

Behavioral finance

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December 1, 2012

Introduction

Traditionally the market has been seen almost as magic, capable of rationally asserting the value of stocks, commodities and other assets at all times. The efficient market hypothesis proclaims that the market is populated by homo economicus, the economical man, who has the ability to search out and understand all available information. Out of that information he is then able to correctly calculate everything from risk to future returns. In most cases this view of the market is both correct and useful. Largely because of a phenomenon called the wisdom of crowds, where it has been found that the weighed estimates of large groups of people are more correct than single experts' estimates. But there are also situations where individuals and groups make crazy and irrational decision, and to quote Robert Bloomfield: "Anyone with a spouse, child boss, or modicum of self-insight knows that the assumption of Homo economicus is false". So there is clearly a need for an alternative explanation of the behavior of markets. It's out of this need that the field of behavioral finance started to grow in the 60s. With its roots in psychology it tries to describe how cognitive biases and social psychological phenomena effects investor behavior and contributes to the inefficiency of markets.

Behavioral finance and the concept of risk

Risk is an important subject that has had a huge impact historically on the economy. Since the beginning of markets there has been bubbles and financial crisis, a lot of them arising from a misunderstanding of risk in the pricing of assets. It has also been important in investments, and future returns have often been calculated as the risk free interest rate times a risk factor on that specific asset. Since the market has been seen as rational, risk has been thought of as something "simple" that can be computed correctly using mathematics. While we would be way out of our depth questioning the legitimacy of extreme value theory, we do want to present a few of examples from behavioral finance that we hope can broaden our audience understanding of risk in markets.

Biases

A big topic in behavioral finance is explaining the investors' irrational actions that are due to biases. If we were to consider and be aware of all the information and signals that we are exposed of everyday, our mind would crash (overload). Therefore we have learnt to filter information and only take into consideration the things that we will find most useful and interesting. It is not a matter of which biases we have or not, it is a matter of in which extent we have them. Some are very overconfident, whilst some who are more skeptical to their capabilities would rather be explained as under-confident. In addition to this, many biases are very alike and resemble each other. For example, there is a fine line between overconfident and overoptimistic because in both cases the risks are underestimated due to the personality.

Overconfidence

"No problem in judgment and decision making is more prevalent and more potentially catastrophic than overconfidence" (Plous, 1993). Overconfidence is the phenomenon when the subjective confidence makes you think your judgment is better or more profitable than what it actually is. For example a study from 2006 entitled "Behaving Badly" by James Montier showed that 74 % of the 300 fund managers who participated ranked themselves as above average on their job performance. 28 % believed that they served average performance. Consequently, 100 % believed they were average or above. Obviously this doesn't only apply to fund managers, but everywhere decisions take place, not to mention the stock market.

In a 1998 study entitled "Volume, Volatility, Price, and Profit When All Traders Are Above Average", researcher Terrence Odean studied stock picking in relation to overconfidence. One of his conclusions was that overconfident investors, on average, traded more than less confident investors. This has a very logical explanation since overconfident investors always believe to be better at choosing stocks and in the right time which leads to them conducting more trades since they think they have a better chance. On the other hand, less confident investors are more likely to hesitate on trades and they therefore more often reject the trades. Odean also concluded, to the overconfident investors' drawback, that people who

conducted the most trades (the overconfident) generally yielded lower returns in the long run than the market.

Since they don't meet the aim or goals with the stock market, they might lose interest or find a way to invest their money which is more economically profitable. One could therefore ask if this would lead to all overconfident investors to sooner or later become inactive on the stock market. However, it is obviously much more complex than that. It is such a minor bias that it will only affect their achievements in a relatively small scale.

Intuition is, as previously stated, an important aspect of overconfidence. One could ask since we talk about overconfidence as a bias, should intuitions be neglected? For example, the judgment one makes in a game of poker is not only the rational chances, but also on the perception one gets of the opponents. It is a highly important aspect to take into consideration. Obviously the stock market isn't at all influenced by the same face-to-face psychology, but there is much more to the stock than the apparent information. So people might have use of their sixth sense. It might be signals from big actors on the market, but it might as well be that you have stored information in your sub-consciousness.

