

Research in Commodity Futures and Options Markets

This list is partly based on the reading list of the Research on Futures and Options Seminar (ACE 528) offered by University of Illinois at Urbana-Champaign.

Surveys

- Garcia, P. and R. M. Leuthold (2004). “A Selected Review of Agricultural Commodity Futures and Options Markets” *European Review of Agriculture Economics* 31, 3: 235–272. Available at: <http://erae.oupjournals.org/cgi/doi/10.1093/erae/31.3.235>
- Williams, J. C. (2001). “Commodity Futures and Options” *Handbook of agricultural economics*: 745–816. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1574007201100216>

Overview

- Peck, A. E. (1985). “The Economic Role of Traditional Commodity Futures Markets” *Futures Markets: Their Economic Role*. Washington, DC: American Enterprise Institute for Public Policy Research: 1–81. Available at: <http://goo.gl/bsb7J8>
- Irwin, S. H. and D. R. Sanders (2012). “Financialization and Structural Change in Commodity Futures Markets” *Journal of Agricultural and Applied Economics* 44, 3: 371–396. Available at: <http://ageconsearch.umn.edu/bitstream/130280/2/jaae443ip8.pdf>

Development of Futures Markets

- Gray, R. W. and Others (1966). “Why Does Futures Trading Succeed or Fail: An Analysis of Selected Commodities” *Futures trading seminar* 3: 115–137. Available at: <http://bit.ly/1Re3EiV>
- Working, H. (1970). “Economic Functions of Futures Markets” *Futures Trading in Livestock—Origins and Concepts*, Chicago: Chicago Mercantile Exchange: 267–297. Available at: <http://goo.gl/15FzWN>
- Leuthold, R. M. (1994). “Evaluating Futures Exchanges in Liberalising Economies” *Development Policy Review* 12, 2: 149–164. Available at: <http://doi.wiley.com/10.1111/j.1467-7679.1994.tb00061.x>
- Brorsen, B. W. and N. Fofana (2001). “Success and Failure of Agricultural Futures Contracts” *Journal of Agribusiness* 19, 2: 129–146. Available at: <http://purl.umn.edu/14692>

Market Microstructure and the Costs of Trade Execution

- Roll, R. (1984). “A Simple Implicit Measure of the Effective bid-ask Spread in an Efficient Market” *The Journal of Finance* 39, 4: 1127–1139. Available at: <http://doi.wiley.com/10.1111/j.1540-6261.1984.tb03897.x>
- Bryant, H. L. and M. S. Haigh (2004). “Bid-ask Spreads in Commodity Futures Markets” *Applied Financial Economics* 14, 13: 923–936. Available at: <http://www.tandfonline.com/doi/abs/10.1080/0960310042000284669>
- Frank, J. and P. Garcia (2011). “Bid-Ask Spreads, Volume, and Volatility: Evidence from Livestock Markets” *American Journal of Agricultural Economics* 93, 1: 209–225. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1093/ajae/aaq116>
- Martinez, V., P. Gupta, Y. Tse and J. Kittiakarasakun (2011). “Electronic Versus Open Outcry Trading in Agricultural Commodities Futures Markets” *Review of Financial Economics* 20, 1: 28–36. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1058330010000443>

- Wang, X., P. Garcia and S. H. Irwin (2014). “The Behavior of Bid-Ask Spreads in the Electronically-Traded Corn Futures Market” *American Journal of Agricultural Economics* 96, 2: 557–577. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1093/ajae/aat096>

