

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.

| Intraday Bid Ask Spread Variation in the Electronically Traded Corn Futures Market |
|--|
| Xiaoyang Wang, Philip Garcia and Scott H. Irwin ¹ |

¹Xiaoyang Wang (wang150@illinois.edu) is a Graduate Research Assistant with the Office of Futures and

Selected Paper prepared for presentation at the Agricultural & Applied Economics Association's 2012

AAEA Annual Meeting, Seattle, Washington, August 12-14, 2012.

Copyright 2012 by Xiaoyang Wang, Philip Garcia, and Scott H. Irwin. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this

copyright notice appears on all such copies.

Options Research in the Department of Agricultural and Consumer Economics in the University of Illinois at Urbana-Champaign. Philip Garcia is the T.A. Hieronymus Distinguished Chair in Futures Markets and Director, Office of Futures and Options Research in the University of Illinois at Urbana-Champaign. Scott H. Irwin is the Laurence J. Norton Chair, Office of Futures and Options Research in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign.

Intraday Bid-Ask Spread Variation in the Electronically Traded Corn Futures Market

Xiaoyang Wang, Philip Garcia and Scott H. Irwin

Motivation

The magnitude and intraday variation of the bid-ask (BAS) Method spread in futures markets influences liquidity providers' revenue and traders' execution costs. These costs can affect the attractiveness of hedging and trading strategies.

Previous studies identify a U-shaped intraday BAS pattern in open outcry futures markets (e.g., Wang et al., 1994; Ferguson and Mann, 2001). Recently, electronically traded futures has overwhelmed the outcry market—more than 90% of the volume traded is transacted electronically, bringing more traders to the market place.

Research questions

Has the influx of traders influenced intraday BAS patterns in the corn futures contract? What has occurred in traded volume, price volatility, and market depth?

Data

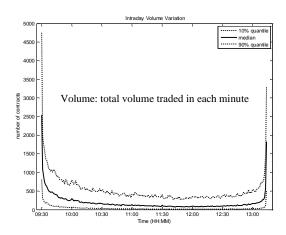
CME group Top of Book (BBO) data.

Electronic corn futures, 1/14/2008 - 1/29/2010.

Trading records from 9:30 AM – 1:15 PM.

Top bid – ask, transaction prices, volume and order sizes in time sequence.

For nearby contracts, about 40 thousand records per day. In terms of the nearby contracts there are 516 days.



Calculate average BAS, volume, volatility and top of book Ferguson, M., and S. Mann. 2001. "Execution Costs and Their depth for each of the 225 minutes per day. For each minute, we have 516 observations.

The intraday variation of BAS and related factors are plotted at their 10, 50 and 90th percentiles.

Results

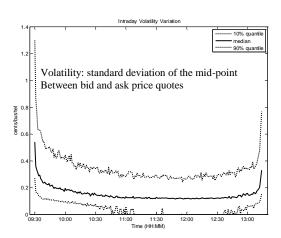
The BAS is L-shaped intraday in contrast to previous findings on open outcry markets, and exhibits considerable variability across days.

Volume and volatility are both U-shaped similar to previous findings.

Market depth is lowest at the open, highest at close, and stable during the day—consistent with a competitive liquidity market (Frino et al., 2008).

Conclusion

Intraday BAS variation in the electronically traded corn market differs from open outcry markets. The increase in depth and volume reduces the BAS at market close. An electronic market appears easier for diversified liquidity providers to increase liquidity at close, and reduce the BAS through accumulated order depth.



Reference

Intraday Variation in Futures Markets." J of Business 74 (1): 125-160.

Frino, A., A. Lepone, and G. Wearin. 2008. "Intraday Behavior of Market Depth in A Competitive Dealer Market: A Note." J of Fut. Markets 28 (3): 294-307.

Wang, G. H K., R. Michalski, J. Jordan and E. Moriarty. 1994. "An Intraday Analysis of Bid-Ask Spreads and Price Volatility in the S&P 500 Index Futures Market." J of Fut. Markets 14 (7): 837-859.

