

Trade Idea

Equity Derivatives Research

June 18th 2009

Beware of interest rates uncertainty

- **The equity-volatility de-correlation is back to an extreme level** despite a market recovery and its associated volatility decrease.
- **We think volatility has decreased too sharply** compared to the evolution of leading and macro-economic indicators.
- **Due to FED dilemmas, we think interest rates volatility will remain high. This should push equity volatility upward.**
- **We recommend a long Delta hedged Risky 90-110 on SX5E, on Dec 09:**
 - This strategy plays the re-correlation of volatility with equity (long volatility if the market goes down, short volatility if the market goes up).
 - The low skew grants a good pricing.
- Given the low level of volatility and the probability of an early summer correction, **this could be a good opportunity to consider hedging strategies.** Their prices are at their lowest level since Lehmann bankruptcy.

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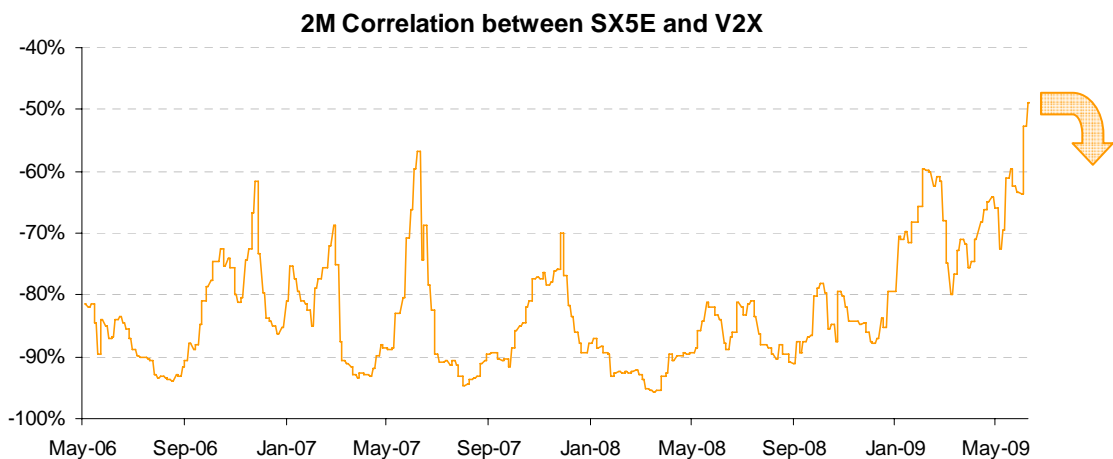
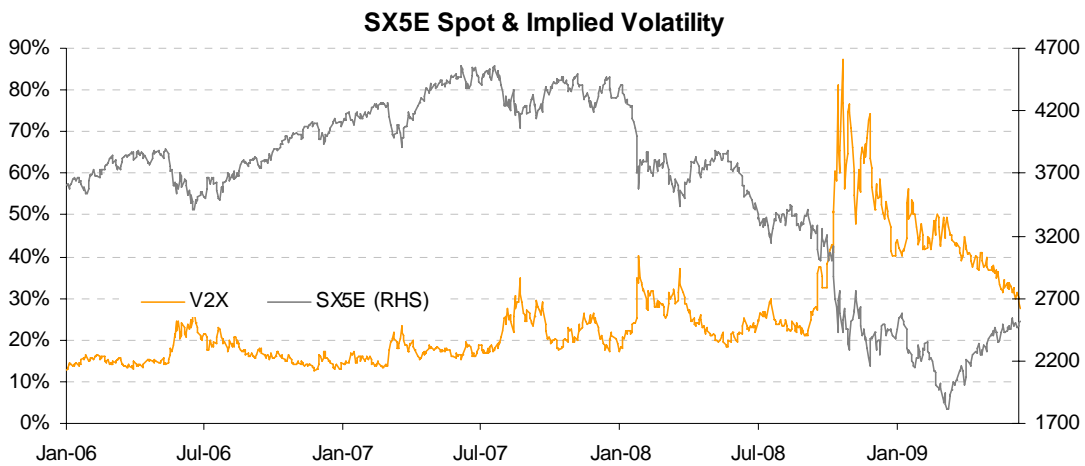
Lower volatility in advance ...of leading indicators

Over the last 3 months, we have observed a very fast decrease of volatility around the world. We have already explained the four main drivers of volatility decrease:

- Better than expected Q1 results.
- Deflation threats that are receding.
- The refinancing saga that is going on for corporates (see our report “Refinancing is key for volatility decrease”).
- Better macro indicators around the world.

