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Banking sector and behavioral finance

Abstract. Human is not rational but normal. This is the main discrepancy between Traditional and Behavioral Finance theories. Behavioral Finance postulates that humans have heuristics and biases when making judgments under uncertainty, and it is perfectly normal, whilst Traditional Finance accepts human as rational. The service sector, including banking, is more human oriented than others. Human (customer) makes banking-related decisions every day under uncertain conditions. So there should be some heuristics and biases. In this study we have discussed the possibilities over the biases in banking sector, such as sunk cost, reference dependence and the loss aversion.

Keywords: Behavioral Finance, banking sector, biases, heuristics, sunk cost, reference dependence, weird bias and loss aversion

1. The main discrepancy between the principles of Traditional and Behavioral Finance theories

Human is not rational but normal. This is the main discrepancy between the principles of Traditional and Behavioral Finance theories. Behavioral Finance postulates that human has heuristics and biases when she/he makes judgments under uncertainty, which is perfectly normal. Social sciences and economics, in particular, face difficulties in identifying causal relationships due to human nature. On the other hand, Traditional Economic Theory claims that human is rational, a claim rejected by psychologists and some finance researchers alike.

Psychologists say that if human is rational, why does s/he violate traffic lights or drive when drunk? Some finance researchers, such as John D. Watson and Daniel Kahneman, take this into consideration and investigate by applying some questionnaires to find evidence against human's rationality acceptance. We can divide the finance mainly into two sections: traditional (standard) and behavioral finance. Statman (2014, p. 65) suggests four foundational blocks of standard finance also known as Modern Portfolio Theory. These include:

- investors are rational,
- markets are efficient,
- investors should design their portfolios according to the rules of Mean-Variance Portfolio Theory,
- expected returns are a function of risk and risk alone.

In the 1950s and the 1960s, finance researchers would mostly believe that markets are efficient and investors are rational. In the finance literature, abundant evidence has been given against Modern Portfolio Theory and Efficient Market Hypothesis based on rational human. Human is not rational because of some psychological, sociological or/and anthropological factors, such as culture, religion, weather, triskaidekaphobia. Behavioral finance offers an alternative concept for each of the foundation blocks of standard finance. According to behavioral finance, investors are "normal", not rational. Markets are not efficient, even if they are difficult to beat. Investors design portfolios according to the rules of Behavioral Portfolio Theory, not Mean-Variance Portfolio Theory. And expected returns follow Behavioral Asset Pricing Theory, in which risk is not measured by beta and expected returns are determined by more than risk. Therefore, there is no formula such as $George + Sam = 2$.

Behavioral Finance, a study of investor market behavior that derives from psychological principles of decision-making, explains why people buy or sell the stocks they have. Behavioral Finance focuses on how investors interpret and act on information to make informed investment decisions. Investors do not always behave in a rational, predictable and an unbiased manner indicated by the quantitative models. Behavioral finance places an emphasis upon investor behavior, leading to various market anomalies.

Psychology had largely disappeared from economic discussions by the mid-20th century. A number of factors contributed to the resurgence of its use and development in Behavioral Economics. Expected utility and discounted utility models began to gain wide acceptance, generating testable hypotheses about

decision-making under uncertainty and intertemporal consumption respectively. Soon a number of observed and repeatable anomalies challenged those hypotheses (http://edinformatics.com/investor_education/behavior_finance.htm).

According to www.Behavioralfinance.net webpage, as primary webpage in this area, the first important article in psychology was published in 1955 by Simon Herbert whereas in Behavioral Finance the first one was published in 1961 by John F. Muth.

