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Stock prices and the location of trade: Evidence from China-backed ADRs☆

Xue Wang[a,*], Lee J. Yao[b,1], Victor Fang[c,2]

[a] School of Business, Renmin University of China, 59 Zhongguancun Street, Haidian District, Beijing 100872, China
[b] College of Business, Loyola University New Orleans, 6363 St. Charles Avenue, Campus Box 15, New Orleans, LA 70118, USA
[c] School of Accounting, Economics and Finance, Deakin University, Australia

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ABSTRACT

This study examines whether the trading location affects equity returns of China-backed American Depository Receipts (ADRs) traded in the US. If International Financial Markets are integrated, stock prices should be affected only by their fundamentals; otherwise, stock prices may also be affected by their trading locations/investor sentiment. We find that China ADRs' returns are affected more by the US market fluctuations than by Chinese market returns. We interpret the results as suggesting that International Financial Markets are at least partially segmented and country-specific investor sentiment affects stock prices.

1. Introduction

Finance theory suggests that trading location should not affect stock returns if International Financial Markets are integrated (Karolyi & Stulz, 2003). However, if financial markets are not perfectly integrated, stock prices are also affected by trading locations besides their fundamentals.[3] In this

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* Corresponding author. Tel.: +86 10 82500439; fax: +86 10 82509169.
E-mail addresses: wangxue@rbs.org.cn (X. Wang), yao@loyno.edu (L.J. Yao), v.fang@deakin.edu.au (V. Fang).
[1] Tel.: +1 504 864 7966; fax: +1 504 864 7970.
[2] Tel.: +61 3 924 46919.

[3] Market is considered integrated when asset prices do not depend on where they are traded. While on the other hand, if asset prices are affected by their trading locations, market is said to be segmented (Karolyi & Stulz, 2003).

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study, we examine the relation between stock returns and trading location by studying China-backed American Depository Receipts (ADRs) traded in the US.

Previous studies provide mixed evidence on whether trading location has an impact on stock prices movements. Some recent studies show that stock prices are more affected by the market of their trading locations. For example, Froot and Dabora (1999) examine the effect of trading location on stock returns by studying pairs of large, "Siamese twin" companies and find that the twin stocks are correlated more with the markets they trade on. Chan, Hameed, and Lau (2003) investigate the return dynamics of Jardine Group stocks after they were delisted from Hong Kong market. After the delisting, the trading activities moved from Hong Kong to Singapore and the business stays in Hong Kong and mainland China. They find that Jardine stocks are correlated less (more) with the Hong Kong (Singapore) market after the delisting, indicating the importance of trading location to stock prices. They interpret the evidence as suggesting that country-specific investor sentiment affects stock returns. Other studies also show evidence supporting that investor sentiments have an impact on securities' returns (for example, Bodurtha, Kim, & Lee, 1995; Cheng, Fung, & Tse, 2008; Grossmann, Ozuna, & Simpson, 2007; Gutierrez, Martinez, & Tse, 2009; Suh, 2003; Werner & Kleidon, 1996).

In contrast, Phylaktis and Manalis (2005) examine whether trading location affects informationally linked stocks' prices by studying price dynamics of Greek stocks listed on the Greek and the two German stock exchanges, Frankfut and Berlin. They find that the Greek stocks trading in German markets are priced regarding the Greek market. The authors interpret the evidence as implying that location of trade does not matter to the price dynamics of securities. Bin, Morris, and Chen (2003) study the determinants of ADR prices and find that trading location (U.S. market) and foreign home equity market both affect ADR prices, as well as exchange rates. However, they do not examine which factor impacts ADR prices more. Some other studies investigate the price discovery for cross-listed stocks suggest that the home market is more important in the price discovery process than the US market (Agarwal, Liu, & Rhee, 2007; Chen, Li, & Wu, 2010; Grammig, Melvin, & Schlag, 2004; Lieberman, Ben-Zion, & Hauser, 1999).

There are several studies that examine the change on market integration between Asian markets and other International markets. Cha and Oh (2000) investigate the relation between four Asian emerging equity markets and two developed equity markets. They find that the developed markets have a stronger impact on the Asian emerging markets after the 1987 market crash. On the other hand, Climent and Meneu (2003) examine the effect of 1997 Asian financial crisis on the relation between south-Asian stock markets and a group of International stock markets. The authors conclude that although Asian stock markets are more integrated with the rest of the International markets after the crisis in the short-term analysis, multivariate co-integration is not significant in the long-term equilibrium and therefore long-term international diversification could still be beneficial.

The objective of this study is to extend the literature by examining whether and to what extent, the trading location matters to stock price dynamics for China-backed ADRs trading in the NYSE. This paper also intends to shed some light on market integration between China and the US stock markets.

ADRs represent shares of a non-US company that trade in the US financial markets and are issued by a US depository bank. ADRs provide US investors a tool to invest in foreign companies to gain international diversification and potential higher returns without cross-border and cross-currency transaction costs.[4]

Firstly, we use daily data on China-backed ADRs traded in the New York Stock Exchange (NYSE), the Xinhua China 25 Index Fund (FXI) and the S&P 500 Fund (IVV), to examine whether the daily (close-to-close) IVV returns affect daily (close-to-close) China-backed ADR portfolio (EADR) returns and whether the daytime (open-to-close) or overnight (close-to-open) IVV returns affect daytime (open-to-close) and overnight (close-to-open) China-backed ADR portfolio returns. The use of the equally weighted ADR portfolio returns offers a benefit of eliminating the noise in each ADR's daytime returns.

We find that daily EADR returns (during overlapping trading hours between the US and China markets) are significantly impacted by both IVV and FXI daily returns, while the impact from IVV daily returns is larger than from FXI daily returns. The overnight EADR returns (during China market

[4] See Li and Yung (2004) and Puthenpurackal (2006) for detailed descriptions on ADRs.