

## 0.1 Abstract

Sentiment analysis is a type of natural language processing which infers emotion from text. Sentiment has been shown in previous studies to have an impact on stock markets. The United Kingdom's exit of the European Union is expected to have a significant impact on the Irish Economy and therefore its stock market due to it being one of Ireland's major trading partners. What can sentiment analysis tell us about how the Irish Media feels about Brexit? How is that sentiment from the media affecting the Irish stock exchange?

A corpus of 18,000 articles from May 2018 to February 2019 was created using the LexisNexis media corpus. The corpus was created by taking any article with the term "brexit" in it. A domain specific Brexit dictionary was then created to use in addition to a general sentiment dictionary from Rocksteady. Negative sentiment was focused on in this study as it has been shown in previous studies that pessimism in media is the main driver of sentiment's effect on markets. Sentiment was extracted from the corpus of about 18,000 articles in Irish publications and analyzed for negative sentiment using the Rocksteady Sentiment Analysis software. Different outputs from Rocksteady were then aggregated and analyzed using Pearson's correlation coefficient which p-values were generated from. Results from these analyses suggested general biases of negativity towards the UK politicians taking part in the negotiation compared to their Irish and European counterparts. It also showed significant differences in sentiment surrounding Brexit from different papers when compared. The Belfast Telegraph and Irish Independent were found to be significantly more pessimistic about Brexit compared to the Irish Times.

The sentiment data was then aggregated with pricing data from the ISEQ stock index, which is the national index of Ireland and is a good indicator of the overall economy. The data was then imported into GRET, a financial analysis program for regression analysis on time series. Regression analysis is a type of statistical modelling that analyzed the relationships between different variables in a time series. The analysis involved creating regression models of sentiment with market volume, volatility and returns. However, no statistically significant relationship was found between sentiment and any of these market indicators which was unexpected given the background research conducted.