

Commentary

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The theoretical model for commodity futures spreads in this paper supposes that spreads are always between a lower bound l and an upper bound u . Furthermore, spread volatility is a quadratic function with zero volatility at the two bounds and maximum volatility mid-way between the bounds. The theory of spreads reviewed in the paper establishes that there is a lower bound and it is, indeed, plausible to suppose that the volatility of spreads is close to zero when the spread is near the lower bound. The upper bound, however, is a contentious suggestion.

It is implausible, in my opinion, to state that there is a finite upper bound and it is also implausible to suggest that volatility falls as the upper bound is approached. There is no theoretical argument that I understand that can justify a particular upper bound. It is true that observed spreads are bounded but this will not support an argument that the spread volatility falls for higher spreads. Perhaps the most helpful way to use the Rady model is to let the upper bound go to infinity, a possibility that the authors acknowledge. These remarks are not a criticism of Rady's framework; instead they are intended to make the point that Rady's framework may be inappropriate for commodity futures spreads.

The results for five commodities produce a number of interesting results. I have a number of suggestions for refining the empirical work. There is high kurtosis in spread returns and serial dependence in the squares of the spread returns. These observations of the authors indicate that inferences based upon the likelihoods produced by equation 6 require extra care.

First, likelihood ratio tests will not be robust if the conditional densities are mis-specified. Second, the specification of the conditional standard deviation, that incorporates spreads, can probably be improved by also including changes in spreads. It would be interesting to use the parameter estimates to deduce the implied lower and upper bounds for the spreads. Rady's model places a non-linear constraint on three of the parameters. The null hypothesis that the Rady model is appropriate can be tested using a likelihood-ratio test. My reading of the Tables suggests that this null hypothesis will be rejected.