

# News and individual investment decisions

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## abstract

Many papers have investigated price reaction to news since the pioneering work of Cutler et al. [1] that estimated for the first time the fraction of the variation that can be attributed to economic news in aggregated stock returns. Starting from 2003, new studies using comprehensive databases of news appeared in the literature. Chan [2] showed that stocks experiencing negative returns concurrent with the arrival of a news story continued to underperform their peers. The same public news database was successfully used by Vega [3], together with the estimation of the probability of private information-based trading. The sentiment carried by news impacting the market was first investigated using the daily content from a popular Wall Street Journal column [4]. The role of investors' attention was also considered from the different perspective of information demand in a study of the Google Search Volume Index [5]. In this study, authors related the Google search Volume Index to a sample of Russell 3000 stocks showing that an increase in the Search Volume Index predicts higher stock prices in the next two weeks and an eventual price reversal.

In our study, we investigate the trading behaviour of a large set of single investors trading the highly liquid Nokia stock over the period 2003–2008 with the aim of determining the relative role of endogenous and exogenous factors that may affect their behaviour. As endogenous factors, we consider returns and volatility, whereas the exogenous factors are the total daily number

of news articles and a semantic variable based on a sentiment analysis of the news. Linear regression and partial correlation analysis of the data show that different categories of investors are differently correlated to these factors.

In this work [6], we investigate the database maintained by the Euroclear Finland (previously Nordic Central Securities Depository Finland). The database is the central register of shareholdings for Finnish stocks and financial assets in the Finnish Central Securities Depository. Practically, all major publicly traded Finnish companies have joined the register. The register reports the shareholdings of all Finnish investors and of all foreign investors asking to exercise their vote right. Both retail and institutional investors are included. The database records official ownership of companies and financial assets and the trading records are updated on a daily basis according to the Finnish Book Entry System. The records include all the transactions, executed in worldwide stock exchanges and in other venues, which change the ownership of the assets. The database classifies investors into six main categories: non-financial corporations, financial and insurance corporations, general governmental organizations, non-profit institutions, households and foreign organizations.

As a source of financial news, we use the Headlines of the NewsScope archive of news released in English by Thomson Reuters during the investigated time period.

Specifically, from the complete NewsScope archive, we have extracted all the headlines in English language labelled with at least one Nokia Reuters Instrument Code. The set comprises 11 484 unique headlines. Each headline is associated with one or more release time (multiple releases of the same headline are frequent). In case of multiple releases of the same headline, we use as time of the headline the time of the first release.

Governmental and non-profit organizations are weakly sensitive to news and returns or volatility, and, typically, they are more correlated with the former than with the latter. Households and companies, on the contrary, are very sensitive to both endogenous and exogenous factors, and volatility and returns are, on average, much more relevant than the number of news articles and sentiment, respectively.

Financial institutions and foreign organizations are intermediate between these two cases, in terms of both the total explanatory power of these factors and their relative importance. We explicitly consider the role of overnight news and overnight returns on the successive trading activity and trading balance of the different categories of investors. We observe the role of the overnight news, which is weaker than the ones observed between synchronous variables. By performing a vector autoregression (VAR) analysis, we show that the flux of news of the previous day affects the trading activity of companies, households and foreign investors and the dynamics of volatility. VAR is not detecting any role of the lagged sentiment in the successive values of the difference between the number of buying and selling investors for each category of investors.

## References

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