Financial News Credibility Measurement and Analysis in Fintech Applications

by

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Abstract:

New financial technology (fintech) applications are increasingly relying on the processing of large amount of unstructured textual data to generate information signals for a wide spectrum of financial services from trading and robot-advising to investment and wealth management. We propose a quantitative measure of financial news credibility and test whether and how investors react to the perceived credibility of financial news. We measure news credibility based on the linguistic features associated with deceptive political news and apply a domain-adversarial deep learning model and natural language processing techniques to extract these features and transfer them to financial news analysis. We find significant asymmetric responses from the market to news credibility based on 395 stocks in the S&P 500 index. We show that contingent on the news effect, the arrival of credible news is positively related to trading activity and market volatility, whereas the effect of non-credible news is negative. These effects are mainly contemporaneous but can also be observed in lagged days. Inconsistent news credibility also induces more trading and volatility. Asymmetric credibility responses exist for firms with high levels of paid attention and correlate with the level of institutional investment in the firm.

Bio:

NG Ka Chung (Boris) is a doctoral candidate in the Department of Information Systems, Business Statistics and Operations Management, School of Business and Management, The Hong Kong University of Science and Technology (HKUST). His research interests include statistical network modelling, deep learning applications, textual analysis, and business analytics. In his research, he applied deep learning and adversarial learning in measuring investors’ perceived credibility of financial news. He holds an MPhil in Information Systems and a BSc in Risk Management and Business Intelligence from HKUST.