, a 5% return as long as the S&P 500 does not fall to 2000, from roughly 2600 today.

Typically, when markets fall, the price of insurance rises, and the bank does not need to sell that much insurance to meet a 5% yield target for an investor. Conversely, when markets rise, insurance prices fall, and banks would need to sell more insurance to meet the target yield. Hence, in normal markets, the risk to clients is balanced. More insurance is sold when market rise as insurance prices are low, and less insurance is sold when market fall as insurance prices rise. However, there are increasing signs that this market dynamic is breaking down.

Our research has shown that Euro Stoxx 50 is the most popular underlying index in the entire autocallable industry globally. Why is the Euro Stoxx 50 so popular amongst autocallable products? I think there are two reasons. Until very recently, the Euro Stoxx 50 has tended to have a higher implied volatility, which has meant that yields on Euro Stoxx autocallables have tended to be higher. The second reason is that the biggest structurers of autocallables tend to be French banks, so it would be easier for them to use their local index. Euro Stoxx 50 was weak in 2018, falling 18%. Volatility rose a little bit during the same period, but is still at a much more subdued than level seen in 2016 and 2015 for equivalent market movements.



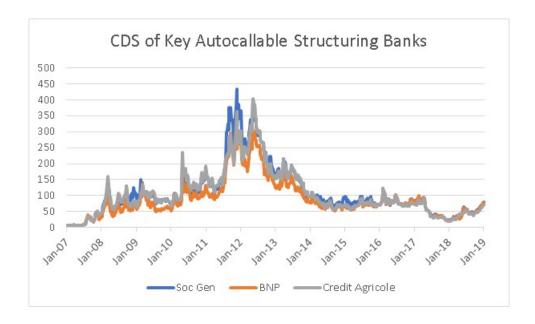
However, the relatively subdued level of Euro Stoxx 50 increasingly looks out of sync with underlying features of the European financial markets. Euro Stoxx volatility rarely trades below S&P volatility, but currently this is the case. It is possible to argue that lower recent historic volatility in the Euro Stoxx 50, relative to the SPX 500 has caused this, but given that Europe has many structural issues, and far fewer stocks in its index, this tends to be an aberration.



This is even more striking when we see that a classic risk indicator such as spread between French and German Collateralised Debt Securities ("CDS") are beginning to diverge.



While a divergence in French and German CDS is quite bearish in itself, it is having a knock-on effect for French banks, which are key autocallable structurers. Two of these banks are also members of the Euro Stoxx 50, which creates the potential for a vicious cycle; a French CDS widening could cause problems for French banks, which could cause problems in autocallables, which then could cause more problems for French banks and so on.

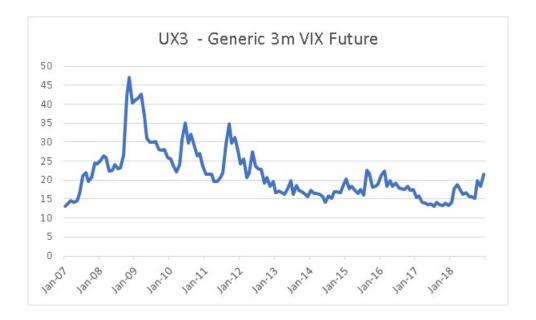


The subdued Euro Stoxx 50 volatility is also very at odds with recent price action in the Euro Stoxx dividend futures. Autocallable issuers are long dividend futures and declining prices tends to make life more difficult for the structuring banks. For structurers of autocallables, falling dividend futures is not necessarily a problem if they are getting a higher price on selling puts on the market. However, the problem is that weakness in the Euro Stoxx 50 last year did not lead to higher volatility in the market. In the 2015/16 sell off, market volatility averaged in the high 20s. In the 2018 sell off average volatility was only 15.



From a business perspective, these banks are seeing rising costs as their CDS rise, while also seeing falling revenue as the market price of volatility remains suppressed. Unsurprisingly, a smaller French bank involved in the structuring business warned in late December that it would suffer a 260m Euro "one-off" hedging loss in Q4.

All of the above leads me to suspect that Euro Stoxx 50 volatility is currently being suppressed. The US has the world's most liquid volatility market and has tended to be much less influenced by structural selling from autocallable issuers. I tend to look at 3month volatility futures in the US, as they are less volatile than spot markets. What we can see below is that longer dated volatility got extremely expensive in 2009 and then has been a in long drawn out bear market since. 3mth US volatility looks to have inflected higher in 2018. This should mean that Euro Stoxx 50 volatility should also be higher.



So why is Euro Stoxx 50 volatility so low? If you remember from the beginning of the note, the banks have committed to supplying their clients a fixed yield from selling insurance on the market. There is no ability for the banks to take a view on whether the price of that insurance is correct or not. There is an underlying assumption that as markets fall, market insurance will rise in value. However, when that does not happen, the banks are compelled to sell more insurance to meet the target yield, which causes insurance prices to fall further. While theoretically this could continue forever, there are some hard limits to this process. Most obviously, when the barrier on the stock market index is breached, the banks no longer need to sell insurance, and the price of volatility should spike. Less obviously, banks are selling more insurance than they thought they would at a lower level in the market. This will be increasing the implicit leverage of the strategy. There tends to be hard limits to this, and given price action in CDS markets, I suspect we are getting close. Investors should position themselves for a spike in Euro Stoxx 50 volatility.

INFORMATION

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