

ABFG March 2011 Newsletter

This Month

We have a nice article from noted behavioral finance expert and ABFG board member Dr. Richard Peterson about using text analysis to predict market behavior. Then a short article from ABFG board member Don Steinmann about how he uses behavioral finance in his practice.

Make sure you register below for Meir Statman's talk next week "What Investors Really Want". It's based upon his book of the same name. We will have a limited number of copies of the book available for sale at a discounted price at the luncheon. Dr. Statman will be happy to sign your copy of the book at that time. If you missed Dr. Statman at the IMCA conference in Florida, now is your chance to hear him, and without the 5 hour plane flight.

"Twitter Mood Predicts the Stock Market:"
Using Financial Text Analysis to Improve Your Investing by Dr. Richard Peterson, ABFG board member.

In January the New York Times published a headline that received international attention: "Twitter Mood Predicts the Stock Market." The hubbub was based on a U.K. family office (Derwent Financial) seeding a Twitter-based hedge fund concept with \$40 million. The fund will be loosely based on a research paper written by Johan Bollen, Huina Mao, and Xiao-Jun Zeng at the University of Indiana (<http://arxiv.org/abs/1010.3003>) which reported 87.6% accuracy in predicting the daily moves of the DJIA over several months.

What is Text Analysis in Finance?

First, a description of what I call text analysis in finance. Most financial pros are familiar with data mining - using computers to analyze large volumes of price, volume, earnings, accounting, and other data to create better forecasts about company growth or stock price. Anyone who uses a stock screener is "data mining" in some capacity. However, the growth of social media - Facebook, Twitter, chat rooms, and other informal communication forums - has provided enormous volumes of a new type of unstructured data - text, that is rich with meaning.

And it's not only social media that is providing text for analysis - transcripts of executive earnings conference calls and interviews are freely available online. Online financial news sites and blogs are also easily accessible. There are even paid services that sell text transcripts of popular financial news stations such as CNBC. And consider that regulatory filings such as SEC filings (500,000 plus) are freely available.

Text analysis, as it is currently being used in finance, goes far beyond the emotional quantification used in the Twitter article. When you consider that the goal of text mining is to facilitate the extraction of profits from qualitative, non-numerical sources of information, you can see that there are many ways to approach this goal using text. While text can be collected and analyzed for informational content in milliseconds, in many cases the value is low-latency - appearing several days in the future.

The bottom line is that textual information is only valuable if it predicts future prices and/or volatility of securities after transaction costs. This goal can be achieved using increased processing speed, improved meaning detection, and deeper information analysis. In particular, firms are working on:

1. More rapid identification of relevant facts in news (e.g., identifying an earnings miss in a press release faster than a human analyst could). This is most widely used by high frequency traders.
2. More efficient information gathering and processing (e.g., finding and organizing relevant

information by topic across the textual universe for a human to interpret). Companies such as FirstRain use this technique to scan SEC filings and identify and organize management changes into easy-to-read catalogs.

3.

Superior interpretation of information impact (e.g., identifying predictive qualities in text). This is related to the Twitter paper and sentiment extraction.

A variety of textual sources - each with a different perspective and communications objective - can be text-mined for value including:

1. Financial news (news reports and TV news transcripts)
2. Social media (blogs, Facebook, Twitter, etc.)
3. Press releases (PR Newswire, BusinessWire, etc...)
4. Regulatory filings (SEC filings such as 10Ks, 10Qs, and 8Ks)
5. Executive interview transcripts (CEO interviews and earnings conference calls)
6. Analyst reports

The most common techniques for obtaining text include internet search algorithms (such as software "web crawlers"), RSS feeds, and direct connections to public or for-fee corpora sites (e.g. the SEC.gov site, commercial text databases, and major newswires).

The idea of mining investors' language for alpha obviously isn't new, and many have tried it. The genius and main differentiator of the Twitter paper lay in its use of adaptive models and in the quantification of feelings by extracting only statements prefaced by phrases such as "I feel..." and "My mood is...". It also focused on moods rather than simple "positive versus negative" sentiment measures. Like any good science, this paper spins off more questions than it answers. First of all, does analyzing the emotional content of twitter (or any unstructured conversation) actually predict the stock market? And if so, what do I need to know to update my beliefs about investing?

How Can Text Analysis Improve My Investing?

Investors have long accepted that "fear" and "greed" play a key role in generating values, driving momentum, and marking price tops. The question is, can quantifying the emotional content of investor discussions support profitable investment strategies? Given that timing is everything in the markets, can it help us identify bubbles, market tops, or continuation of price momentum?

