Information Flows Between the U.S. and China Commodity Futures Trading

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Abstract

Using a bivariate GARCH model, we examine patterns of information flows for three commodity futures traded in both the developed U.S. market and the emerging China market (copper, soybeans and wheat). For copper and soybeans, the two commodities that are subject to less government regulation and fewer import restrictions in China, we find that the U.S. futures market plays a dominant role in transmitting information to the Chinese market, a result that confirms the importance of the U.S. role as a leader in the global financial market. For the heavily regulated and subsidized wheat commodity, our empirical results indicate

that the U.S.-China futures markets are highly segmented in pricing, although information transmission via volatility spillover across markets is present.

References

Berndt, E., B. Hall, R. Hall and J. Hausman, “Estimation and Inference in Nonlinear Structural Models. ” *Annals of Economic and Social Measurement* 3, 653–665 (1974).

Google Scholar

Bollerslev, T., “Generalized Autoregressive Conditional Heteroskedasticity. ” *Journal of Econometrics* 31, 307–327 (1986).

Google Scholar

Bollerslev, T., R. F. Engle and J. M. Wooldridge, “A Capital Asset Pricing Model with Time-Varying Covariances. ” *Journal of Political Economy* 96, 116–131 (1988).

Google Scholar

Booth, G. G., P. Brockman and Y. Tse, “The Relationship Between U.S. and Canadian Wheat Futures. ” *Applied Financial Economics* 8, 73–80 (1998).

Google Scholar

Cheung, Y.W. and H. G. Fung, “Information Flows Between Eurodollar Spot and Futures Markets. ” *Multinational Finance Journal* 1, 255–271 (1997).

Google Scholar

Dhillon, U., D. J. Lasser and T. Watanabe, “Volatility, Information, and Double VersusWalrasian Auction Pricing in U.S. and Japanese Futures Markets. ” *Journal of Banking and Finance* 21, 1045–1061 (1997).

Google Scholar

Engle, R. F., “Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of U.K. Inflation. ” *Econometrica* 50, 987–1008 (1982).

Google Scholar

Engle, R. F. and C. W. Granger, “Co-Integration and Error Correction: Representations, Estimation, and Testing. ” *Econometrica* 55, 251–276 (1987).

Google Scholar

Engle, R. F. and K. F. Kroner, “Multivariate Simultaneous Generalized ARCH. ” *Economic Theory* 11, 122–150 (1995).

Google Scholar

Eun, C. S. and S. Shim, “International Transmission of Stock Market Movements. ” *Journal of Financial and Quantitative Analysis* 24, 241–256 (1989).

Google Scholar

Fung, H. G. and S. Isberg, “The International Transmission of Eurodollar and U.S. Interest Rates: A Cointegration Analysis. ” *Journal of Banking and Finance* 16,

757–769 (1992).

Google Scholar

Fung, H. G. and W. C. Lo, “An Empirical Examination of the Ex Ante International Interest Rate Transmission. ” *Financial Review* 30, 175–192 (1995).

Google Scholar

Fung, H. G., W. K. Leung and X. E. Xu, “Information Role of U.S. Futures Trading in a Global Financial Market. ” *Journal of Futures Markets* 21(11), 1071–1090 (2001).

Google Scholar

Garbade, K. D. and W. L. Silber, “Price of Movements and Price Discovery in Futures and Cash Markets. ” *The Review of Economics and Statistics* 65, 289–297 (1983).

Google Scholar

Ghosh, A., R. Saidi and K. H. Johnson, “Who Moves the Asia-Pacific Stock Markets-U.S. or Japan? Empirical Evidence Based on the Theory of Cointegration. ” *Financial Review* 34, 159–170 (1999).

Google Scholar

Glosten, L. R., R. Jagannathan and D. E. Runkle, “On the Relation Between the Expected Value and the Volatility of the Nominal Excess Returns on Stocks. ” *Journal of Finance* 48, 1779–1801 (1993).

Google Scholar

Harris, F. H., T. H. McInish, G. L. Shoesmith and R. A. Wood, “Cointegration, Error Correction, and Price Discovery on Informationally Linked Security

Markets. ” *Journal of Financial and Quantitative Analysis* 30, 563–579 (1995).

Google Scholar

Hill, J., T. Schneeweis and J. Yau, “International Trading/Non-Trading Time Effects on Risk Estimation in Futures Markets. ” *Journal of Futures Markets* 10, 407–423 (1990).

Google Scholar

Holder, M., R. D. Pace and M. J. Tomas III, “Complements or Substitutes? Equivalent Futures Markets—The Case of Corn and Soybean Futures on U.S. and Japanese Exchanges. ” *Journal of Futures Markets* 22, 355–370 (2002).

Google Scholar

Karolyi, A., “A Multivariate GARCH Model of International Transmission of Stock Returns and Volatility. ” *Journal of Business and Economic Statistics* 13, 11–25 (1995).

Google Scholar

Kearney, C. and A. J. Patton, “Multivariate GARCH Modeling of Exchange Rate Volatility Transmission in the European Monetary System. ” *Financial Review* 41, 29–48 (2002).

Google Scholar

Kwan, A., A. Sim and J. Cotsomitis, “The Causal Relationships Between Equity Indices on Word Exchanges. ” *Applied Economics* 27, 33–37 (1995).

Google Scholar

Ross, S. A., “Information and Volatility: The No-Arbitrage Martingale Approach to Timing and Resolution Irrelevancy. ” *Journal of Finance* 44, 1–17 (1989).

Google Scholar

Schwert, G. W., “Why Does Stock Market Volatility Change Over Time?” *Journal of Finance* 44, 1115–1153 (1989).

Google Scholar

Theodossiou, P. and U. Lee, “Mean and Volatility Spillover Across Major National Markets: Further Empirical Evidence. ” *Journal of Financial Research* 16, 337–350 (1993).

Google Scholar

Tse, Y., “International Linkages in Euromark Futures Markets: Information Transmission and Market Integration. ” *Journal of Futures Markets* 18, 129–149 (1998).

Google Scholar

Tse, Y., T. H. Lee and G. G. Booth, “The International Transmission of Information in Eurodollar Futures Markets: A Continuously Trading Market Hypothesis. ” *Journal of International Money and Finance* 15, 447–465 (1996).

Google Scholar

Williams, J., A. Peck, A. Park and S. Rozelle, “The Emergence of a Futures Market: Mungbeans on the China Zhengzhou Commodity Exchange. ” *Journal of Futures Markets* 18, 427–448 (1998).

Google Scholar

Yao, C., *Stock Market and Futures Market in the People*'s Republic of China. New York: Oxford University Press, 1998.

Google Scholar

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