Price Discovery

- Garbade, K. D. and W. L. Silber (1983). “Price Movements and Price Discovery in Futures and Cash Markets” *The Review of Economics and Statistics* 65, 2: 289. Available at: <http://www.jstor.org/stable/1924495>
- Gonzalo, J. and C. Granger (1995). “Estimation of Common Long-Memory Components in Cointegrated Systems” *Journal of Business & Economic Statistics* 13, 1: 27. Available at: <http://www.jstor.org/stable/1392518>
- Hasbrouck, J. (1995). “One Security, Many Markets: Determining the Contributions to Price Discovery” *The Journal of Finance* 50, 4: 1175. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1995.tb04054.x/abstract> <http://www.jstor.org/stable/2329348>
- Yang, J., D. A. Bessler and D. J. Leatham (2001). “Asset Storability and Price Discovery in Commodity Futures Markets: A new look” *Journal of Futures Markets* 21, 3: 279–300. Available at: [http://doi.wiley.com/10.1002/1096-9934\(200103\)21:3<textless>279::AID-FUT5<textgreater>3.0.CO;2-L](http://doi.wiley.com/10.1002/1096-9934(200103)21:3<textless>279::AID-FUT5<textgreater>3.0.CO;2-L)
- Andersen, T. G., T. Bollerslev, F. X. Diebold and C. Vega (2007). “Real-time Price Discovery in Global Stock, Bond and Foreign Exchange Markets” *Journal of International Economics* 73, 2: 251–277. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0022199607000608>
- Janzen, J. P., A. D. Smith and C. A. Carter (2013). “The Quality of Price Discovery Under Electronic Trading: The Case of Cotton Futures” Available at: <http://bit.ly/209L0Pc>

Storage and Intertemporal Pricing

- Working, H. (1948). “Theory of the Inverse Carrying Charge in Futures Markets” *Journal of Farm Economics* 30, 1: 1–28. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.2307/1232678>
- Working, H. (1949). “The Theory of Price of Storage” *The American Economic Review* 39, 6: 1254–1262. Available at: <http://www.jstor.org/stable/1816601>
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- Pindyck, R. S. (2001). “The Dynamics of Commodity Spot and Futures Markets: A Primer” *The Energy Journal* 22, 3. Available at: <http://www.iaee.org/en/publications/ejarticle.aspx?id=1364>
- Peterson, H. H. and W. G. Tomek (2005). “How Much of Commodity Price Behavior Can a Rational Expectations Storage Model Explain?” *Agricultural Economics* 33, 3: 289–303. Available at: <http://doi.wiley.com/10.1111/j.1574-0864.2005.00068.x>
- Carter, C. A. and C. L. R. Giha (2007). “The Working Curve and Commodity Storage under Backwardation” *American Journal of Agricultural Economics* 89, 4: 864–872. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1111/j.1467-8276.2007.01021.x>

Hedging: Alternative Views

- Working, H. (1953). “Hedging Reconsidered” *Journal of Farm Economics* 35, 4: 544. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.2307/1233368>
- Ederington, L. H. (1979). “The Hedging Performance of the New Futures Markets” *The Journal of Finance* 34, 1: 157–170. Available at: <http://doi.wiley.com/10.1111/j.1540-6261.1979.tb02077.x>

- Hirshleifer, D. (1988). “Residual Risk, Trading Costs, and Commodity Futures Risk Premia” *Review of Financial Studies* 1, 2: 173–193. Available at: <http://rfs.oxfordjournals.org/cgi/doi/10.1093/rfs/1.2.173>
- Hirshleifer, D. (1990). “Hedging Pressure and Futures Price Movements in a General Equilibrium Model” *Econometrica* 58, 2: 411. Available at: <http://www.jstor.org/stable/2938209?origin=crossref>
- Myers, R. J. and S. R. Thompson (1989). “Generalized Optimal Hedge Ratio Estimation” *American Journal of Agricultural Economics* 71, 4: 858. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.2307/1242663>
- Myers, R. J. (1991). “Estimating Time-varying Optimal Hedge Ratios on Futures Markets” *Journal of Futures Markets* 11, 1: 39–53. Available at: <http://doi.wiley.com/10.1002/fut.3990110105>
- Lien, D. and Y. K. K. Tse (2002). “Some recent developments in futures hedging” *Journal of Economic Surveys* 16, 3: 357–396. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/1467-6419.00172/abstract>
- Mattos, F., P. Garcia and J. M. Pennings (2008). “Probability Weighting and Loss Aversion in Futures Hedging” *Journal of Financial Markets* 11, 4: 433–452. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1386418108000189>
- Pannell, D. J., G. Hailu, A. Weersink and A. Burt (2008). “More Reasons Why Farmers Have So Little Interest in Futures Markets” *Agricultural Economics* 39, 1: 41–50. Available at: <http://doi.wiley.com/10.1111/j.1574-0862.2008.00313.x>
- Wu, F., Z. Guan and R. J. Myers (2011). “Volatility Spillover Effects and Cross Hedging in Corn And Crude Oil Futures” *Journal of Futures Markets* 31, 11: 1052–1075. Available at: <http://doi.wiley.com/10.1002/fut.20499>
- Chen, S.-S., C.-F. Lee and K. Shrestha (2013). “Futures Hedge Ratios: A Review” *Encyclopedia of finance*: 871–890.
- Conlon, T., J. Cotter and R. Gençay (2015). “Commodity Futures Hedging, Risk Aversion and the Hedging Horizon” *The European Journal of Finance*: 1–27. Available at: <http://www.tandfonline.com/doi/full/10.1080/1351847X.2015.1031912>