Furthermore, during the 1960s, cognitive psychology began to describe the brain as an information processing device (in contrast to behaviorist models). Psychologists in this field, such as Ward Edwards, Amos Tversky and Daniel Kahneman, began to compare their cognitive models of decision-making under risk and uncertainty to the economic models of rational behavior. Perhaps the most important paper in the development of the Behavioral Finance and Economics fields was written by Kahneman and Tversky in 1979. The paper, titled as *Prospect theory: Decision Making Under Risk*, used cognitive psychological techniques to explain a number of documented anomalies in economic decision-making. Recent articles published on Behavioral Finance subjects show us that the subject is becoming more and more important. For example, Ellen and Zwinkels (2010) tried to explain oil price dynamics with aspects of Behavioral Finance. Hammami Fatma and Ezzeddine Abaoub (2011) investigated the new moon effect on stock exchange for Tunisian Stock Exchange. Therefore, Behavioral Finance literature is continuing to grow faster.

There are many factors which affect human psychology, such as culture, religion and weather conditions. There is enough evidence on weather effect on stock exchanges returns. A study (Tufan et al., 2016, p. 14) provides evidence on weather effect on Saudi Arabia's stock exchange. The authors use Saudi Arabia's daily stock return index (TASI – Tadawul All Share Index return series), daily weather and daily apparent temperature conditions, we made use of daily mean wind speed (m/s, V_{mean}), daily mean air temperature (oC, T_{mean}), daily mean relative humidity (% , RH_{mean}), daily mean water vapour pressure (gr/kg, VP_{mean}), daily maximum air temperature (oC, T_{max}) and maximum relative humidity (% , RH_{max}) and calculated daily apparent temperature index (ATI). They report that when the magnitude of the ATI increases, mainly due to increase in the daily mean and maximum air temperatures, human-climate comfort decreases, resulting in a general decrease for the Saudi Arabia's stock return index.

More evidence has been provided for Turkish stock exchanges returns and weather effect relationship by Tufan and Hamarat (2004, 2006). The researchers reported Turkish case evidence regarding the weather effect on the Turkish stock exchange (ISE) and reported the favourable effects of days when snow fell. Their research results claimed that cloudy and rainy days do not have any effect on ISE 100 Index returns, whilst snowy days do. Statistically a strong relationship between humidity level and Australian stock exchange returns has been shown by Vlady et al. (2011, p. 172).

We know that weather conditions can create some biases and effects on markets. For example, on a snowy day, bank customers could postpone going to the bank because of the bad mood. What is more, they may not even use internet banking services.

Culture, too, affects decision making and creates biases. Asian countries seem to be inclined to unlucky numbers.

Brown et al. (2002, p. 330) have searched for clustering daily closing prices for six Asia-Pacific stock markets, three of which were predominantly on Chinese populations. They reported that Chinese culture and superstitions influenced the number preferences of traders, but the evidence is largely confined to Hong Kong.

We can claim that in Asia bank customers could postpone their banking decisions on specific days, such as the 4th of the month. They either change their banks because that bank's name could be symbolising a superstition or feel bad about the main colour of the bank. Christianity, especially Catholics, has a superstition, too. If the 13th day of the month falls on a Friday, then it means double bad luck. This superstitious belief finds its roots in ancient history (Tufan, 1997, p. 46). So on this double bad day, some religious Polish citizens could stay at home and refuse to apply banking services.

Cognitive psychologists have documented many patterns regarding how people behave. Some of these patterns are as follows (Ritter, 2003, p. 430): heuristics, overconfidence, mental accounting, framing, representativeness, anchoring (conservatism) and disposition effect. We can add more biases, such as sunk cost biases, hyperbolic discounting, reference dependence, loss aversion, base rate neglect and competitor orientation (Bendle, Chen, 2013).

The paper is organized as follows: in the first part the importance of the subject was introduced and evidence from the literature were given. In the second part the information about some biases was given and possible observations in

banking sector were argued. In the last part the paper was summarised. The author has applied literature review and given suggestions about the subject as a methodology.