These factors will continue to push long term volatility lower; however, in the mean time, short term volatility could revert.

Volatility started to decrease in January, 2 months ahead of the equity market recovery and was, for once, a leading indicator.

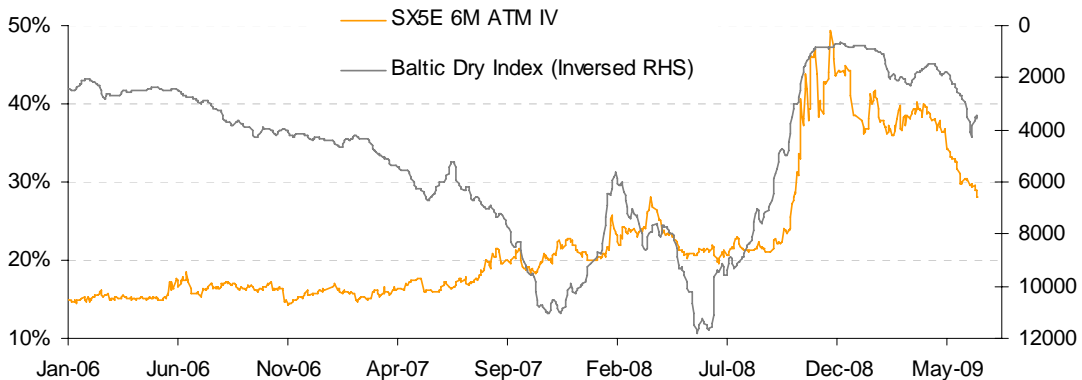


Volatility and equity indices have strongly de-correlated since March 2009. Over the last four months, equity markets rallied while volatility plummeted. We think the recent de-correlation between volatility and equity indices could be caused by a too strong decrease of volatility compared to recent flat equity markets.

We will now compare the volatility evolution with economic and risk indicators. We will show that in most cases volatility is lower than what the indicator would suggest. This means that volatility anticipates further improvements. This also means that volatility is fragile to any disappointment on the economy or in the market.

The Baltic Dry Index is a composite index of the price of moving major raw materials by sea. As raw material inputs to the production of intermediate or finished goods, such as concrete, electricity, steel and food, the index is also seen as an efficient economic indicator of future economic growth and production.

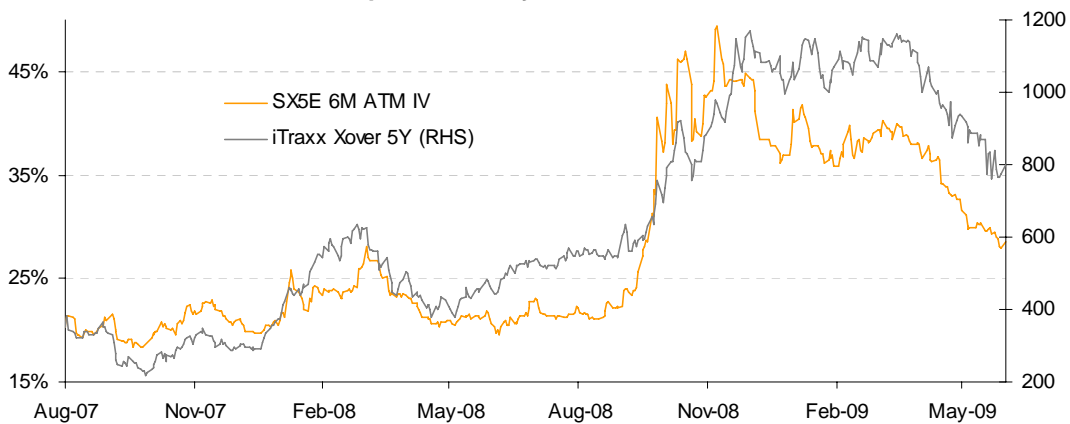
SX5E Implied Volatility and Baltic Dry Index