The average investor is unlikely to beat machines reading earnings reports even after taking speed-reading classes. However, there are rare occurrence when the machines collectively go wrong. An example of such machine error is the infamous 75% selloff in the stock price of UAA (United Airlines) on September 8, 2008, when a 2002 news story about United's impending bankruptcy was recycled through Google News. Machines picked up on that story and sold the stock with abandon. By the end of the day the stock had recovered most (but not all) of its pre-selloff value.

However, the average investor can benefit from a decision support tool, such as we see in the low-latency, emotion-extraction, brand of text analysis. Fortunately, much has been written about the effects of low-latency sentiment on stock prices. For example, Feng Li at the University of Michigan found that increased frequency of words such as "risk" and "uncertainty" in SEC 10-K and 10-Q reports signaled impending corporate distress that was not factored into the stock price until weeks later. Paul Tetlock found that negative sentiment in the "Heard on the Street" column in the Wall Street Journal has a small predictive effect on the entire S&P 500. A group at Stanford found that specific types of language (personal pronouns, emotions expressed) in earnings conference call transcripts could predict stock underperformance

versus outperformance over the next quarter and year. There are many studies with small significant findings such as those above, and they all make for interesting reading.

In terms of the decision support provided by low-latency sentiment analysis, one interesting application is speculative bubble detection. Presumably when investors are more focused on stock prices in their conversations, they are engaging in "day trading" (like "house-flipping") speculative behavior rather than a sober analysis of economic or company fundamentals.

Given the academic evidence cited above, and my own experience in this area, I think we'll be seeing many more breakthroughs in the years ahead. If animal spirits really do drive the economy and the markets, and if we in fact have identified techniques for measuring (through text analysis) and predicting (through data mining and neuroeconomics) our animal natures in the markets, then we're in for a fascinating decade.

Using Behavioral Finance in Portfolio Management by Don Steinmann, ABFG board member

My company provides portfolio management for high net worth individuals. There are three ways that I use behavioral finance in my practice: Managing client expectations, managing my own behavior, and equity selection.

Client Expectations

Anchoring is a key problem in dealing with individual clients. Even fairly sophisticated investors will get hung up on 'making their money back' when a security declines in price. Knowing that has led to a technique I use with clients. I'll say pretend we don't have that security. Given that would

it make sense for us to buy it at the current price? Or would we be better off buying a different security? Using another behavioral concept, framing, I can usually get them to see the advantage of cutting the 'anchor'.

My Own Behavior

One of the things that I know I can be a victim of in my own investment research is with confirmation bias. It's so easy to read the reports that agree with me about a stock I'm buying or selling. So I make it a point to overcome this by being sure that I can state the bear (or bull) case accurately. That accomplishes two things. First, it keeps my expectations grounded. Second, it often prompts me to do more research so that I understand the opposite position completely.

Equity Selection

At a presentation before CFALA a few years ago, Russ Fuller of Fuller/Thaler talked about how his fund used behavioral finance techniques in portfolio selection. Specifically he talked about how analysts will sometimes anchor on a particular earnings prediction regardless of how positive the news from a company may be. In those cases, often the stock will not move up nearly as much as you would expect. It may take a quarter or two for them to jump on the bandwagon. That can create a buying opportunity. This is something I've been able to factor into my portfolio selection on several occasions.

Websites/Links of Interest

IMCA Annual Conference in Las Vegas, May 16 -

18. Some notable financial behavioralists will be speaking including Robert Shiller.

Register for IMCA conference

USC Finance and Business Economics Department Seminar Calendar for Spring 2011

USC Calendar

Upcoming Events

Meir Statman - March 15th, 12:00pm, Omni Hotel

Dr. Statman will be doing a presentation, sharing some of the insights from his new book, *What Investor's Really Want*. Dr. Statman is a pioneer in behavioral finance and an excellent speaker. Don't miss this opportunity. He will be available to sign copies of his book after his presentation. You can register at: [CFALA Website](#)

Editor's Invitation

Please write with any ideas, articles, rants, raves about our newsletter etc. to: Editor, Applied Behavioral Finance Digest to: editor@abfgla.com

We also invite you to view our website, www.ABFGLA.com , and share your thoughts and ideas.

Newsletter This is a monthly newsletter from the Applied Behavioral Finance Group (ABFG), An Associated Group of the CFA Society of Los Angeles, CA.

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