



RELATION OF EMOTION IN FINANCIAL DECISION MAKING: A REFLECTION THROUGH REVIEW OF LITERATURE

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ABSTRACT

As per the classical and neoclassical economic theory, taking decisions are largely relied up on information and analysis of cost-benefit factor. In real picture, it is difficult to analyze the decision making process than as mentioned previously, because psychological factors plays an important role and should be involved. Decision making is interdisciplinary, researched by psychologists, sociologists, economists, philosophers, neuroscientists and others. These fields have distinctive and common concepts about decision making. The aim of this paper is to find out the actual role of emotions in the process of making financial decision. The paper focuses on describing the interconnection of sciences, like economics, psychology and neuroscience, by analyzing the changes in financial decision making because of effect of emotion. Economics of behavioral sciences investigate the psychological foundations of economic behavior, and economics of neuroscience researches activities of brain in relation to economic behavior. Proofs from different disciplines such as behavioral economics, psychology and neuroeconomics represent the importance and necessity of emotions in the financial decision making process. The discoveries of the paper uncover that economics, by integrating the other sciences result of research, in the theory of financial decision making process, may increase a progressively precise and reasonable comprehension of this complex field of research.

KEY WORDS: *Behaviour, Decision, Economic, Neuroscientific, psychology*

1. INTRODUCTION

The classical and neoclassical economic literature approaches the choice behaviour and decision making by mathematizing and simplifying the subjects. In the last decades, financial analyst started to focus more and more on subjectivity and on the presence of psychological factors in human behaviour. Also, psychology focused on human behaviour in a financial context. A new field, behavioural economics, was born, which investigates the psychological foundations of people's economic behaviour. Considering both psychological ideas and evidences economist are now interested to incorporate this phenomenon into the theory of economic behaviour. Similarly one other subfield of economics known as experimental economics, which incorporates psychological methods into economic experiments. Researching brain activities is necessary to better understand economic behaviour and to fulfill this, recently behavioural economists, psychologists and neuroscientists started to use

neuroscientific techniques. It is the interaction of these sciences that produced neuroeconomics. The aim of this paper is to present and explain the role of psychological factors and emotions in using evidences from behavioural economics and neuroeconomics which helps in financial decision making is based on literature review. The finding of the paper is that emotions do not only play a role in the decision making process, but they also can be informative for the decision maker.

2. BEHAVIORAL ECONOMICS AND TAKING DECISION

As it has been stated by Rabin (1998), the study of human behaviour has to be integrated into economics, and the tractable and parsimonious psychological findings should not be ignored by the economic research. Kahneman (2003) says that it might be challenging to incorporate psychological aspects of the intuitive agent into economic theory but this challenge seems to be quite successful. According to



Peterson (2009), behavioural economics studies judgements and decision making focusing on psychological aspects. Elster (1998) says that the interest of economic theory generally lies in the interaction between emotions and other motivations, like self-interest.

2.1. Prejudices in decision making

Certain psychological factors which may be included in decision making and economic behaviour are like:

- Beliefs are important to specify, how agents form their expectations in the market. (Barberis and Thaler, 2003)
- Belief perseverance shows that people, when they form strong hypotheses, they are likely to be less attentive to information, which contradicts their hypotheses. (Barberis and Thaler, 2003; Rabin, 1998)
- Confirmatory bias is when people are influenced by initial judgements. When they perceive new information, they tend to use those to affirm their initial hypotheses. (Rabin, 1998)
- Overconfidence may be present in people's behaviour, when they have to estimate quantities or probabilities. (Barberis and Thaler, 2003)
- Optimism is mostly people's unrealistic positive view about themselves. (Barberis and Thaler, 2003)
- Representativeness is when people tend to determine something by the characteristics of the group or class to which it belongs. (Barberis and Thaler, 2003; Kahneman, 2003)
- The prototype heuristics is a broader view of the representativeness heuristic. (Kahneman, 2003)
- The law of small numbers is a bias, which refers to people's exaggerating the behaviour of small samples, thinking that they act similarly to the large sample from which they are drawn. (Rabin, 1998)
- Conservatism is over-emphasized base rate, relative to sample evidence. (Barberis and Thaler, 2003)
- The anchoring and adjustment bias: people tend to estimate similar values to the initial values of uncertain quantities, close to starting points. (Barberis and Thaler, 2003; Kahneman, 2003; Rabin, 1998)
- The availability biases are, when people have to judge the probability of an event and they use their own memories and personal

experiences for more information. (Barberis and Thaler, 2003; Kahneman, 2003)

- Kahneman (2003) specifies that there are two ways of deciding: by reasoning and by intuition.

Reasoning is done deliberately and effortfully, but intuitive thoughts seem to come spontaneously to mind, without working out or sentient search, and deprived of effort." (Kahneman, 2003, p.1450). Economists claim that people will learn through repetition by removing their biases and thus making fewer errors. It is believed, however, that biases cannot be completely bypassed, and the effects of psychological factors will not disappear totally by any kind of learning. (Barberis and Thaler, 2003) Rabin (1998) says that people act intelligently and with purpose in their decision makings, but they are not perfectly rational; and accordingly they have biases in their judgements, which separate them from perfect rationality.

