

BEHAVIORAL FINANCE PERSPECTIVE ON MANAGERIAL DECISION MAKING UNDER RISK IN COMMERCIAL BANKS

Amra Halaba

International Burch University
Bosnia and Herzegovina
amrahalaba@yahoo.com

Ali Coşkun

International Burch University
Bosnia and Herzegovina
ali.coskun@ibu.edu.ba

Abstract: Decision making is the most important and the most difficult task that managers perform. On the other side they are most of the time confronted with risk and uncertainty, especially in banking industry. Objective of this study is to examine how managers of commercial banks performs this task, by putting it in the perspective of the newest findings from Behavioral finance field. Behavioral finance is based on premise that decision makers behave less than fully rational. Due to their deeply rooted human nature managers are prone to make decisions based on subjective evaluation of available options, relative to certain reference point and to current state of wealth, and also according to their personal interests which may contradict banks', industry's and social welfare's. Specifically, this study explores role of heuristics, biases and intuition in decision making, through concise review of existing literature. Importance of the study is in a fact that commercial banks are simultaneously the most important industry for country's economic development and stability and the most submissive industry to the risk. Owing to systematic nature of risk generally in financial markets, any irregularity in one country's banking industry will eventually reflect on other countries and is able to make ground for crisis. Study will contribute to better understanding of managerial perception of risk and their behavior under risk, which is primarily useful for architects of banks' corporate governance and banks' regulative. As we will see, setting identical option in two different frames leads to different decisions, this opens up possibilities to construct an environment in such a manner that decision makers are naturally led to make decisions that are in the best interest of all stakeholders involved.

Keywords: Behavioral Finance, Decision Making, Risk in Banking, Commercial Banking

1. Introduction

While literature is overwhelmed with analysis of risk taking behavior by managers in commercial banking, which mainly look at relationship between risk and some other significant variables such as size or ownership structure (García-Marco & Robles-Fernández, 2008) there lacks analysis that takes into consideration factors of managers' behavior – acting individually and in groups.

Mainstream economists argue that economic agents are rational utility maximizers who hold constant preferences and all together create efficient markets. However, such postulate is invalid, since irrationality of economic agents was recognized a long time ago, even by Adam Smith. (Santos & Chen, 2009)

Not only that this postulate is incorrect in theory, but is troublesome for practitioners, specifically banks' owners and stakeholders, banking regulative bodies, and public in general. So, basic purpose of this research is to expand the view on managerial behavior in commercial banks, especially under risk environment.

Hillson (2014) notes that risk management process which does not cover findings from human behavior sciences, in its foundation is condemned to produce less than optimal outcomes. For banking industry it is a must to include soft behavioral factors in risk management processes, which are at least as relevant as statistics.

Markets and therefore decision making settings are characterized with complexity, uncertainty and risk (Krohling & Souza, 2012), which is especially relevant when it comes to banking industry. Banks act as society's integrator, since these are institutions that come in relationship with almost all citizens and all businesses (Marous, 2015).

Banks hold highest ratios in market capitalizations of any country, are subject to illiquidity risks, and most importantly the risk they impose is of systematic nature. Turbulences in one bank spread to whole banking industry in the country, therefore weakening its whole financial system. (Shen & Chih, 2005)

Shen and Chih (2005) note also that one of sources of risk in banks is its asset structure, which is difficult to recognize and therefore to prevent.

This risk is, author suggest, imposed by managers, since they are the ones who make final decisions on bank's asset structure. Therefore, specific field covered by this research is behavioral corporate finance, which aims to provide insights into what drives managers in their decision making processes.

Authors of the research suggest that introduction of behavioral factors in risk management process can seriously improve its efficiency and therefore contribute not only to business success of banks individually, but to increase of the overall social welfare. Research will provide insights into ways that managers make decisions, which is especially important under overwhelming risky settings. It is authors' suggestion that only by better understanding of the true nature and true behavior of managers in real situations, academicians and practitioners can better form bank's internal structure and hierarchical relationships, as well as banking industry's regulations. Following this assumption, study contributes to better understanding of bank's executives, which is beneficial mainly to regulators of bank's internal organization and regulators of banking industry.

