Project:

Text Analysis and Stock Price Response

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This project focuses on companies' stock price responses and whether information gained from announcement texts help explain these responses. At the center are announcements on companies' merger and acquisition (M&A) transactions.

The following steps describe the data work and tasks you have in front of you to finalize your analysis.

1. Stock price response
    a. collect stock prices of the acquiring or acquired companies and country indices from Refinitiv
    b. implement a risk-adjusted market model
    c. calculate abnormal and cumulative abnormal returns
    d. motive your event date and event window
2. Text analysis: Use the text on M&A and
    a. load the dataset into a dataframe and apply text preprocessing and cleaning methods
    b. use the preprocessed text and apply feature engineering methods to convert it into standardized vector inputs
    c. apply information extraction methods on the text and extract information from the text (e.g., sentiment, emotion, named entities, topics, etc.)

    Note: In order to merge your text data with stock price information, please keep the date and the deal ID together with your text indicators.
3. Combine text and price responses, and
    a. build a multiple regression model to test whether text information has an effect; select controls in line with the literature
    b. test, whether your model is adequately specified
        i. Are the model assumptions met?
        ii. Do the variables considered in your model cause a multicollinearity problem?
    c. interpret the outcome of your model