The New Contango: Market Structure and Volatility

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This paper documents a new stylized fact: in the current steeply contango market, while the dollar movements have become large, volatility of returns remained at historical lows for a long period. We postulate that the forward curve, adjusted for distance from prompt price, achieves a steady state when it is flat. We hypothesize that the magnitude of departures from a flat curve reflects fundamentals in the economy and should be positively associated with market volatility EXCEPT when the term-structure is non-monotonic. In this case the market is expecting to move to a new steady state (possibly higher-priced reserves may enter production) and in such a case volatility might remain low regardless of steeper contango. The predictions are tested using a GARCH model to strip out effects of volatility persistence with simultaneous modeling of forward and spot prices. The model predicts that volatility may rise in a contango, but this effect is diluted if the contango is non-monotonic.

[1] Hess Corporation, The views expressed in this paper are solely those of the authors and do not necessarily reflect the views of Hess Corporation