2. Some Biases and Possible Effects on Banking Sector

Heuristics. Heuristics, or rules of thumb, make decision-making easier. However, they can sometimes lead to biases, especially when things change. These can lead to suboptimal investment decisions (Ritter, 2003, p. 431). The theory was asserted and improved by Tversky and Kahneman during the 60s and the 70s.

The central idea of the “heuristics and biases” program, saying that judgment under uncertainty often rests on a limited number of simplifying heuristics rather than extensive algorithmic processing, soon spread beyond academic psychology, affecting theory and research across a range of disciplines including economics, law, medicine and political science (Gilovich, Griffin, 2003, p. 2).

Overconfidence. People usually think themselves to be good at predicting. Especially, men are more overconfident than women (Barber, Terrance, 2001, p. 289). Some entrepreneurs are also more overconfident than others (Forbes, 2005, p. 640). People are generally overconfident. They acquire too much confidence from the information that is available to them, and they think they are right much more often than they actually are (Tversky, 1995, p. 4). Like many other research studies on Turkey, we have found women are more risk averse than men at all financial risk levels (Tufan, 2013, p. 140). We can claim that men are more overconfident and make more bad decisions than women.

Mental Accounting. We do not perceive money as totally fungible. How we label income and expenditure matters. For example, money received as a wind-fall, e.g. a bonus, is more likely to be spent on treating oneself than ordinary salary (Bendle, Chen, 2013, p. 19). Some people can keep their money in a bank as deposit for holiday and take a high cost credit from a bank to pay for her/his car repairing cost.

Framing. The term “decision frame” to refer to the decision-maker’s conception of the acts, outcomes and contingencies associates with a particular choice. The frame that a decision-maker adopts is controlled partly by the formulation of the problem and partly by the norms, habits and personal characteristics

of the decision-maker (Tversky, Kahneman, 1981, p. 453). Framing is the notion that how a concept is presented to individuals matters. For example, restaurants may advertise “early-bird” specials or “after-theatre” discounts, but they never use peak-period “surcharges”. They get more business if people feel they are getting a discount at off-peak times rather than paying a surcharge at peak periods, even if the prices are identical (Ritter, 2003, p. 431). Banking sector creates framings for their customers. They announce and advertise credit interest rates. Customers look at the rates and compare them with those of other banks but real cost is always higher than announced or advertised rates. They hide some costs such as communication or file cost (in Turkey). Even in practice there is no such kind of service, banks also advertise banking credits costs as daily paybacks.

Representativeness. People tend to put too much weight on recent experience (Ritter, 2003, p. 432). When making a judgment about an individual (or object or event), people tend to look for traits an individual may have that correspond with previously formed stereotypes (Bazerman, Moore, 2009, p. 8). For example, you went to the nearest bank three different times to pay your electricity bill. The staff was not kind enough to you. So you could start to think that this bank generally employs rude people all around the country. In this case, you collect experiences (not information) cumulatively and have prejudices. The bad thing for the bank is that this information will never be known by the bank, because the customers never express their prejudices about that bank.

Anchoring (conservatism). When things change, people tend to be slow to pick up on the changes. In other words, they anchor on the ways things have normally been. The conservatism bias is at war with the representativeness bias (Ritter, 2003, p. 432). Generally, human does not tend to adopt new things. Every bank has an image in customers’ eyes. If they think that a bank is unreliable, they will often hold on to this idea, and conservatism will start to form. Of course, the opposite could also be possible.

Disposition effect. The disposition effect appears to be related to the aversion of loss and reward prediction errors. Investors are prompted to sell their winners too soon and keep their losers for too long. Investors are less disposed to recognize paper losses and more willing to recognize paper gains (Yazdipour, 2011, p. 4). For example, if someone buys a stock at 30 dollars, which then drops to 22 before rising to 28, most people do not want to sell until the stock gets above 30 dollars. The disposition effect manifests itself in lots of small gains being realized, and few small losses (Ritter, 2003, p. 432). Investors could keep

low performance (basically loser shares) banking shares and waiting for prices to increase means more losses. On the other hand, they could rush to sell good performance banking shares.