2.2. Fondness or first choices in decision making

People are more sensitive to changes in their current situation compared to some reference level, rather than to the general situation. (Rabin, 1998) According to Kahneman and Tversky (1979), in the prospect theory, the reference point is one's current asset level, but sometimes it can be an expectation, from where the gains and losses are coded, which may differ from the current asset level. (Kahneman and Tversky, 1979)

Rabin (1998) mentions three reference level effects such as (a) the endowment effect is related to the loss aversion, and it means that a person, by possessing a certain item, values it more than before possessing it, (b) the current prejudices denotes to a multiple-goods choice problem and, (c) the diminishing sensitivity means that "the marginal effects in perceived well-being are greater for changes near to one's citation level than for changes further away." (Rabin, 1998, p. 15)

According to Barberis and Thaler (2003), in normative theory, rational choices are independent from the problem description. "Framing means the way the decision maker posed by a problem. People's views of decisions and outcomes, according to Kahneman (2003), are normally characterized by narrow framing (for example the gain/loss framing of outcomes), mental accounting and decision bracketing. People sometimes have to make decisions today referring to an action in the future. Rick and Loewenstein (2008) say that in people's decision, there are not only the emotions of the outcomes involved, but also the emotions experienced



during the waiting time, until the outcome will occur. (Rick and Loewenstein, 2008). As per DellaVigna and Malmendier (2004), a quasi-hyperbolic preference is available with an economic agent which states that the future utility functions consider both short-run and long-run discounting.

3. EVIDENCES ON EMOTION FROM NEUROECONOMICS AND ITS VITAL ROLE IN FINANCIAL DECISION MAKING

According to Loewenstein (2000), economists were mostly interested in emotions, such as regrets and disappointments, which are expected emotions; psychologists, however, were focusing more on the immediate emotions, experienced at the time of the decision. During the decision making process any emotional experiences must be included in the decision making theory, next to the expected emotions. (Loewenstein et al., 2001). The decision makers, are affected by their emotions when they make their choices and actually consult their emotions, even if they do this unconsciously. (Kahneman, 2011) According to P. Livet (2010), emotions are not pure and basic. Emotions are not only an affective state of the mind. He shows that a mixed states both positive and negative lies in the emotional state of a person. Emotions show a multivariate bipolarity. The word emotion states that an anticipation to imitate the distinct reaction to an external or internal event that involves a range of synchronized features, including subjective experience, expression, bodily response, and action tendencies. (Phelps, 2009, p. 234)

Sanfey et al. (2009) examined twin processes in the brain by analyzing the process of decision making. Neuroscientists found that the intentional and intellectual system allied processes are located in the brain's frontal areas, while the processes which are linked to affective behaviour unravel in the limbic reward areas.

According to Sanfey et al. (2009) during decision making two systems is working in the brain. Those are:

A. The emotional system and the cognitive system: Emotions may guide automatically people's behaviour and decisions. In this area of the brain negative and positive stimuli make the amygdala neurons very active, resulting in signals which may drive automatically the behaviour. These two systems are independent and they highly interact with each other.

B. The intuitive evaluative system: intuitive decisions are the result of subconscious evaluation of certain determinants, evaluation which would be too effortful

and too costly to be done consciously. These two systems are complementing each other and not necessary overtake actions from one another.

The emotional responses may be increased due to cognitive assessment in decision making. Neuropsychological evidence shows that emotions have a strong effect on cognition, because the connections of the wiring in the brain are stronger in case the emotional system to the cognitive system, rather from the cognitive system to the emotional system (Loewenstein et al., 2001).

3.1. The following systems are involved in the decision making process:

A. The habit system: The routine built action-assortment formulates random associations between situations and actions, which are learned from experience (Redish et al., 2012, p. 345).

B. The pavlovian system: involves unconditioned, psychological responses and also conditional responses. Purely Pavlovian decisions are involved only in a limited set of actions (Redish et al., 2012).

C. The deliberative system: The process of deliberation is the evaluation of the imagined outcome situations, according to their benefits and costs, which requires knowledge about the consequences of potential action outcomes. This process is known as the episodic future thinking, and it activates the hippocampus and the prefrontal cortex in the brain. This imagining is based on multiple concepts of past experiences, and people create one image at a time. (Redish et al., 2012)

According to Rustichini et al. (2005a), neuroeconomics can help understanding peoples' estimations of probabilities of different events. Brain imaging studies in decision making experiments produced evidences, which show that the decision making process is driven by emotions. (Rustichini et al., 2005a) The decision maker, when it is needed to decision in an ambiguous situation, uses several areas of his brain. The focus is to look at the emotional side of the decision making. (Rustichini et al., 2005b)

Bechara et al. (2006) explains that during decision making, when the emotional/bodily states are elicited in the body, they are represented in the brain through a sensory process. According to Bechara et al. (2006), the effect of the emotions on the decision making process, can be consciously noticed or can be unconsciously present. Bechara (2004) explains how the emotional signals from the body can reach the brain through three neural routes and influence cognition. These are the spinal cord, the vagus nerve and the endocrine route. There are a large number of researches which studies economic behaviour and decision making



using neuroscience. Greucci et al. (2013) studied the behaviour of people and their decision while playing the Ultimatum Game, and how the decision making include the emotions.

4. CONCLUSION

Psychological components, and within them the emotions, play an important and influential role in the decision making process. For a better understanding of the overall decision making process, it is important to observe and study these emotional effects along with the interconnections of emotional and cognitive decision making. The paper pointed out a general description of psychological variables in economic behaviour and financial decision making, providing special attention to the role and importance of emotions in the decision making process. This literature review, focusing on the role of emotions in decision making, presented studies and findings in an interdisciplinary fashion from behavioural economics, psychology and also neuroscience. There are still questions unanswered concerning the role of emotions in decision making, and further research is necessary on this subject. Sciences interested in researching decision making should complement each other's work in order to have a more complete knowledge of this complex field.

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