Source: Calyon for IV 6M, Bloomberg for Baltic Dry Index

Index volatility may have dropped too much considering the pace of the economic recovery illustrated by the Baltic Dry Index.

SX5E Implied Volatility & iTraxx Crossover 5Y



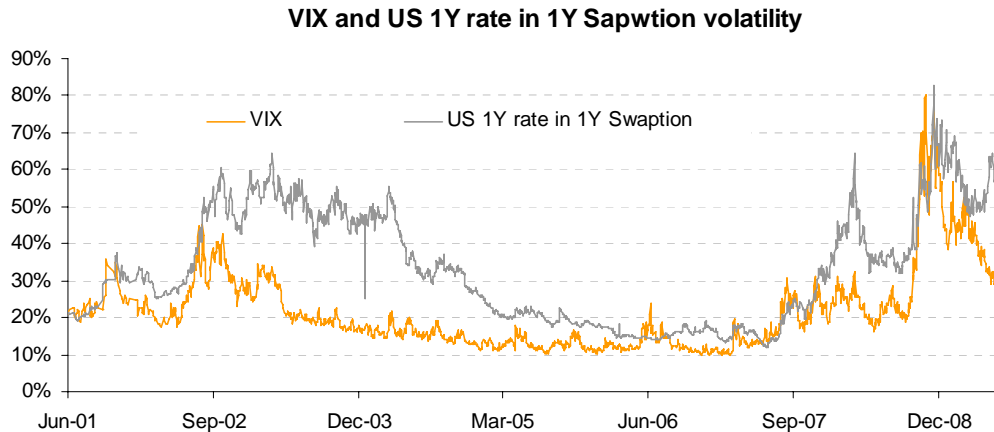
Source: Calyon for IV 6M, Bloomberg for iTraxx Xover

The iTraxx Crossover tightening illustrates the recovery of the credit market and the ongoing refinancing saga. Despite the credit-volatility correlation, **we are witnessing a gap between credit and volatility environments.**

The worrying factor: interest rates policy and volatility

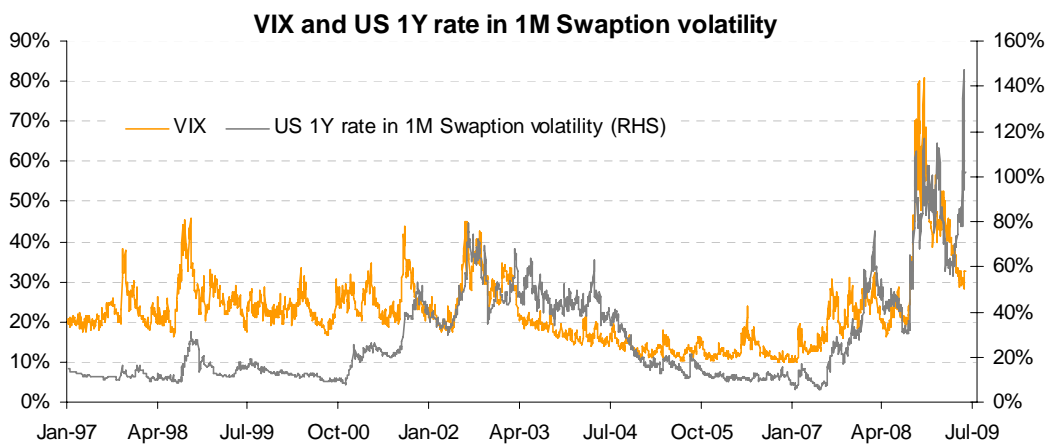
There is an obvious correlation between the equity volatility and the interest rates volatility, particularly during sharp changes of these volatility regimes.