Research provides literature review of previous research on the given topic. Firstly, authors give introduction into field of behavioral corporate finance, which is followed with discussion on decision making processes and risk in banking industry. Third part is dedicated to implications of behavioral finance in decision making processes. Finally, at the very end authors give concluding remarks.

2. Literature Review

1.1 Behavioral Finance

Behavioral finance is a branch of behavioral economics which is based on notion that financial market movements should be studied starting from the assumption of managers' incomplete rationality (Glaser, Noth, & Weber, 2003).

It is a field of research which combines standard finance theory with sciences on human nature - namely psychology, neuroscience, and sociology (Halaba & Ilgun, 2014).

Therefore, behavioral economics in general is an upgrade to mainstream economics, which enables academicians and practitioners to gain better understanding of economic agents' behavior (Rabin, 1998), which is the main purpose of this research. It is important to draw attention to „upgrading“ role of behavioral finance. Aim of behavioral finance studies is not to contradict mainstream studies, rather to enrich them, expand the views and enable more efficient management as well as policy making.

Since the scope of the study is managerial behavior, specifically the study is under the umbrella of corporate behavioral finance.

1.1.1 Behavioral Corporate Finance

Corporate finance examines decision making (where we can consider financing decision, i.e. asset structure) in terms of cooperation and relationship between managers and owners (Baker & Wurgler, 2011). Under the agency theory, corporate finance is explained in terms of influence of capital owners on managers, with purpose of directing managers to behave in the most beneficial manner (Caprio & Levine, 2002).

Caprio and Levine (2002) emphasize the importance of effective corporate governance in banks, since these have influence on “shaping capital allocation at the firm level and at the country level“ (p. 2) and Schmidt and Tyrell note that even back in 1997 there was notable increasing interest and recognition of financial markets' (banking industry included) role in resource allocation. Corporate governance is of systemic nature, meaning that all of its segments are interrelated, so that every incremental change in one segment contributes to the change in other segments as well (Schmidt & Tyrell, 1997).

When it comes to mainstream economics, generally it is based on methodological approach, mathematical expression of assumptions, and analytical evaluation of implications of assumptions and empirical observations (Rabin, 1998). Therefore, intrinsic human attributes of managers which are relevant for decision making, are being neglected or perceived as disturbance to the smooth mainstream approach. The aim of behavioral corporate finance is to account for all these intrinsic attributes of managers and examine what drives their behavior in the real environment. (Berneheim, 2009; Camerer, 2007)

Tirole (2006) in his, in-depth book „The theory of corporate governance“ gives credentials to behavioral finance as a branch that „relaxes the rationality postulate that dominates this book.“ (p. 9). He notes two courses present in behavioral corporate finance. Focus of one course is managerial irrationality, while focus of the other branch is on investors' irrationality. Topic of this research fits in the first course of managerial irrationality. However, Tirole decides not to include detail coverage of behavioral finance in his studies on corporate governance and stick to standard approach given by agency theory for several reasons. He notes that behavioral finance is in its offspring, so he finds it early for a broad theoretical recapitulation of corporate governance from this approach. So, he finds it lacking behind the agency theory.

Authors of this research find his reasons as additional motivation for urging the involvement of behavioral corporate finance in academic studies as soon as possible, in order to raise awareness of its importance and move build up theoretical framework in this regard and break such (mis)perception on the power of insights from behavioral finance.

According to Rabin (1998) the importance of behavioral finance in decision making reflects in findings that managers in real environment are prone to systematically irrational judgments and choices. It is opposite to postulate of mainstream economics that managers follow objective statistical laws of probability while making evaluations that lead their decisions.

Behavioral finance gathers evidences on biased, loss averse, fearful, and in other regards irrational behavior of managers which result in less than optimum efficiency decision making (Halaba & Ilgun, 2014). It contradicts rationality of managers along the main postulates set by standard finance decision making theories. These postulates are:

- manager exerts constant preferences (Abdulnabi, 2014)
- manager chooses the option with the highest expected objective utility (Abdulnabi, 2014)
- manager makes decisions based on logic and controls his emotions (Hadžić, 2015).