Returns to Speculation and Risk Premiums

- Financial market analysis (risk factor models etc.) for commodity markets
- Dusak, K. (1973). “Futures Trading and Investor Returns: An Investigation of Commodity Market Risk Premiums” *Journal of Political Economy* 81, 6: 1387. Available at: <http://www.journals.uchicago.edu/doi/abs/10.1086/260133>
- Hartzmark, M. L. (1987). “Returns to Individual Traders of Futures: Aggregate Results” *Journal of Political Economy* 95, 6: 1292. Available at: <http://www.journals.uchicago.edu/doi/abs/10.1086/261516>
- Frank, J. and P. Garcia (2009). “Time-varying risk premium: further evidence in agricultural futures markets” *Applied Economics* 41, 6: 715–725. Available at: <http://www.tandfonline.com/doi/abs/10.1080/00036840601019026>
- Daskalaki, C. and G. Skiadopoulos (2011). “Should Investors Include Commodities in their Portfolios after All? New Evidence” *Journal of Banking & Finance* 35, 10: 2606–2626. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0378426611000938>
- Aulerich, N. M., S. H. Irwin and P. Garcia (2013). “Returns to Individual Traders in Agricultural Futures Markets: Skill or Luck?” *Applied Economics* 45, 25: 3650–3666. Available at: <http://www.tandfonline.com/doi/abs/10.1080/00036846.2012.727979>
- Brooks, C., M. Prokopczuk and Y. Wu (2013). “Commodity Futures Prices: More Evidence on Forecast Power, Risk Premia and the Theory of Storage” *The Quarterly Review of Economics and Finance* 53, 1: 73–85. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1062976913000045>
- Dewally, M., L. H. Ederington and C. S. Fernando (2013). “Determinants of Trader Profits in Commodity Futures Markets” *Review of Financial Studies* 26, 10: 2648–2683. Available at: <http://rfs.oxfordjournals.org/lookup/doi/10.1093/rfs/hht048>
- Gorton, G. B., F. Hayashi and K. G. Rouwenhorst (2013). “The Fundamentals of Commodity Futures Returns” *Review of Finance* 17, 1: 35–105. Available at: <http://rof.oxfordjournals.org/cgi/doi/10.1093/rof/rfs019>

- Szymanowska, M., F. De Roon, T. Nijman and R. Van den Goorbergh (2014). “An anatomy of commodity futures risk premia” *The Journal of Finance* 69, 1: 453–482. Available at: <http://doi.wiley.com/10.1111/jofi.12096>

