



ELSEVIER

International Review of Economics and Finance 14 (2005) 415–425

IREF International
Review of
Economics
& Finance

www.elsevier.com/locate/econbase

Effects of electronic trading on the Hang Seng Index futures market

Joseph K.W. Fung^a, Donald Lien^b, Yiuman Tse^{c,*}, Yiu Kuen Tse^d

^a*Hong Kong Baptist University, Hong Kong, China*

^b*University of Texas at San Antonio, San Antonio, TX 78249, USA*

^c*University of Texas at San Antonio, 501 West Durango Boulevard, San Antonio TX 78207, USA*

^d*Singapore Management University, Singapore, Singapore*

Received 26 August 2003; received in revised form 12 February 2004; accepted 29 March 2004

Available online 25 June 2004

Abstract

This investigation of the switch from open-outcry trading to electronic trading on the Hang Seng Index (HSI) futures contract reveals that the bid–ask spread narrows and the futures price plays more of a role in information transmission. Factors, such as anonymity in trading and fast order execution in electronic trading, attract informed traders to the futures market, enhancing the information flow. Our results provide support for the worldwide trend of transforming open-outcry markets into electronic trading platforms.

© 2004 Elsevier Inc. All rights reserved.

JEL classification: G15; G14

Keywords: Electronic trading; Hang Seng Index futures

1. Introduction

Advances in information technology have attracted exchanges to electronic trading systems as an alternative to open-outcry systems. A typical perspective for comparison of the different systems relates to the idea of market quality. The posted bid–ask spread and its modification reflect market frictions and serve as a measure of transaction cost. Overall, a system with a narrower bid–ask spread should be

* Corresponding author. Tel.: +1 210 458 2503; fax: +1 210 458 2515.

E-mail address: ytse@utsa.edu (Y. Tse).

preferred. Grossman and Miller (1986) and Miller (1991) suggest that the open-outcry system results in a more liquid market, which makes trading less expensive. Coval and Shumway (2002) show that the sound in trading pits is more than noise; it conveys information. Frino, Harris, McNish, and Tomas (in press) find that locals on the floor contribute significantly to price discovery.

The anonymous nature of an electronic trading system precludes transmission of any information that floor traders might otherwise observe in an open-outcry system. Concerns for adverse selection should produce a wider bid–ask spread. Blennerhassett and Bowman (1998) and Frino, McNish, and Toner (1998), however, provide empirical support that smaller bid–ask spreads are lower in the case of an electronic trading system.

Pirrong (1996) argues that a priori there is no reason to suppose that one system is better than the other, as the sources of liquidity provision are different. Vila and Sandmann (1996) concur with this conclusion. Gilbert and Rijken (2002) find that the determinants of the bid–ask spread are quite different across the two systems. All these results suggest that the effects of electronic trading on the bid–ask spread may vary, depending on the market. Indeed, simulation studies by Domowitz (1990) show that stocks and options, but not futures, display poor properties of liquidity provisions under electronic trading.

As a derivative security, a futures contract is expected to fulfill a price-discovery function. Domowitz (1993) suggests that electronic trading may be better than the open-outcry system with respect to how quickly prices reach a competitive equilibrium. That is, when the market is inactive, floor traders have little to observe, but an open electronic order book continues to inject information into the market, speeding up equilibrium convergence. Electronic trading in futures markets thus enhances the price-discovery function. An electronic trading system strengthens the lead–lag relationship between futures and spot markets, improves the contemporaneous correlation between spot and futures prices, and mitigates the asymmetric response to good or bad news. Volatility spillover or information transmission is also expected to be stronger and more prominent in electronic trading systems.

A contrary result is that concerns about adverse selection in an electronic trading system may discourage trading and impede price convergence during periods of high volatility (when a lot of information is conveyed) because trades are anonymous. Delays in price convergence reduce information transfer from the futures market to the spot market, and diminish the contemporaneous correlation between the two.

Overall, the effects of electronic trading on the price-discovery function of the futures market depend upon trading intensity of the particular market. Beelders and Massey (2002), for instance, find that the index futures market became more informative after introduction of electronic trading on the Johannesburg Stock Exchange, but the gold futures market became less informative.

On June 6, 2000, trading in the Hang Seng Index (HSI) futures contracts switched from floor open outcry to electronic trading. We test the hypothesis that electronic trading reduces trading costs and enhances informational efficiency. Our investigation of the effects of electronic trading on the bid–ask spread and the price-discovery function of the HSI futures market shows that the spread in the futures market narrowed, indicating a decline in trading costs. We use two common-factor models, Gonzalo and Granger (1995) and Hasbrouck (1995), to study the price discovery process and an exponential GARCH (EGARCH) model to describe the volatility spillover process. Futures prices under both processes contribute more information after the advent of electronic trading. The overall results support the decision of the Hong Kong Futures Exchange (HKFE) to close the trading floor and implement electronic trading.

Open interest (which Bessembinder & Seguin, 1993 suggest is a proxy for the amount of uninformed trading) on the futures market declines, as does asymmetry in volatility (a result that Antoniou, Holmes,

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات