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Informed options trading prior to takeovers – Does the regulatory environment matter?

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ABSTRACT

We investigate the prevalence of informed options trading prior to takeover announcements, when the legal prohibition against insider trading is strictest. Although insider trading laws apply equally to the options and stock markets, the options market is considerably more transparent than the equity market, which makes insider trading in options more easily detectable. We find that privately informed investors trade in the options market prior to takeover announcements; however, their transactions are limited to liquid call options and options with high inherent leverage. Furthermore, we find that prior to takeover announcements, informed investors trade on their private information in the options market only when a SEC investigation of insider trading is unlikely to occur. Our results suggest that even prior to takeover announcements informed investors are attracted to the options market, which increases profit making potential due the greater leverage it affords, although they trade in a way which minimizes the likelihood of detection.

1. Introduction

Takeover announcements are associated with considerable increases in target firm share prices and offer highly profitable opportunities to privately informed investors. Indeed, Meulbroek (1992)

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finds that roughly 80% of insider trading cases prosecuted by the SEC during 1980–1989 were takeover related. Informed investors can profit from their private information by either buying the target firms shares or call options prior to takeovers being publicly announced. The options market with its embedded leverage and lower transaction costs offers investors greater profit making possibilities, but at the same time increases the likelihood of their transactions being detected due to lower anonymity. Given the offsetting incentives for trading in the options market, a central question addressed in this paper is whether informed option trading is prevalent prior to takeover announcements.

Examining the information content of option prices prior to takeovers announcements is unique as virtually all private information impounded into security prices can be deemed illegal given that SEC Rule 14e-3 prohibits exploiting any informational advantage relating to takeovers.[1] Despite trading on private information attracting the same legal sanctions in both markets,[2] insider trading is more easily detectable in the options market and therefore riskier for insiders.[3] For example, Lee and Yi (2001) show that large trades on the CBOE are not anonymous, which allows options market makers and regulators to screen informed investors more effectively.[4] Dolgopolov (2010) argues that options market makers stand to suffer higher losses when trading against insiders relative to their counterparts in the equity market, and therefore have a greater incentive to detect and report insider trading.[5] This legal environment is expected to affect informed trading in the options market.

We propose and test two main hypotheses. First, we hypothesize that informed investors trade options prior to takeover announcements due to the greater profit making ability. Nevertheless, we expect that informed investors will gravitate to liquid options which increase the ability to camouflage one's transactions (and avoid detection). Similarly, options which offer greater leverage are expected to attract more informed investors. Second, we hypothesize that informed trading is less likely to occur in the option market when a Security and Exchange Commission (SEC) investigation into insider trading subsequent to the takeover announcement is perceived to be higher.

We examine takeover announcements over the period between January 1996 and December 2008 and concentrate on the pre-announcement option trading activity of publicly traded takeover targets. Consistent with Roll et al. (2010) we first develop a simple empirical construct, the options-to-stock trading volume ratio (O/S) in the pre-announcement period. O/S is the average ratio in the seven day period preceding takeover announcements between the total volume of trading on the listed options market and the corresponding volume of trading on the stock market. The component of O/S is measured separately in dollars and shares. We find that O/S increases in the pre-announcement period relative to the non-announcement period, which suggests that informed investors tend to gravitate to the options market prior to takeover announcements. This is somewhat surprising given the greater probability of detection in the options market. We further find that there is more options trading volume in the pre-announcement period for options with high liquidity and leverage. There are also less options trading volume in the pre-announcement period for options with wide spreads. We conclude that liquidity, leverage, and transaction cost is associated with the extent of informed trading in the options market.

Next we measure the information content embedded in call option prices in the pre-announcement period by measuring the portion of the takeover premium explained by changes in options prices in

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1 U.S. Securities and Exchange Commission (SEC) Rule 14e-3 deems any individual in possession of private information relating to a takeover (regardless of how the information was obtained) to be prohibited from exploiting his/her informational advantage by trading in securities.

2 The Securities and Exchange Act of 1934 and Insider Trading Sanctions Act (ITSA) of 1984 make it a criminal and civil offense for insiders with material non-public information to trade in either the equity or the options market.

3 The level of trader anonymity is considerably lower in the options market, especially for trades larger than 10 contracts. Floor brokers on the Chicago Board Options Exchange (CBOE) are required to give the name of a clearing member through whom a transaction has cleared, while the clearing member is required to reveal the customer identity if requested.

4 The Report of the Special Study of the Options Market to the Securities and Exchange Commission (December 1978) concludes that the market surveillance system of the CBOE is more complete than that of the New York Stock Exchange (NYSE) system. Insiders faced with the risk of an SEC investigation of insider trading after a takeover announcement would be more likely to trade in the equity market.

5 Higher potential losses stem from the inability of option market makers to adequately hedge their positions, since different maturities and strike prices on the same stock inherent in options contracts make it virtually impossible to match all transactions.