Forecast Accuracy and Informational Efficiency

- McKenzie, A. M. and M. T. Holt (2002). “Market Efficiency in Agricultural Futures Markets” *Applied Economics* 34, 12: 1519–1532. Available at: <http://www.tandfonline.com/doi/abs/10.1080/00036840110102761>
- Timmermann, A. and C. W. Granger (2004). “Efficient Market Hypothesis and Forecasting” *International Journal of Forecasting* 20, 1: 15–27. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0169207003000128>
- Sanders, D. R. and M. R. Manfredo (2005). “Forecast Encompassing as the Necessary Condition to Reject Futures Market Efficiency: Fluid Milk Futures” *American Journal of Agricultural Economics* 87, 3: 610–620. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1111/j.1467-8276.2005.00751.x>
- Park, C.-H. and S. H. Irwin (2009). “A reality check on technical trading rule profits in the U.S. futures markets” *Journal of Futures Markets* 30, 7: 633–659. Available at: <http://doi.wiley.com/10.1002/fut.20435>
- Colino, E. V. and S. H. Irwin (2010). “Outlook vs. Futures: Three Decades of Evidence in Hog and Cattle Markets” *American Journal of Agricultural Economics* 92, 1: 1–15. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1093/ajae/aap013>

Price Effects of Futures Trading

- Gray, R. W. (1963). “Onions Revisited” *Journal of Farm Economics* 45, 2: 273. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.2307/1235974>
- Cox, C. C. (1976). “Futures Trading and Market Information” *Journal of Political Economy* 84, 6: 1215. Available at: <http://www.journals.uchicago.edu/doi/abs/10.1086/260509>
- Kawai, M. (1983). “Spot and Futures Prices of Nonstorable Commodities Under Rational Expectations*” *The Quarterly Journal of Economics* 98, 2: 235. Available at: <http://qje.oxfordjournals.org/lookup/doi/10.2307/1885623>
- Turnovsky, S. J. and R. B. Campbell (1985). “The Stabilizing and Welfare Properties of Futures Markets: A Simulation Approach” *International Economic Review* 26, 2: 277. Available at: <http://www.jstor.org/stable/2526584>
- Lence, S. H. (2009). “Do Futures Benefit Farmers?” *American Journal of Agricultural Economics* 91, 1: 154–167. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1111/j.1467-8276.2008.01162.x>
- Büyüksahin, B. and M. A. Robe (2014). “Speculators, Commodities and Cross-market Linkages” *Journal of International Money and Finance* 42: 38–70. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S026156061300106X>
- Hamilton, J. D. and J. C. Wu (2015). “Effects of Index-Fund Investing on Commodity Futures Prices” *International Economic Review* 56, 1: 187–205. Available at: <http://doi.wiley.com/10.1111/iere.12099>

Delivery and Manipulation

- Pirrong, S. C. (1993). “Manipulation of the Commodity Futures Market Delivery Process” *The Journal of Business* 66, 3: 335. Available at: <http://www.journals.uchicago.edu/doi/abs/10.1086/296608>
- Hranaiova, J. and W. G. Tomek (2002). “Role of Delivery Options in Basis Convergence” *Journal of Futures Markets* 22, 8: 783–809. Available at: <http://doi.wiley.com/10.1002/fut.10028>

- Pirrong, C. (2004). “Detecting Manipulation in Futures Markets: The Ferruzzi Soybean Episode” *American Law and Economics Association* 6, 1: 28–71. Available at: <http://aler.oupjournals.org/cgi/doi/10.1093/aler/ahg010>
- Garcia, P., S. H. Irwin and A. Smith (2015). “Futures Market Failure?” *American Journal of Agricultural Economics* 97, 1: 40–64. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1093/ajae/aau067>

Options Markets, Volatility and Volatility Forecasting

- Black, F. (1976). “The Pricing of Commodity Contracts” *Journal of Financial Economics* 3, 1-2: 167–179. Available at: <http://linkinghub.elsevier.com/retrieve/pii/0304405X76900246>
- Simon, D. P. (2002). “Implied Volatility Forecasts in the Grains Complex” *Journal of Futures Markets* 22, 10: 959–981. Available at: <http://doi.wiley.com/10.1002/fut.10042>
- Szakmary, A., E. Ors, J. Kyoung Kim and W. N. Davidson (2003). “The Predictive Power of Implied Volatility: Evidence from 35 Futures Markets” *Journal of Banking & Finance* 27, 11: 2151–2175. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0378426602003230>
- Egelkraut, T. M., P. Garcia and B. J. Sherrick (2007). “The Term Structure of Implied Forward Volatility: Recovery and Informational Content in the Corn Options Market” *American Journal of Agricultural Economics* 89, 1: 1–11. Available at: <http://ajae.oxfordjournals.org/cgi/doi/10.1111/j.1467-8276.2007.00958.x>

