

Empirical Mathematical Framework for Market Efficiency Testing with News based Event
Analysis of Financial Time Series of BÉT to Implement High-Frequency Algorithmic
Trading Strategy

Thesis abstract

I study the intraday behavior of the Hungarian Stock Exchange for 10 major Hungarian instruments. The specialty of this research is that I use event analysis based on publicly announced news from the major Hungarian economic and financial news portal, portfolio.hu. Previous empirical research focusing on Hungarian stock time series data and Hungarian news together is not known at the time of thesis writing. First, with artificial features for vectors space based SVD and QR analysis I show that minute-length time windows around news announcements can be distinguished from time windows containing no news around. I use cluster analysis to confirm this. Secondly, I make efforts to find indicators of insider trading or trading on exclusive information in order to implement an automated algorithmic trading strategy to monetize market overreaction. Finally, I briefly describe an analysis framework which is capable of evaluating algorithmic trading strategies against reference strategies (e.g. buy-and-hold).

Keywords: Market Efficiency, Event Analysis, Budapest Stock Exchange (BUX, BÉT), Market Information, Intraday, Hungarian Economic News, SVD, QR Decomposition, Data Mining, Classification, Sentiment, portfolio.hu.

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