Sunk cost fallacy. When an amount of money was spent and it cannot be retrieved, it is said to be sunk, meaning gone. Expressions such as “don’t cry over spilt milk” and “let bygones be bygones” are another way of putting economists’ advice to ignore sunk costs (Thaler, 2015, p. 73). This subject is an “easier said than done” situation. For example, a bank customer was able to have a bank loan to buy a car in the past and pay a huge interest cost. Before ending this loan pay-back, she was offered a new loan for a new car which she dreamt of. She could keep the old interest cost in mind and avoid getting a new loan for a new car; even the interest cost is lower than before.

Weird Bias. This bias comes from a scientific area. Science is dominated by the USA. The majority of scientific experiments have been done by American Universities and published. The papers relied exclusively on US subjects and university students. Because the participants of social sciences experiments are from American culture which is very capitalist and individualist, these results have not been supported by experiments done in Asia/East Asian culture countries.

In the mid-2000s, the psychologists Steven Heine, Joseph Henrich and Ara Norenzayan at the University of British Columbia became convinced that this was not actually true. All the three scientists have written a work on how behavior differs between cultures: Heine on our sense of self; Norenzayan on religion and belief; and Henrich on fairness and reciprocity. What they had found was that ideas that were taken as universal turned out to be surprisingly culturally specific (Colvile, 2016, p. 1). Banks should consider culture more than before and make more cultural specific arrangements for their clients.

Conclusion

Scientific improvements effect banking sector “...the plastic explosion are rebates on merchandise ranging from cars to computers, wider acceptance of cards by business, and new technology that makes credit card use faster than writing a check...” (Peter, Olson, 2010, p. 201). This also has an effect on consumers and trading. A manufacturer of antibacterial soap needs to make sure that consumers know the meaning of “being clean” or “germs”. A bank should know how

its customers understand the “meaning of money” (Peter, Olson, 2010, p. 82). We know that cultural habits are very effective on consumers’ behavior. Credit card using habit is totally different in China than in the USA and other capitalist countries. Chinese consumers pay the bank for their credit card spending every month, consequently banking sector could not get extra commission from exceeding spending.

Human differs from their first ancestors. Women differ from men, the young differ from the old, and the poor differ from the rich. Biases also differ from one culture to another. Even saying something certain about biases is very risky and we can try to explain some biases for banking sector, too. Now, we know why banks and luxury hotels prefer to employ beautiful women and handsome men. Facial and physical attractiveness is more important than ever.

Voters do not vote for baby face candidates. Face attractiveness is very important for people. So many institutions, such as private banks and hospitals, prefer to employ attractive employees. This is a discrimination, an against human rights and unethical situation.

There are many factors which affect our decision-making process. So, every culture should be investigated in itself. People should learn how to escape from common biases. To be a good person is more important than to be a good customer.

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Sektor bankowy i finanse behawioralne

Streszczenie. Człowiek nie jest racjonalny, ale normalny. Jest to główna rozbieżność między tradycyjnymi a behawioralnymi teoriami finansów. Finanse behawioralne zakładają, że ludzie przejawiają heurystyczność i uprzedzenia przy podejmowaniu decyzji w niepewności i jest to całkowicie normalne, zaś w świetle tradycyjnych finansów akceptuje się człowieka jako jednostkę racjonalną. Sektor usług, w tym bankowość, jest bardziej związana z człowiekiem niż jakakolwiek inna działalność. Decyzje związane z bankowością człowieka (klienta) codziennie podejmowane są w warunkach niepewności, więc powinny istnieć heurystyki i uprzedzenia. W prezentowanym badaniu omówiono tendencje w sektorze bankowym, takie jak koszty utopione, czy awersja do strat.

Słowa kluczowe: finanse behawioralne, sektor bankowy, heurystyki, koszty utopione, zależność referencyjna