Nevertheless, we observe a recent de-correlation as the equity volatility decrease goes on while yield curve is twisting dramatically.



Source: Bloomberg

We think this widening of the spread between those two volatilities cannot be sustained.



Source: Bloomberg

We think that interest rates volatility will remain high in the coming months. The FED is caught in between two dilemmas:

- if FED does not increase rates soon, then this could favor a new bubble. This is what happened in 2002-2003 post Internet bubble crash that then led to subprime/credit crisis.
- if FED increases interest rates, at a time when unemployment is still high and growing, they could then provoke a shock, like the Japanese mistake in the 90's, which could stop the fragile recovery.

These debates will remain for some time and would make interest rates, especially short term rates, volatile in the coming months. **This would necessary weight on equity markets and push volatility upward.**

We share the view of CA Cheuvreux Strategy team

Extract from CA Cheuvreux Enotes, published on the 15th of June 2009

The point of this discussion is to understand how volatility will return to equity markets.

The recovery of expectations for growth world-wide has produced two problems.

First, the upward adjustment of long-term interest rates threatens the recovery of asset values, especially in real estate, notably in America. Second, we are witnessing a return of de-stabilizing commodity cost inflation, despite the demand destruction caused by world super-recession.

Our conclusion is quite simple. It is generally assumed that the Federal Reserve will not be ready to adjust US\$ rates for some time. However, it is quite possible that they could signal a willingness to raise rates as early as this summer – if the debasement trade produces further commodity strength and US\$ weakness (accompanied by further gains in equity markets).

Even without the Fed actually raising rates, the impact of further flattening of the Treasury yield curve could be quite dramatic. The US\$ would rise and commodities would fall, perhaps sharply. Equity markets would fall with commodities because there is no alternative leadership to the commodity-global growth theme at this time. Within equity markets the flattening of the Treasury curve would provide the signal for a massive shift from risk and value to the theme of defensive growth.

How seriously should we take this kind of risk? The danger does not seem to be imminent. The point is that it becomes significant to the extent that current trends continue. If the government policy over-reaction is sufficiently powerful to take the S&P500 through the 1000 level – accompanied by a weaker US\$ and higher commodity prices – we would expect a signal of policy adjustment. Whatever the probability that one attaches to this risk the conclusion is the same; current market trends are not sustainable for much longer. Markets are already asking the re-entry question. The first response must be given in the next quarter.

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As a conclusion, we think that this de-correlation between equity and volatility on one side, and risk indicators and economic indicators on the other side, is not sustainable anymore.

The following table summarizes the volatility drivers of the market. The drivers that are currently pushing volatility lower are already well known: refinancing, leading indicators improvement... The drivers that are pushing volatility higher are more powerful, and are a new focus for the market.

Summary of volatility drivers

	Feb-09	Jun-09
Pushing volatility higher	Q1 results uncertainty realized volatility deflation threats	FED policy/inflation interest rate volatility commodity prices
Neutral	leading indicators credit spreads	realized volatility skew neutral volatility level
Pushing volatility lower	skew high volatility level commodity prices	H1 results credit spreads/refinancing leading indicators

Source: Calyon

We think that volatility cannot decrease anymore, unless equity markets go up ("re-correlation").

There are two possible scenarios:

- Equity markets rebound (equity recovery or bear market rally) and volatility could decrease further, but in a limited range.
- Equity markets decline (no crash) again and then volatility should increase.

We would favor the second scenario; however, we want to be hedged versus the first one. Moreover there is an asymmetrical aspect of volatility today; we think there is more volatility upside potential in the case of a market correction than downside potential in the case of a continuing recovery.

