Int. Fin. Markets, Inst. and Money 31 (2014) 187–215

Contents lists available at ScienceDirect

Journal of International Financial Markets, Institutions & Money

journal homepage: www.elsevier.com/locate/intfin

Informed trading, trading strategies and the information content of trading volume: Evidence from the Taiwan index options market

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ARTICLE INFO

Article history:
Received 30 May 2013
Accepted 27 March 2014
Available online 5 April 2014

JEL classification:
G14

Keywords:
Index options
Options volume
Informed trading
Foreign institutional investors
Taiwan

ABSTRACT

This paper examines the predictive ability of index option put-call volume on next-day index movements in the Taiwan market. We find that foreign institutional investors are the most informed traders, with their predictive ability being more apparent in a downward market. When engaging in informed trading, foreign institutional investors tend to use out-of-the-money options to achieve high leverage, along with medium-term options to obtain large delta exposure and low theta risk, whilst also sacrificing liquidity by forgoing the use of short-term options. The predictive ability of foreign institutional investors is found to be significantly enhanced on days with important macroeconomic news, thereby indicating their superior interpretative ability of publicly accessible information. Based upon their long-lived informational advantage, foreign institutional investors will tend to engage in informed trading using limit orders and medium-sized trades in order to camouflage their information.

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http://dx.doi.org/10.1016/j.intfin.2014.03.012
1042-4431/

1. Introduction

We set out in this study to examine the information content of trading volume, with the overall aim of identifying the patterns of index options usage in informed trading. The extant literature provides evidence on the informativeness of options trading, with some studies identifying which traders are in possession of private trading information. In the present study, we go one step further to examine the various trading decisions faced by investors who possess superior information, as well as the trading strategies that they choose to adopt. In specific terms, we investigate the contracts in which informed traders tend to trade (in-the-money versus out-of-the-money), the type of orders that they use for their trading activities (market versus limit orders, small versus large orders), the type of information that they are likely to exploit (macro versus micro, global versus domestic) and the market conditions under which they choose to trade.

It has been suggested in several of the prior studies that the options markets attract informed trading essentially because investors can benefit from high leverage (Black, 1975), low transaction costs (Fleming et al., 1996) and the flexibility to engage in a variety of trading strategies that are unavailable to them in the spot market.[1] When investors choose to engage in informed trading within the options markets, the trading process may generate rich information content on future stock prices; indeed, it is well documented that the prices of options play a leading role in price discovery,[2] and that they are even capable of predicting future price movements;[3] thus, our focus in the present study is on the information content of options trading volume.

Easley et al. (1998) asserted that observed transactions play an important role in price discovery, essentially because order flow imbalances can reflect the sign and magnitude of private information. They proposed a model which revealed that under certain circumstances, the signed trading volume of options contained valuable information on future equity prices. Cao et al. (2005) subsequently went on to provide direct evidence of options volume playing a stronger informational role during periods when informed trading was particularly intensive, with their findings revealing that during takeover announcement periods, imbalances in call volume had strong predictive ability on next-day stock returns. Pan and Poteshman (2006) further proposed that the put-call ratio of options trading volume initiated by buyers opening new positions should be taken as an information variable, since the volume ratio was found to predict stock returns for the next five days, with both economic and statistical significance.

Within each of the above studies on the informational content of options trading volume, the tendency has been to focus almost exclusively on equity options, with much less emphasis on index options. As regards options on individual stocks, it is already well recognized that corporate insiders and proprietary firm traders (i.e., those who are often found to possess private firm-specific information), are likely to engage in informed trading (Cornell and Sirri, 1992; Harris, 1993). However, with regard to index options, it is far less clear which classes of trader possess superior information, and indeed, exactly where such information originates from, essentially because it is unlikely that any investor would possess ‘private’ information at the aggregate market level.

However, Ahn et al. (2008) argued that superior information processing skills and different interpretations of exactly the same public information may well result in information asymmetry. They noted that foreign institutional investors were likely to possess an informational advantage over other types of investors, and indeed, they demonstrated a particularly large adverse selection component in the bid-ask spreads in KOSPI 200 options for those trades that had been initiated by such investors.

Chou and Wang (2009) also identified a clear tendency for stealth trading amongst foreign institutional investors and proprietary firms in the index futures market in Taiwan, a finding which implied that certain classes of traders may well possess informational advantages relating to the aggregate market trend. Nevertheless, given the above factors, all of which provide support for the likelihood of

[1] Options trading strategies unavailable to spot market traders include volatility trading (Ni et al., 2008), spread trading (Chaput and Ederington, 2005) and unlimited short sales (Figlewski and Webb, 1993).

[2] Examples include Fleming et al. (1996), Easley et al. (1998) and Cao et al. (2005).

[3] See Chakravarty et al. (2004), Pan and Poteshman (2006) and Chan et al. (2009).