OPEN SOURCE INTERNET TO ANALYSIS AND PREDICT STOCK MARKET TRADING VOLUME

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Abstract

The objective of this paper is to evaluate the impact of information demand and supply on stock market trading volume. However few studies have demonstrated the role of Google search data in analyzing trading volume activity. In this study we employ a proxy for information demand which is derived from weekly internet search volume. The latest is drown from Google trends database, for 25 of the largest stocks traded on CAC40 index, between April 2007 and March 2014. We use news headlines as a proxy for information supply. We use Garch model to analysis and predict trading volume.

The empirical results present some new evidences. First information supply has an impact on trading volume but information demand's impact is much more important. Second, by applying MCA to results found it could be concluded that the impact of public information on transaction volume is conditioned by two elements : the firm and market news disclosure and the second element relates to the characteristics of the market participants , more precisely their news interpretations and their risk aversion. Third, we used Chow structural break test to verify the stability of our model. We found that for securities with structural changes, information demand is the responsible variable of the change in our model. Finally, we found that information variables have a predictive power of transaction volume.

This paper contributes to existing literature by incorporating open source internet based data into the analysis and prediction of transaction volume. Using Internet information about the stock market, which has appeared recently as an interesting research for financial empiricists, computer scientists and practitioners, will have a very important utility because quantifying demand and supply of information becomes possible.

Keywords: GARCH model, Google trends database, Information demand, Information Supply, multiple correspondence analysis (MCA), Chow structural break test.

JEL classification: C32, D83, G12, G14