

Sentiment Analysis and Stock Price Movement: Shanghai Stock Exchange - A Case Study

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Behavioural finance suggests and proves that human behaviours play a vital part in market, which could be one possible explanation to market acting abnormal. Meanwhile, people depend on information to make decision which leads to possible price changes, which means the information source plays a vital part in determining peoples attitude towards the topic.

The main objective of this dissertation is to combine methods from the area of textual analysis and time series modelling to process and analyse the sentiment from news source text to determine a relationship with movements in assets traded on financial markets. As for sentiment, this dissertation take negative sentiment and oral sentiment, the sentiment proxy for each is calculated using textual analytics techniques and using an extra dictionary built by this dissertation.

I have developed a method for analysing the impact of news on the price of a stock or the value of an index of stock prices. The term news here refers spastically to the frequency of mentioning name entities in a market, and potential sentiment expressed about the entity. My method contains crashing a time series of price and the fusion with an equivalent time series of sentiment in the news and/or time series comprising the frequency by which name entity is cited in the news. For fusion I have used vector autoregression (VAR) which helps to examine the impact of news on the price movement, e.g., a share or index. Shortly, I have comprised approximate 18000 news text from a large news agency (Xinhua) along with Chinese stock price from Shanghai Stock Exchange (SSE). Using sentiment proxies, sentiment series were generated after text analysing and aggregated with return series processed from price series, and I have some evidences showing that a correlation between sentiment and price, including negative and oral sentiment of small and median enterprises in Shanghai Stock Exchange.