

Cc: Paul Morris; Vahe Stepanian; Richard Kahn
Subject: short crude vol strategy - follow-up analysis

Classification: **Public**

Jeffrey – this is the analysis we put together and alluded to in the meeting today. It evaluates the performance of the short crude vol strategy since Jan 13th, when we traded. As discussed, sharp moves up in oil (WTI is up 6% intraday today) are also negative to a short straddle strategy that is delta hedged daily, as it causes realized vol to increase, potentially beyond expectations. If one expects this environment of high realized vol to be short lived, the trade continues to make sense. If one expects it to be a continued paradigm, it might make sense to revisit holding this strategy.

Trade date: 13-Jan

Valuation date for all the numbers below: 2-Feb

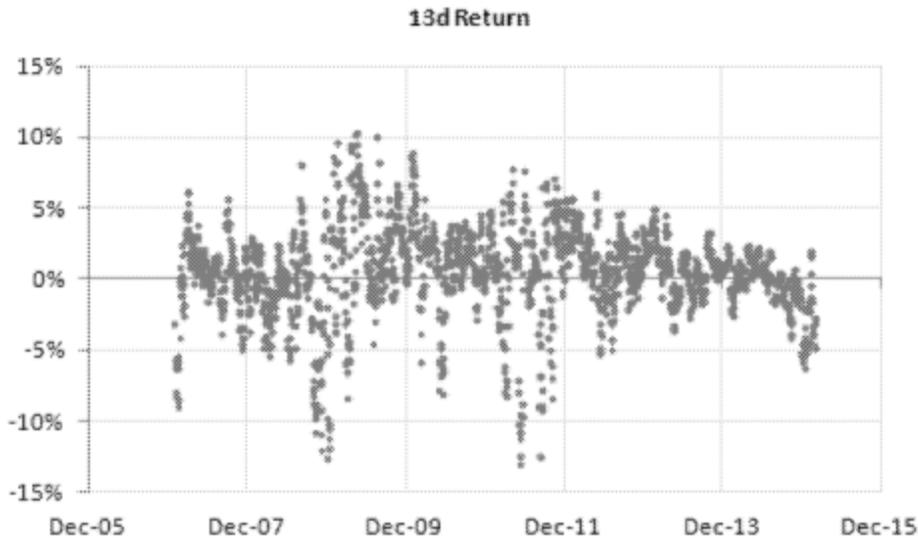
We have rounded various numbers for ease.

Index return since trade date: -4.7%

The index has lost money basically because realized vol has been much higher than implied. Some stats on this are below.

Contract	Vol strike	Strike Date	Realized vol	Implied - Realized	Current Implied
CLH5	60%	13-Jan-15	67%	-7%	81%
CLI5	43%	13-Jan-15	65%	-22%	50%
CLK5	42%	14-Jan-15	61%	-20%	48%

This loss has occurred over a period of 13 Index Business Days. Looking back since index inception date, I tried to see how many times such a loss would have occurred over a period of 13 days. This 13 Index Business Day performance represents the 6th percentile. Here is a graph showing performances over a 13 day period:



Also useful, below chart shows implied vol atm mid for the 2nd month futures over the last 1y: