

How Does Google Search Volume index Affect Stock trading volume and stock price

Xinyu Zhang
University of Oklahoma

April 2019

Abstract

This paper intends to determine how the Google Search Volume Index (SVI) affect the stock trading volume and the price of stock. In order to find the result, in this paper, I select ten of the most variable companies in the American and collect the search volume index from google trends to see how the volume and price change before the peak popularity and after the peak popularity.

1 Introduction

As we all know that price of the stock market is one of the most sensitive prices in the world. It could cause by many reasons. Such as, the financial report of that company, international and domestic economy status, government policy, even the stock price of their competitors and so on. In recent years. as the data become more popular, there are some financial specialists are thinking what will be the result if investors are searching more on a certain stock.

This idea will be kind of similar as the research paper wrote by Thomas Chemmanur in 2009. In his paper, he mentioned that more advertisement of a company means that people will pay more attention on that company. more attention of that company will bring

an increase of the stock price[1]. However, in his study, we cannot directly realize that the increase of a stock is caused by more advertising or more attention. Since attention could be caused by any other reasons. For example, federal government issued a positive policy for a certain industry. Even one of the companies which belong to this industry does not post any advertisement, investors also will pay more attention on this company.

As an example of google search volume index, it indicates the popularity of a word which people searched on google at a certain period. In this index, a number of 100 means that it is the most popular word and people will pay more attention on. A number of 50 means that the popularity is in the middle range at this period. A number 0 means that there is not enough data of a certain word. In 2009, Thomas Chemmanur has mentioned that this is the same idea that in 2009 more advertisement of a company means more interest of that company. As today most people are on the internet, search volume will represent the interest of a certain item.

2 LITERATURE REVIEW

As a public data which is provided by google, the search volume index will not only represent the interest of a certain stock, but also it can affect other variables related with stock price. Such as, the trading volume. In 2015, as a paper wrote by Xu Rui at Duke University. In this paper, she proved that there was a strong positive correlation between google search volume index and stock trading volume [3]

More research findings related with search volume index effect stock price come from a research paper wrote by Xianwei Liu and Qiang Ye. In 2016, in paper, they deeply discovered that if the search volume is driven by the investor themselves, the stock price will increase. But if the search volume is driven by news, then there will be more sell pressure in the market [2]

Another example I found related to this topic is the study of the relationship between search volume and the stock price of 189 Japanese companies from 2009 to 2011. As a result of this study, it discovered that an increase in search volume of a company will definitely increase the trading activity, but the probability of increasing in stock price is not high

[4]. It is not a surprise that they could find a result as they mentioned. Because in the stock market, whether the positive news or negative news, they all will increase the trading volume. It is hard for us to realize whether an increase in stock price is caused by today's positive news or a reversal of a negative news from a couple of weeks before.

3 Data Selecting

As a consideration of google search will automatically recognize wrong typo or show the related information. Such as, in google search, the result of searching apple price and the ticker symbol of AAPL is the same result of stock price for Apple, however, the search volume index in google trends will be different. To ensure the correctness of the data, in this study, I will only use the ticker symbol of that as an input in google trends. Since the ticker symbol normally is different with the name of this company, we can assume that investors are trying to know the stock information at the time they search the ticker symbol for this company [3]

Since this study is not forced on a certain industry or a certain company, I am going to pick ten of the most variable companies in the American as the study sample. According to the data from a statistical website, ten of the most variable companies in the American are Apple, amazon, Alphabet, Microsoft, Berkshire Hathaway, JPMorgan Chase, ExxonMobil, Johnson Johnson, and Bank of America.

4 Empirical Methods

5 Research Finding

expected research finding of this topic is that google search volume index will only increase the stock trading volume, but it can not determine whether increase the stock price or decrease the price.

6 Conclusion

References

- [1] Thomas J Chemmanur and An Yan. Advertising, attention, and stock returns. *Quarterly Journal of Finance*, page 1950009, 2019.
- [2] Xianwei Liu and Qiang Ye. The different impacts of news-driven and self-initiated search volume on stock prices. *Information & Management*, 53(8):997–1005, 2016.
- [3] Xu Rui. Google search volume index: Predicting returns, volatility and trading volume of tech stocks. *working paper*, 32:1–32, 2015.
- [4] Fumiko Takeda and Takumi Wakao. Google search intensity and its relationship with returns and trading volume of japanese stocks. *Pacific-Basin Finance Journal*, 27:1–18, 2014.