Odd oil volatility

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- **Divergent outcomes:** As shown in Figure 1, there has been an interesting divergence between the CBOE Oil ETF Volatility index (based on WTI Oil ETF, Brent would be even higher) and the CBOE S&P Volatility index (aka the "VIX", based on the S&P 500). As shown overleaf in Figure 4, the correlation between the two has been reasonably good over the last five years, with some exceptions as we have seen specific circumstances like fears of oil supply disruption in the Arab Spring, market expectations of Quantitative Easing and an overshoot in WTI at the end of 2008 when the curve was in huge contango and well below the marginal cost of production. These figures are calculated by looking at the market's expectation of the 30-day volatility of the underlying.

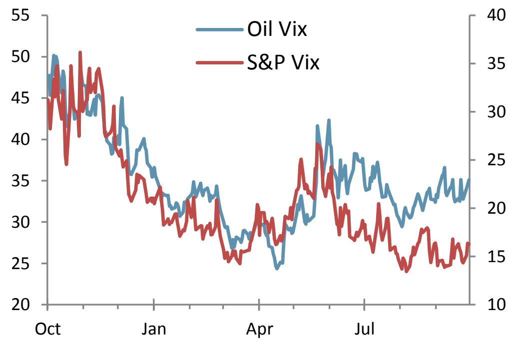
- **Near term uncertainty:** As can be seen in Figure 2, while the short end pretty is still pretty low despite having bounced from under 14, the S&P VIX curve remains in a nice contango with higher expected volatility into the end of the year. This curve has been steeper, particularly when the VIX touched 13.4, but is indicative that the market is more complacent about short-term volatility than longer-term volatility (although it is a bit broken as an indicator thanks to shifts in investment allocations and some other structural issues).We believe the elevated level of the Oil VIX is due to uncertainty between two camps on oil prices, one of whom believes we are in due a bout of geopolitical risk and the other of which is worried about further downgrades to global growth expectations, a China slowdown and potential US energy independence, leading to drastically divergent bets on the market in the short-term.

- **Option expiration:** In recent months we have seen interesting moves in the lead up to options expiration in the oil market at the middle of the month as those looking to maintain their bets have to contend with other market participants. With a number of spreads approaching record levels and Brent well above our short-term expected value of $90 ($80 for WTI) with a backwardated curve indicating either severe supply constraints or imminent war (something we downgraded to < 5% on the 27th September), it could be an interesting week. Q4 consensus is at $110 Brent, $95 WTI.

- **The odd spread:** While our oil model has been good at forecasting major turns in the oil price and as a result continues to be well ahead of spot price returns since inception, it has not been so great at modelling the Brent-WTI spread, which has moved through $20 once more (Fig 3). This spread peaked on the 17th of October last year before collapsing on options expiry. We would say that as North Sea crude returns to normal and the overall supply picture remains extremely positive as even Iranian exports pick up, that this spread should come in line with further future spreads and forward refining margins down to $5-10.

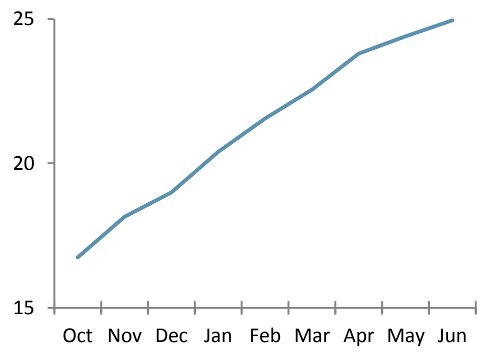
- **SPR release unlikely:** Refining output remains low, particularly with respect to European gasoline exports to the US as financing conditions remain tough, inventories low and Valero shut down its Pembroke refinery, pushing up the gasoline price in the US. However, we do not believe this is sufficient justification to have an SPR release given healthy crude supply in the market currently and further improvements in the supply/demand balance to come thanks to the KRG-Iraqi government settlement and potential for Sudanese oil to return to the market in the new year. Instead, the onus will be on Atlantic Basin refineries to pick up the slack in the gasoline market and bring in the rather wide crude to US gasoline spreads.

Fig 1. S&P VIX versus Oil VIX



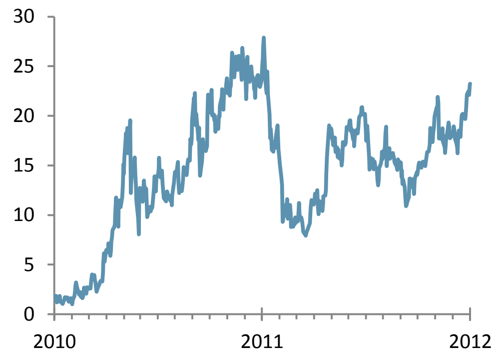
Source: Religare Noah Research, Bloomberg

Fig 2. S&P VIX forward curve



Source: Religare Noah Research, Bloomberg

Fig 3. Brent to WTI front month spread



Source: Religare Noah Research, Bloomberg

Fig 4. S&P VIX versus Oil ETF VIX over the last five years

Source: Religare Noah Research, Bloomberg

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