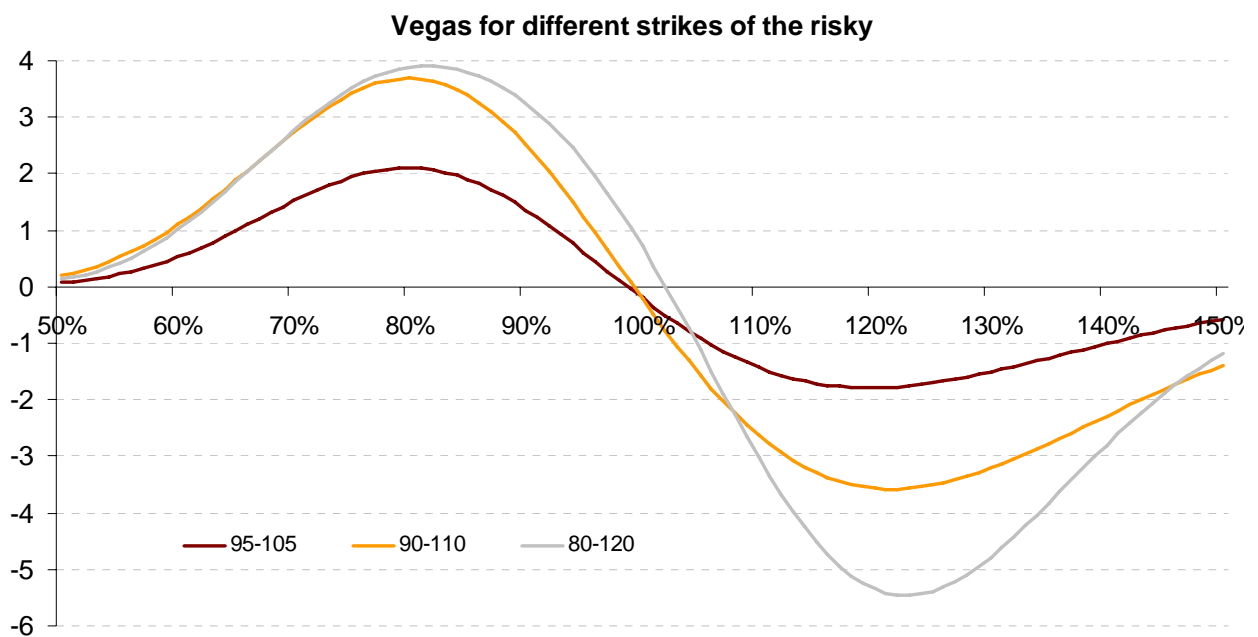
Our strategy

We want to play our two re-correlation scenarios and benefit from a lower skew.

We will then be long delta-hedged Risky (90-110) on SX5E on Dec 09 (long Put downside and short Call upside).

This strategy is:

- **Long volatility if the market goes down**, via the long downside Put (long Vega).
- **Short volatility if the market goes up**, via the short upside Call (short Vega).
- **Long skew**, which benefits from a bear market or a bear market rally followed by a sharp decrease.



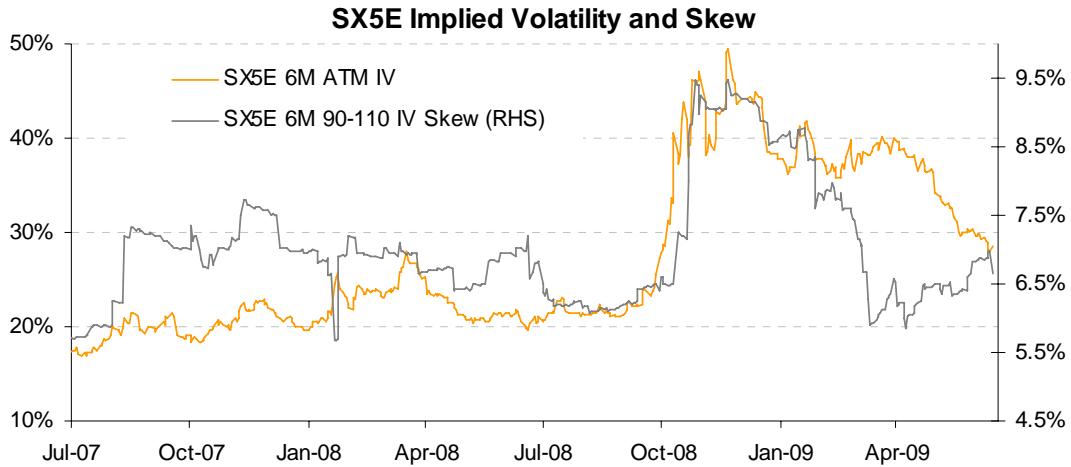
A wider strike selection offers a higher Vega sensitivity but introduces an additional risk. Vega becomes positive at a higher spot level. This means that we want to avoid a flat market with low volatility.

