



An Empirical Examination of Informed Trading in the Option Market

Thi Thanh Van Le

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SYNOPSIS

Despite a growing research interest in option trading and its impact on the pricing of the underlying asset, the role of options as a vehicle for informed trading remains an important economic question which has not yet been fully explored. In fact, even though academics have often argued that informed traders may prefer to trade in the option market rather than the equity market¹, the question of whether (and to what extent) such a proposition would hold in practice has not been systematically addressed in the literature.

This overarching research problem forms the foundation of this doctoral research project, leading to two important research questions. First, if investors do in fact use options to trade on information about underlying stock prices in practice, what implications does this have for the option (stock) pricing and forecasting? Second, what are the key factors driving traders' decisions to trade on new information in one market over another? These two issues correspond to the two gaps found in the extant literature on option trading, and also in the strand of empirical studies focusing on the role of options as a mechanism for trading on information about the underlying asset. To explore these research questions, three interrelated projects have been undertaken, each with a unique contribution to informing the research topic.

These closely related investigations jointly provide consolidated answers to the two research questions raised previously. In response to the first research question, we pursue two strands of empirical investigation to examine the presence of informed trading in the option market. Firstly, we investigate the extent to which the information content extracted from options trading can be used to enhance predictions of the future

¹ Mainly due to higher financial leverages, reduced transactions costs and wider trading opportunities (eg speculation on volatility) (Black, 1975).

volatility realised by underlying stocks. Secondly, we examine the price impact of information trading activities within the option market, focusing especially on the way in which the level of trading activities can explain and predict the future dynamics of the option implied volatility smile. Both of these strands yield evidence in support of information trading activities existing in the option market. Regarding the second research question, our collective evidence indicates that the allocation of informed traders between option and stock markets depends on the trade-off of transaction costs and trading opportunities existing in two related markets. This finding has consistently been corroborated by separate evidence emerging from our independent investigations. We found that the degree of information trading in the option market varies across different stocks, corresponding to variations in the level of individual stock liquidity. It has also been found that the degree of information asymmetry of option trades changed in response to changes in trading costs driven by regulatory changes observed during the 2008 short-sale ban.

This research makes a valuable contribution to the field of option research. From the theoretical perspective, it addresses significant gaps in the existing literature and extends our understanding of informed trading activities in the option market. In particular, it contributes to the body of knowledge on the economic value of derivatives by investigating the critical role they have played in the process of incorporating new information into the market. From the practical perspective, it proposes a simple-yet-effective technique which employs trading volume to improve forecasts of the underlying stock volatility and of the option implied volatility (price) respectively. Since volatility plays such a central role in the practice of derivatives trading, risk analysis and portfolio management, better forecasts of these quantities are clearly important and highly regarded by practitioners.

DECLARATION

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institutions and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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