Agricultural and Consumer Economics 528
Research in Futures and Options Markets
Spring 2008
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COURSE SYLLABUS

Course Description

The course is a research seminar on topics and issues in futures and options markets. We will explore traditional studies and topics associated with these markets, including hedging, price discovery and efficiency, and the existence of convenience yield. However, we also will focus on current issues that may help students develop their research agenda. Some recent areas for investigation include: What are the effects of large hedge fund traders on market prices and volatility? Do substantive behavioral biases in trader activities and markets exist? If so, what are their effects on trader returns, and market prices and volatility? What have been the effects of moving to electronic marketing in agricultural futures markets? Will liquidity increase and make markets more efficient and less risky? How can we measure effective transaction costs in futures markets? What is the effect of an order imbalance on prices and transaction costs? Is there a commonality in liquidity costs across markets? What are the impacts of new markets and contracts that are being introduced in the markets? For example, how do over-the-counter contracts affect risk management opportunities and the viability of established contracts and institutions? How well can energy contracts be used to hedge farmer fertilizer and fuel expenditures? What is the most effective way to hedge milk with the new contracts? Do event contracts have economic value to producers and market channel participants? What are the factors affecting market volatility? Can future market volatility be forecasted by options markets? Can market volatility be forecasted effectively by time series and econometric procedures? How can decision makers use more effective forecasts of subsequent volatility? Are futures contracts attractive investment instruments? How do futures contracts fit into optimal portfolios?

As a seminar in research topics, student participation in discussions and in development of their own research papers is expected and vital for the success of the course.

Course Objectives

To become knowledgeable about important research topics and procedures used to investigate research problems in futures and options markets. To use that knowledge of the issues and procedures to develop and report in an effective manner on your own research efforts. Emphasis will be on research related to agricultural commodities, but other markets are considered.

Course Evaluation

1. Term paper — 50% — The term paper is expected to be an empirical study. Specific research problems investigated can be developed through the readings, and/or through discussion with the professors. Professors will provide advice and feedback to assist students in developing and completing their term projects. Scheduling guidelines for paper are presented below.

2. Discussions — 25% — Students will be assigned readings and are expected to lead class discussion of the reading. Students leading specific discussion will also prepare a written outline and review of the reading. These written comments should not exceed 2 pages in length. Student presentations should focus on: the relevant problems under investigation; the motivation for the analysis; the theory, procedures, and data used; and the findings and their implications. Critical assessment of the work and directions for future research should be identified and discussed. Students are encouraged to organize their presentations using power point slides which can be disseminated to the class.

3. Participation — 25% — Students are expected to contribute orally to the discussion of assigned readings and presentations. To facilitate this, each student will submit a question or two from the readings for each class period. The class will discuss these questions.

Term Paper Schedule

February 9 — Proposals for term papers are due. A written proposal including selected references is submitted along with a brief in-class oral presentation. At this stage, students should focus on identifying the problem and suggesting in general terms what theory, procedures and data might be used.

March 14-16 — Preliminary reports are due this week. These will be presented orally with a written outline submitted. Students should briefly revisit the motivation for the analysis, but focus on a discussion of the data, any preliminary results and problems they are encountering with the work. In-class discussion is expected.

April 27-May 2	Final reports are due this week. Each student will present an oral seminar on the project, as well as submit a written report. The class presentation should focus on the findings and how they contribute to our understanding of the research questions, and implications for future research.

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Spring 2008
Readings

Overview of Research in Futures and Options Markets

Carter, C.A. (1999). Commodity Futures Markets: A Survey. *Australian Journal of Agricultural & Resource Economics* 43, 209-247.

*Garcia, P. and R.M. Leuthold (2004). A Selected Review of Agricultural Commodity Futures and Options Markets. *European Review of Agricultural Economics* 31, 3:235-272.

*Williams, J.C. (2001). Commodity Futures and Options. B. Gardner and G. Rausser, editors. In *Handbook of Agricultural Economics*, Vol 1B, Marketing, Distribution and Consumers. Elsevier Science, North-Holland: Amsterdam, London and New York, pp. 745-816.

Hedging: Motivation and Normative Analyses

Chen, S.S., C.F. Lee and K. Shrestha. (2003). Futures Hedge Ratios: A Review. *Quarterly Review of Economics and Finance* 43:433-465.