Other Topics:

Distribution and Volatility of Futures Prices, and Implications

High Frequency & Algorithmic Trading

Market Spillover

- Serra, T. and D. Zilberman (2013). “Biofuel-related price transmission literature: A review” *Energy Economics* 37: 141–151. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0140988313000388>
- Gardebroek, C. and M. A. Hernandez (2013). “Do Energy Prices Stimulate Food Price Volatility? Examining Volatility Transmission between US Oil, Ethanol and Corn Markets” *Energy Economics* 40: 119–129. Available at: <http://dx.doi.org/10.1016/j.eneco.2013.06.013>
<http://linkinghub.elsevier.com/retrieve/pii/S0140988313001266>
- Trujillo-Barrera, A., M. L. Mallory and P. Garcia (2012). “Volatility Spillovers in US Crude Oil, Ethanol, and Corn Futures Markets” *Journal of Agricultural and Resource Economics* 37, 2: 1–16. Available at: <http://ageconsearch.umn.edu/bitstream/134275/2/pp247-262,Trujillo-Barrera.pdf>

Portfolio allocation/optimization including commodities

Financialization of commodity markets

- Cheng, I.-H., A. Kirilenko and W. Xiong (2015). “Convective Risk Flows in Commodity Futures Markets” *Review of Finance* 19, 5: 1733–1781. Available at: <http://rof.oxfordjournals.org/lookup/doi/10.1093/rof/rfu043>

Corporate finance and risk management related to commodity markets

Econometric/statistical analysis of commodity markets

Decision models (OR/MS models) applied to the commodity sector

Real option analysis investigating commodity project investment and production decisions

Managerial accounting & economics for commodity related corporations

Micro & macroeconomic analysis of commodity markets

Global and regional trade of commodities

The role of commodity production and consumption for developing countries

A. Suggested Guide for “Reading” Journal Articles, by Vithala Rao, Cornell

Allow enough time to read the article at least twice. In the first reading, which may be quite superficial, try to get a general idea of the subject matter examined, uniqueness of the approach, and significant results. In the second reading, try to be critical of the concepts, assumptions, models, and application. If necessary, look over the article for a third time to seek a sharper understanding of the article and to evaluate where else the results and models can be applied.

While reading the article try and answer the questions indicated below for yourself. Doing so should significantly enhance your understanding of the research reported and your ability to critique the work. Note that some published articles may not fit this format.

- A) What aspect(s) of the business system is (are) being studied by the author? (E.g., relationship between a firm and competitor, consumer choices over time.)
- B) What are some significant research issues addressed in the paper? Reflect upon why they are significant.
- C) What specific managerial decisions can be addressed by the results reported in the paper? Are these decisions made better when the recommendations from this research are adopted?
- D)
 - 1. What is (are) the microunit(s) whose “behavior” is (are) being addressed in the paper?
 - 2. State the basic model of the behavior of the microunit in words or as a flow chart. State the premises and assumptions of the model. Identify major constructs.
 - 3. State the basic model of the behavior of the microunit in a mathematical form and identify the variables (predictor or criterion) and the parameters (unknown) of the model.
- E) Does the paper deal with aggregation of the model across various microunits or segments? If so, how is this aggregation accomplished? If aggregation is not considered, what are the effects of the assumption of homogeneity?
- F) How are the variables of the model measured? Are these measures appropriate? What are the sources of data? How reliable are these measures? What are some alternative ways of measuring the variables?
- G) How are the parameters of the model estimated? Are the properties of the estimates discussed? (For example, are they unbiased and/or consistent?)

- H) Is the empirical application discussed in the papers appropriate? Are the results validated? (This aspect may not be relevant for some articles.)
- I) Are the results interpreted well? Are there any alternative explanations of the results?
- J) Identify one or two other applications of the basic model?
- K) What general conclusions can be drawn? In what ways does this article contribute to (or extend) our understanding of our field of study in the substantive area(s) examined by the article?