Discussion: Profit Margin Hedging in the New Zealand Dairy Farming Industry

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Summary

- Study of the effectiveness of whole milk powder (WMP) futures for hedging and profit maximization.
- Cash variance and semivariance and financial distress are reduced. Average discretionary cash increase for the farm.
- Study of farm income, price processes, optimal hedging ratio.
- Impact: relevant for (general) farming sector in a non subsidized market, goods export of NZ (largest), and financial stability.

Contribution

- Contemporaneous topic with political / regulatory implications: dairy farmers in distress, among top three domestic risk in NZ, recent introduction of a futures contract.)
- Use a very specific case with precise and exhaustive data, but easy extension to other geographical areas, businesses or commodities.
- Comes back to the original purpose of futures markets and the first studies: risk transfer of farmers to speculators, agricultural markets.

Comments (1) - price process

- Authors use a battery of tests of market efficiency / random walk hypotheses: summary stats, normality test, ARCH effects, serial correlation and variance ratio.
- Conclusion of mean reverting process without specifying it / testing it.
- Could be Ornstein-Uhlenbeck for spot price? Brownian bridge for the basis?
- Proposition: test of mean reversion properties and parameter estimation through Kalman filter estimation (see, e.g., Schwartz, 1997) and earlier articles.

Comments (2) - basis risk

- Basis risk assumed to be significant.
- Implies that strong non-convergence at contract maturity. Is it a property of cash settlement? What is the magnitude of this non-convergence? Is it asymetric?
- Relates to the literature of non-convergence of cash/futures markets.

Comments (3) - hedging ratios

- Proposition of a strategy in between the continuous hedging and no hedging, besides the minimum variance hedging ratio.
- Mention Ederington (1979) for the rolling "beta" procedure
- Alternative ways to compute optimal variance hedging ratio (and other hedging ratios in futures markets e.g. Baillie and Myers (1991) bivariate GARCH) or Algaba et al. (WP) with option data.
- The largest part of the paper is about risk reduction, how are profit margin strategy positions correlated with those of minimum/optimal hedging ratio?

minor comments - exploratory suggestions

- Is it possible to extend the study before the introduction of the WMP futures? (2010).
- CFTC/COT equivalent for the NZ stock exchange with traders classification?
- Does the strategy hold if everyone adopts it? Implies a matching amount of speculators being long against farmers.
- Brokerage fees. Do they take in account bid-ask spreads?
- Brokerage fees seems correlated with the performance of the strategy in terms of risk reduction: strategy with high fees performs better (volatility of discretionary cash).
- Define continuous hedging. Is this full hedge?
- Is profit margin hedging subject to taxes? (raw addition).
- Typos in Table 9, Panel B, semivariance?