Ederington, Louis H. (1997). The Hedging Performance of the New Futures Markets. *Journal of Finance* 34: 157-70.

*Fackler, P. L. and K.P. McNew. (1993). "Multiproduct Hedging: Theory, Estimation, and an Application." *Review of Agricultural Economics* 15: 521-35.

Giaccotte, C., S. P. Hegde and J. B. McDermott. (2001). Hedging Multiple Price and Quantity Exposures. *Journal of Futures Markets* 21: 145-172.

Grant, D. and M. Eaker. (1989). "Complex Hedges: How Well Do They Work." *Journal of Futures Markets* 9: 15-27.

Hanson, S. D., R. J. Myers and J. H. Hilker. (1999). Hedging with Futures and Options under a Truncated Cash Price Distribution. *Journal of Agriculture and Applied Economics* 31: 449-459.

Lence, S.H. (1996). "Relaxing the Assumptions of Minimum-Variance Hedging." *Journal of Agricultural and Resource Economics* 21: 39-55.

Lien, D. and Y.K. Tse. (2002). Some Recent Developments in Futures Hedging. *Journal of Economic Surveys* 16:357-396.

Martinez, S.W. and K.D. Zering. (1992). "Optimal Dynamic Hedging Decisions for Grain Producers." *American Journal of Agricultural Economics* 74: 879-88.

Myers, R.J. and S.R. Thompson. (1989). "Generalized Optimal Hedge Ratio Estimation." *American Journal of Agricultural Economics*. 78: 858-68.

*Myers, R.J. (1991). "Estimating Time-Varying Optimal Hedge Ratios in Futures Markets." *Journal of Futures*. 11: 39-53.

Pennings, J.M.E. and R.M. Leuthold (2000). The Motivation for Hedging Revisited. *Journal of Futures Markets* 20 (9), 865-885.

*Tomek, W. G. and H.H. Peterson (2001). Risk Management in Agricultural Markets: A Review. *Journal of Futures Markets* 21: 953-85

Hedging: Positive Analyses

*Collins, R.A. (1997). Towards a Positive Economic Theory of Hedging. *American Journal of Agricultural Economics* 79: 488-99.

Frechette, D. (2000). The Demand for Hedging and the Value of Hedging Opportunities. *American Journal of Agricultural Economics* 82: 897-907.

Haushalter, G. D. (2000). "Financing Policy, Basis Risk, and Corporate Hedging: Evidence from Oil and Gas Producers." *Journal of Finance* 55: 107-52.

Peck, A. E. and A.M. Nahmias (1989). Hedging your Advice: Do Portfolio Models Explain Hedging?" *Stanford Food Research Institute Studies* 21, 2:193-204.

*Pennings, J.M.E. and R.M. Leuthold. (2000). The Role of Farmer's Behavioral Attitudes and Heterogeneity in Futures Contract Usage. *American Journal of Agricultural Economics* 82:908-919.

Tufano, P. (1996). Who Manages Risk? An Empirical Examination of Risk Management Practices in the Gold Mining Industry. *Journal of Finance*, *51*: 1097-1137.

Temporal Price and Temporal-Spatial Price Relationships

*Fama, E. F. and K. R. French. (1987). "Commodity Futures Prices: Some Evidence on Forecast Power, Premiums, and the Theory of Storage." *Journal of Business*. 60, 55-73.

Working, H. (1948). "Theory of the Inverse Carrying Charge in Futures Markets." *J. Farm Economics*. 30, 1-28.

Working, H. (1949). "The Theory of Price of Storage." *American Economic Review*. 1254-62.

Bernirschka, M. and J. K. Binkley. (1995). "Optimal Storage and Marketing over Space and Time." *American Journal of Agricultural Economics*. 77, 512-24.

Garcia, P. and D.R. Sanders. "Ex Ante Basis Risk in the Live Hog Futures Contract: Has Hedgers' Risk Increased." *Journal of Futures Markets*. 16, 421-40.