Strikes	Price*	Vol Call upside	Vol Put downside	Vega
80-120	1.65%	23.0%	37.0%	0.42
90-110	1.65%	25.3%	33.1%	-0.21
95-105	4.65%	24.1%	31.3%	1.33

* Indicative pricing, including bid-ask

Source: Calyon

This strategy is long skew. We prefer to be long skew as we are cautious on the short term. Skew decreased sharply over the last three months in spite of its recent rebound and is therefore not very expensive regarding the current environment.

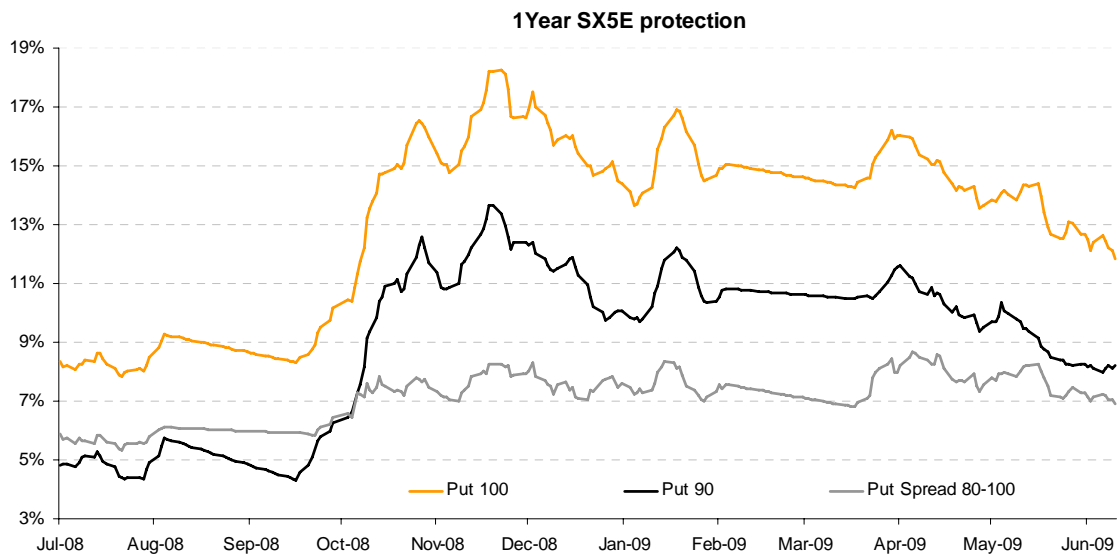


Source: Calyon

We assume that a market rally could drive volatility lower but, given the recent strong decreasing dynamic of volatility and its gap with macro-economic indicators, we think further decrease is limited. On the contrary, a market correction could push volatility higher for two reasons: an automatic rising trend due to a bear market and an increase led by a higher skew.

Time to hedge?

As usual, one could want to buy protection before summer. Given the low level of volatility and the probability of an early summer correction, this could be a good opportunity to consider hedging strategies.



Source: Bloomberg

We notice that the prices of 1Y 100% Put, 90% Put and 80%-100% Put-Spread have reached their lowest level since Lehmann bankruptcy. The sharp decrease of volatility grants lower put prices while the recent increase of the skew drove the put spread premium down.

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