
APPROACHES TO DATA ACQUISITION AND ON-LINE INFORMATION

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Abstract

Thanks to the Internet, „high-quality” information is now easier and quicker to obtain than ever before. However, the Internet investing environment fosters overconfidence. As you acquire more information, your confidence in your ability to predict the future rises far faster than your true ability. Online investors have access to vast quantities of data, but information is not knowledge or wisdom. In fact, having loads of data gives you the illusion of knowledge and thus control. Ultimately, this data may give you a false confidence that you can pick stocks.

Key words: Asset Pricing, Behavioral Finance, Qualitative Variables, Investors.

Due to the illusion of control, investors often become even more overconfident after switching from traditional brokerage trading to online brokerage accounts. Barber and Odean studied the behavior of 1,607 investors who switched from phone-based trading to online trading - their average annual turnover was 70%. After the switch to online trading, their turnover increased to 120% annually. Before the switch, these investors performed well. Their portfolio returns (after costs) exceeded that of the major indices (like the S&P 500 index). After the switch to online trading, these investors began underperforming these indices. In short, it appears that they became more overconfident after switching to online trading accounts. This overconfidence led to excessive trading and lower profits.

The main approaches in order to quantify the impact of behavioral finance on capital markets are:

- Conducting a survey among the stocks' investors
- Analysis of investors' expectations influenced by the trading price and volume
- Investors' behavior by analyzing their online activities (search engines, published articles, forum activity etc.)

To realize a survey is still a challenge because as Devi (2008) said, in the world only 26% of investors are women, although the returns obtained

by women traders are beyond that of men (2010) Christiansen. The problem encountered in attempts to achieve this survey is that men tend to be too self-confident, due to overconfidence theories based on biased self-attribution, Glaser et al., (2009)

Regarding the second approach: Analysis of investors' expectations influenced by the trading price and volume, our research started studying some values for which investors are paying extra attention. This method is presented in our paper "*Technical analysis and econometric prediction using wave refraction method*", Sacala (2011). The greater the distance between last time the stock achieved the integer value and now is, the lower the probability to break resistance will be.

Sornette mentioned in 2002 that investors are all connected in a big network.

The result obtained using this approach is a technical analysis method based on wave refraction:

- This method is based on the "Elliot Wave Principle" which says that collective investor psychology or psychology of the masses change between optimism and pessimism in a natural way.

- These changes of mood create patterns evident in prices movement.

Often the future evolution of prices and trading volume for a share are highlighted through the online activity of investors. This activity can be captured in one of two situations:

- a) Analysis of listed companies search through search engines or social networking sites (Google, Twitter, Facebook, etc.). Thus, in 2010, Bollen et al., determined a forecasting model for U.S. capital market indexes based on twitter users activity.

Tobias Preis (November 15, 2010) analyzed the searches on Google for S & P 500 component companies along with their price and volume. He failed to determine the weekly price fluctuations but found a strong correlation between the number of Internet searches (Google Trends) and the trading volume for the company's shares.

- b) The modifications of the comments made by investors upon capital market news and papers. The evolution of the comments made by investors upon the articles which have as subject the capital market is a key element in analyzing the investor's online activity.

Felton et al. (2002) found out for Enron company that there were repeated online warnings for investors to get out while they can.

Dellarocas (2004) generated accurate predictions of a movie's total revenues from statistics of user reviews posted on Yahoo! Movies during the first week of a new movie's release.

Another pointed idea is that the overnight message posting volume is found to predict changes in next day stock trading volume and returns Wysocki (1998).

Investors interested in a particular stock, wanting to obtain as much information about that company, read articles on the Internet using both stock exchanges exclusive websites and electronic publications.

Analyzing the variables identified by studying these kinds of messages we can determine the signals for how the price and the trading volume for a specific company's shares will be modified in the immediately following period.

The intensity of online activity is closely linked to investor's interest for the specific instrument. A lot of decisions to buy or sell shares are taken from the interpretation of these messages. This causes both a change in the volume traded and the trading price.

According to Das et al. (2001), the electronic classifier achieves an accuracy of 62% which is higher compared with a random classification accuracy of 33% and it gets closer to the 72%, the human agreement on message classification. They pointed out 5 algorithms to classify the messages:

- NC – Naive Classifier;
- VDC – Vector Distance Classifier;
- DBC – Discriminant Based Classifier;
- AAPC – Adjective Adverb Phrase Classifier;
- BC – Bayesian Classifier.

Some authors use different toolkit for classifying the messages. One of them is Bow - a toolkit for statistical language modeling, text retrieval, classification and clustering. The library and its front-ends were designed and written by Andrew McCallum, with some contributions from several graduate and undergraduate students. *Bow* (or *libbow*) is a library of C code useful for writing statistical text analysis, language modeling and information retrieval programs. The current distribution includes the library, as well as front-ends for document classification (*rainbow*), document retrieval (*arrow*) and document clustering (*crossbow*).

Good companies do not always make good investments! Investors make the mistake of believing they do because they believe that the past operating performance of a company is representative of its future performance and they ignore information that does not fit into this notion.

Both individual and professional investors can be overconfident about their abilities, knowledge, and future prospects. Overconfidence leads to excessive trading that can lower portfolio returns. Overconfidence also leads to greater risk taking. You may be accepting more risk due to underdiversification and a focus on investing in small companies with higher betas (Park et co 2010).

We may consider that past return is representative of what we can expect in the future. In general, investors like to chase the winners and buy stocks that have trended upwards in price.

Virtual communities have attracted millions of retail investors and have aroused interests among financial executives and academic researchers. Economic theory suggests that virtual communities could be beneficial to investors as they provide more information with much lower costs (Antweiler and Frank 2004, Tumarkin and Whitelaw 2001).

Investors use the gathered information to confirm their prior beliefs. This confirmation bias strengthens their prior beliefs and makes them optimistic as well as overconfident (Perk et co 2010).

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