Schroeder, T.C. and B.K. Goodwin (1991). "Price Discovery and Cointegration for Live Hogs." *Journal of Futures Markets. 11,6, 685-96.*

Fortenberry, T.R. and H.O. Zapata (1993)."An Examination of Cointegration Relations between Futures and Local Grain Markets." *Journal of Futures Markets*. 13, 8, 921-32.

Yang, J., D.A. Bessler, and D.J. Leatham (2001). "Asset Storability and Price Discovery in Commodity Futures: A New Look." *Journal of Futures Markets*. 21, 3, 279-300.

*Tomek, W. G. (1997). "Commodity Futures Prices as Forecasts." *Review of Agricultural Economics*. 19, 1, 23-44.

Zulauf, C. R., S. H. Irwin, J. E. Ropp, and A. J. Sberna (1999). "A Reappraisal of the Forecasting Performance of Corn and Soybean New Crop Futures." *Journal of Futures Markets*. 19, 5, 603-618.

Garcia, P., R. M. Leuthold, T.R. Fortenberry, and F. Sarasorro. (1988). "Pricing Efficiency in the Live Cattle Futures Market: Further Interpretation and Measurement." *American Journal of Agricultural Economics*. 70, 1, 162-69.

Beck, S. E. (1994). "Cointegration and Market Efficiency in Commodities Futures Markets." *Applied Economics*. 26, 3, 249-57.

McKenzie, A. M., and M.T. Holt. (2002). "Market Efficiency in Agricultural Futures Markets. *Applied Economics* 34, 1519-32.

Irwin, S.H., C. R. Zulauf, and T. E. Jackson. (1996). "Monte Carlo

Analysis of Mean Reversion in Commodity Futures Prices." *American Journal of Agricultural Economics. 78,2, 387-99.*

Garcia, P., R. M. Leuthold, S. H. Irwin, and L. Yang. (1997). "The Value of Public Information in Commodity Futures Markets. *Journal of Economic Behavior and Organization.* 32, 4, 559-70.

Boudoukh, J., M. Richardson, Y. Shen, and R.F. Whitelaw. (2003). "Do Asset Prices Reflect Fundamentals? Freshly Squeezed Evidence from the OJ Market." NBER Working Paper 9515, http://www.nber.org/papers/w9515.

Sanders, D. R., S. H. Irwin, and R. M. Leuthold. (2000). Noise Trade Sentiment in Futures Markets. In *Models of Futures Markets*. Studies in the Modern World Economy, volume 18, London and New York: Routledge

Irwin, S. H., and B. W. Brorsen. (1987). "A Note on the Factors Affecting Technical Trading System Returns." *Journal of Futures* Markets. 7,5, 591-95.

Irwin, S. H., and B. W. Brorsen. (1985). "Public Futures Funds." *Journal of Futures Markets*. 5, 149-171.

Market Structure and Liquidity

Bryant, H.L. and M.S. Haigh. (2004). Bid-ask Spreads in Commodity Futures Markets. *Applied Financial Economics* 14:923-936.

Grossman S.J. and M.H. Miller. "Liquidity and Market Structure." *Journal of Finance* 43(1988):617-37.

Thompson, S., and M.L. Waller. (1998). Determinants of Liquidity Costs in Commodity Futures Markets. *The Review of Futures Markets* 7, 110-126.

Pirrong, C. (1996). "Market Liquidity and Depth on Computerized and Open Outcry Trading Systems: A Comparison of the DTB and LIFFEE Bund Contracts." *Journal of Futures Markets*. 16, 519-543.

Roll, R. "A Simple Implicit Measure of the Effective Bid-Ask Spread in an Efficient Market." *Journal of Finance* 39(1984):1127-39.

Thompson, S.R., M.L. Waller and D. Seibold. "Comparison of Liquidity Costs Between the Kansas City and Chicago Wheat Futures Contracts." *Journal of Agricultural and Resource Economics* 18(1993):185-97.

Pennings, J.M.E., W.E. Kuiper, F.t. Hofstede, and M.T.G. Meulenberg. (1998). "The Price Path Due to Order Imbalances: Evidence from the Amsterdam Agricultural Futures Exchanges." *European Financial Management*. 4, 47-64.

Influence of Large Traders on Price Behavior

Behavioral Biases in Markets

New Markets and Contracts

Options: Forecasting Volatility

Futures as Investments