Review

Informational Role of Open Interest and Transaction Volume of Options: A Meta-Analytic Review

FIIB Business Review
9(4) 275–285, 2020

DOI: 10.1177/2319714520980662
journals.sagepub.com/home/fib

Avinash[1] and T. Mallikarjunappa[2]

Abstract

The study examines the research literature pertaining to the informational content of open interest and transaction volume in a systematic manner. Our review upheld their informational role in estimating the price of the underlying stock in future, in predicting future volatility and in ascertaining the market behaviour around corporate/macro-economic announcements with mixed directional effect. Further, through well-defined inclusion/exclusion criteria, we choose 38 research works to uncover the factors and conditions upon which open interest and transaction volume are more informative via meta-regression. The temporal and spatial factors indicate that open interest and transaction volume are more informative in an emerging market as compared to a developed market.

Keywords

Open interest, volume, non-price, options, informational content, meta-analysis

Introduction

Options are considered as redundant by Black and Scholes (1973) and Merton (1973) in their seminal work on the options pricing model. The options pricing researchers in the year following the Black and Scholes' and Merton's work also treated the options in the same manner in building their models on the options valuation (Cox et al., 1979; Dybvig & Ingersoll, 1982). The treatment of options as a redundant asset can hold true in a frictionless market (Hwang & Satchell, 2000), the market characterized by information symmetry (Figlewski & Webb, 1993; Sheikh & Ronn, 1994) or under a trading scenario wherein options payoff can be replicated with a dynamic strategy containing the underlying asset and the risk-free bond (Bates, 1997; Hwang & Satchell, 2000). But in the world of information asymmetry and transaction cost, options are no longer a redundant asset, and this has paved a way for the scholars in incorporating the real-world market frictions to the options pricing models (Baptista, 2007; Bates, 1997; Bensaid et al., 1992; Naik, 1993; Sill, 1997;). Empirical evidence also highlighted the numerous utilities of options variables; implied or quoted, relating to the options market. Manaster and Rendleman (1982) utilized call options as an estimator of equilibrium price; Murevyev et al. (2013), Kumar (2016), Patel et al. (2016), Liu et al. (2017) used options implied price to measure the price discovery role; Galariotis et al. (2014) examined the trading behaviour of the US and UK markets on account of large price changes. Likewise, options volume data are applied to measure the contemporaneous price impact (Schlag & Stoll, 2005) and to modify the option information aggregation method of Holowczak (Lin et al., 2018). All these applications of options market variables are evidence for non-redundant nature of options.

Besides these, a strand of literature utilized the non-price variables such as open interest (i.e., the number of positions open at any time point) and transaction volume (i.e., the number of positions traded on a particular day) in ascertaining the options market's informativeness. The researchers like Easley and O'Hara (1987), Anthony (1988), Chan et al. (2002), Srivastava (2003), Chakravarty et al. (2004), Bhuyan and Chaudhury (2005), Schlag and Stoll (2005), Bhuyan and Williams (2006), Mukherji and Mishra (2007), Chang et al. (2007), Srivastava et al. (2008), Pathak and Rastogi (2010), Aggarwal (2010), Afsal and Mallikarjunappa (2011), Li (2012), Sen and Sikdar (2012), Mahmod and Cohen (2012), Labnau and Todorova (2012), Hu (2014), Chowdary and Rao (2013), Liu et al. (2017), Hsieh et al. (2017), Avinash and Mallikarjunappa (2018) and Ryu and Yang (2018) tested the informational content of non-price variables in predicting

[1] GFGC Haleyangadi, Mangalore, Karnataka, India.
[2] School of Business Studies, Central University of Kerala, Kasaragod, Kerala, India.

Corresponding author:
Avinash, Mangalore University, Konaje, Karnataka, India.
E-mail: avinashkotyan88@gmail.com