

Media coverage is a

Where the economy is going.

One of the most popular metaphors used

A popular metaphor treats the news media as a

The news media is often referred to as a watchdog. This project takes a twist on this metaphor to ask: Can this watchdog sense a coming danger and start barking before this danger arrives?

Stock markets have been a constant presence in media coverage. Their ups and downs supply journalists with great visuals, drama and action, which are considered to be the key ingredients of a newsworthy story. This means that although financial news will likely be saturated with informational “noise,” it can also provide potentially useful insights into the stock markets’ “mood.” Not only that – and this is the key question that motivates my project – this opens up an opportunity that the news media can not only reflect but predict the upcoming changes in stock-market performance.

Paraphrasing the popular metaphor that describes the news media as a watchdog, my project asks: Can this watchdog sense an upcoming stock-market swing and start barking before it arrives?

As a result of this project, I plan to develop a tool that can be used by investors to predict a change in stock prices based on the features of the current news coverage.

Specifically, the tool will predict the closing values of S&P 500 – as a commonly followed stock-market index that would be of interest to many potential users of the tool – based on the analysis of the coverage in The New York Times, as the national newspaper of record.

The project is implemented in two steps.

At STEP 1 – which I completed – I tested the hypothesis that the NYT coverage does, indeed, reflect the S&P 500’s current performance.

To do that, I used the NYT API to retrieve the meta information of the articles published in the newspapers’ business section, and then wrote a Python code that scrapped the full-text versions of the articles from the newspaper’s website. This returned 911 articles, which I saved as a .csv file.

I then ran a topic-modeling analysis in R that inferred ten topics (1=; 2=) ….

Then, for each article, I identified the salience of each of those topics in the text (as a proportion of text **representing** the respective topic). I then calculated an average salience of each topic in the news coverage for each day in my timeframe.

Finally, I created ten time-series plots that mapped on one graph the S&P 500’s closing values and the daily salience of each of the 10 topics in the news coverage, to see which of the ten did the best job matching the dynamic of the S&P prices.

The analysis showed that the … matching the politics-related, with the salience of political topics increasing as the prices went up.

In other words, it means that if political topics were deemed by journalists to be relevant enough to make it to the business section, their salience tended to reflect the ongoing upward swing in the stock-market prices, and vice versa.

At STEP 2, to be implemented at The Data Incubator, I will expand the sample beyond the business-news section. I will explore, specifically, which of the political topics that have not yet made their way to the business section – where they would reflect the ongoing price swing – have the biggest power in predicting the swing that’s yet to come.

I will use the results of this analysis to formalize the predictive model that will be used in the tool. Given the features of the news content that are updated in real-time, the tool will predict the likelihood and directionality of a swing in the S&P value.

what topics in this non-business political coverage that have not made their way to the business news coverage, have the biggest predictive power.

expand my sample outside the business news in order to explore the predictive power of these political topics. The question that take a closer look at the political news published in the non-business section. (that is, the

Will formalized the model.

by identifying the recurrent themes in the coverage (that is, “”) that did the best job of predicting

I analyzed the NYT business news coverage in 2018 to identify, via topic modeling, ten topics that…, and matched

with the S&P 500 closing prices to see with match it with the I analyze the differentiate the signal the informational noise from which patters in the news content reflect changes in the stock-market prices.

First, in the first step, which I have preliminary talked, looked at … real-time

Using the S&P as a market and the NYTimes as …

First, it identifies which patters in media coverage are reflective of the current situation

This project tackles these two questions in two steps.

Devise… this noise – and then see if signal? Predictive…

This project takles these to questions.

Actionable insights

, it means that financial news will likely be full of informational “noise.” Yet, it also means that news coverage can still provide potentially useful information about the stock markets’ “mood.” Not only that, it’s also likely that…

of makes though this makes the news coverage a potential over a media are often blamed for the overdramatization of economic coverage, this makes the news coverage serves as a potentially important source of information about the stock markets’ “mood.”

This project aims to cultivate this source

The questions that remain open are is how to identify the themes in the news coverage that how to what kind of converge in this exact

This makes the media an important, and potentially useful, source of information about the stock markets’ mood. However, it is also an source that is

This project seeks to if the news coverage can accurately reflect,

While often perceived as a function of current

economic conditions, the authors find that economic news is actually more reflective of future conditions: “It responds more to where the economy is going, not where it has been or where it currently is”

When prices swings become problematic, the alarming news reports become a staple of stock market crashes.

When those downs are particularly alarming, the alarming news reports become a staple of stock market crashes.

Stock markets have become a staple of news media coverage. Their ups and downs supply journalists with great visuals, drama and action, which are the key ingredients of a newsworthy story.

Stock markets are a constant presence of media coverage. Their ups and downs supply journalists with great visuals, drama and action, which are the key ingredients of a newsworthy story, and thus ensure they make

Stock market news is a staple of provide a particularly good copy for media coverage..

whether this media attention translated into the coverage that gave the band credit for the

comprehensiveness of their agenda or, as with previously studied protest groups, subjected

their message to oversimplification and misrepresentation

In other words, this projects asks if there are

of the subject and the stop, the tool can accurately predict the likelihood of arrest. The predictions below are for a uniformed officer stopping a suspect outdoors at 10pm in the 106th precinct, these features can be changed in the full model.

Describe the business application for this project (how could a company use your work or your data)

The tool is intended for a police department to employ in order to reduce bias and increase effectiveness in the interactions that officers have with suspects.

Do you have an interesting visualization to share?

I like this plot because it highlights that predictive policing can be a force for reducing, rather than perpetuating racial disparities. Although the proportion of innocent people stopped was the same across groups, the tool would reduce the number of stops the most among suspects classified as Black.

I created a tool that was able to predict which police interactions will result in arrests. The idea was to facilitate racially equitable predictive policing. This would allow police officers to avoid unnecessarily harassing innocent people and concentrate on cases that are likely to involve wrongdoing. Importantly, it did not disproportionately target minority suspects. If police officers use this tool, they can reduce the number of innocent people being stopped by 75%, while reducing arrests by only 25%.

More specifically, other words, is there a way to predict the … and

First, …