People who "suffer" the most from overconfidence might be very stubborn and in need of confirming that their intuition is accurate. It relieves a confidence-boost. So if one's judgment and intuition turns out to be false or inaccurate it often serves to increase the escalating commitment (or loss aversion). That is to say people refuse to withdraw a losing situation (for example a stock) and keep investing good effort, time, money and other resources in hope of better results.

Framing

Framing is when you treat information differently depending on how and from whom it is presented. For example, if a representative talks about his company's future regarding possible investments, then one might be more skeptical to his information compared to if a person with no connection to the company says the exact same words. Why this is the case is probably because our mind has become aware and prepared for selling techniques and for information that is rhetorically and mathematically manipulated. In this case the conclusions drawn from the information is based on who presented it.

A study made by psychologists Amos Tversky and Daniel Kahneman in 1981 aimed to examine if the framing of a question could have an impact on the decision. The goal of the study was for the participants to earn as much money as possible. The two scenarios were identical, but presented differently; one focusing on the gain and the other on the loss.

Alternative 1: Obtain 200 crowns

Alternative 2: Obtain 600 crowns with a chance of one third (33%), otherwise obtain nothing.

In both cases the expected value is 200 crowns where in the first alternative you are guaranteed money. The study showed that 72% of the participants chose alternative 1, while only 28% chose alternative 2. New participants in an identical study were now asked:

Alternative 1: Lose 400 crowns

Alternative 2: Lose 600 crowns with a chance of two thirds (66%), otherwise you lose nothing.

This time 72% the participants chose alternative 2 and 28% chose alternative 1! Similar examples can be seen in everyday life. If a new product is launched with 1-in-10 chance of succeeding then it will sound more promising than if the product is launched with 90 % risk of failing. Obviously they have the same mathematical chance, but the reason why people don't make rational conclusions is possibly due to the fact that you focus on something being lost compared to something being gained. It is a worse feeling to lose 100 crowns than it is a good feeling to win 100 crowns. Amos and Daniel have continued to research this loss aversion and follow-up studies have shown that losses are twice as powerful psychologically as gains.

As we see the way a question is framed affects the choices and answers. How the question is interpreted depends on how it is formulated. Here are two tips for making it easier to make the right choice:

- Form the question so that the most relevant answer is attained; so that the answer reflects what you really wonder. For example, ask, "What is the total cost of ownership", not "What

is the price?" Also make sure that it is as neutral as possible in order influence the choice as little as possible.

- Attack the question from different perspectives. If you are a seller, see it from the buyers view.

Confirmation bias

The first time you meet someone, you get an impression of them. The Halo-effect is a phenomenon that implies that one selectively filters and pays attention only to characteristics and actions that confirms this first impression. Over time this impression becomes regarded more and more as a fact. The second time that we hear something (especially if it is in a different context) we are more inclined to regard it as a fact. This resembles the confirmation bias in behavioral finance where one interprets and is more receptive to information or memories that confirms his preconception. One will actively search for information that supports the preconceived opinion and not for information that contradicts it. Thus, all the information that the investor gathers will be seen with preconception.

For example a person hears about a hot stock from an unverified source and regards it as a possible trade. He decides to research the stock in order to "prove" that it is promising. In the research all green flags (such as good solidity and annual results) sub-consciously confirm his first impression of the stock and all the red flags are not taken into so much consideration. Since he ignores the risks with the stock, obviously he makes a bad judgment.

Discussion

Behavioral finance is an important viewpoint that is often overlooked in economic education, much because of the fact that it's difficult, if not impossible, to systematically make money of it. But we feel that it's still important to have a basic understanding of the concepts and principals, since they effect the decision making process of all humans. Such an understanding would make it easier for individual investors to work around these problems and make better investment decisions.

Further reading

This paper is largely based on the book “Behavioral finance: Investors, corporations, and markets” by Baker and Nofsinger. It can give both a broader understanding of the subject and a deeper explanation of the phenomena we have presented here. It also has a generous amount of references to scientific papers should the reader be interested in further in-depth studies.

Literature

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