While these assumptions to some degree serve well, in that they help to simplify reality and build economic models, it is necessary to recognize what real decision making is actually like. Looking at the real managerial behavior in the actual decision making environment is the core objective of behavioral corporate finance (Halaba & Ilgun, 2014).

In order to understand decision making process in a corporation, it is inevitable to form understanding over beliefs and preferences of managers, owners, as well as interaction of the two (Baker & Wurgler, 2011).

In order to gain this understanding, in the section 2.3 we will look at patterns of judgment and decision making - apparently irrational ones - which managers are prone to. Before looking into these patterns, firstly we will provide overview over risk decision making in general and risk in banking industry.

1.2 Decision Making Under Risk in Commercial Banking

1.2.1 Decision Making

Decision making can be defined as „process of problem identification and the process of solving it“ (Shermerhon, 1996, p. 194).

These are processes that managers are constantly engaged in. Furthermore, decisions are made in groups, rather than individually, which makes decision making environment more complex. (Dervishi & Ibish, 2014)

Hadžić & Ilgun (2015) note that decision making is marked with huge pressure which comes from numerous options and eventually results in sub-optimal decisions.

Korte (2003) introduces results of the study done over 300 managerial decision over 20 years, done by Paul Nutt, published in Nutt's book „Why decisions fail: Avoiding the blunders and traps that lead to debacles“ from 2002. Study revealed that decisions which result in optimum outcomes are characterized by the following:

1. A deliberate and thorough study of the claims by a variety of stakeholders
2. Early attention to social and political interests, and
3. Setting direction based on a cross-section of informed opinion“ (Korte, 2003, p. 446)

2.2.2 Agency Theory

The basic theory of corporate governance in economics is agency theory. It assesses the relationship between principals – owners and agents – managers within an organization, with emphasis on risk perception of both parties.

Owners are assumed to be risk neutral, following the assumption that they do not place entire investing capital in one investment, so only part of their wealth would be placed in individual bank. When their entire capital does not depend on performance of single bank, owners are likely to be less influenced by their emotions and therefore make more deliberate decisions.

Managers are assumed to be more biased in decision making, since their personal incomes depend on the performance of the bank. Income for managers mainly comes from regular salaries, but also from different types of bonuses as well. (Wiseman & Gomez-Mejla, 1998)

Basically, corporate structure should be such that encourages managers to behave in the best interests of owners. However, even despite some clearly established legal rules for owner-manager relationships, still there remains challenge of how to apply those rules in practice, to ensure that managers really do follow them. (Erner, Klos, & Langer, 2013)

So, there are strict rules which direct owner-manager relationship. However, there are also bonus schemes, which are designed to motivate managers to behave in a way that benefits owners the most. However, Chen, Zhang, Xiao, & Li (2011) conducted study on bonus schemes among the five biggest banks in United Kingdom, which shows that incentives paid to managers did not result in favorable outcomes. All of these banks performed poorly with major liquidity problems.

2.2.3 Risk in Commercial Banking

Classic definition of the risk is as follows „Risks are uncertainties resulting in adverse variations of profitability or in losses.“ (Bessis, 2002, p. 11). However, concept of risk is poorly understood (Abdulnabi, 2014) and there are many different definitions out there (Riabacke, 2006).

So, Riabacke (2006) explains risk by putting it in the context of two other terms. These are:

- Certainty, where manager knows for sure what will be outcomes of specific actions
- Uncertainty, where manager does not know at all what could be outcomes of specific actions.

Risk is in between the above two. It implies that manager knows more than one possible outcome for each specific action, where each outcome is expected to occur at certain probability. However, manager cannot know whether:

- All outcomes he accounts for are actually all possible ones
- Probabilities he assigns to each outcome are accurate.

„Banking risks are defined as adverse impacts on profitability of several distinct sources of uncertainty“ (Bessis, 2002, p. 11).

Basic types of banking risks are: credit risk, interest rate risk, market risk, liquidity risk, operational risk, foreign exchange risk, other risks (country risk, settlement risk, performance risk) (Bessis, 2002).

Risk taking in banking industry is specific because of the role which this sector has in one country. Negative effects of the risk behavior in single bank influences other banks and very soon implications spread over to the financial system and complete economy. (García-Marco & Robles-Fernández, 2008)

More complex environment makes it more difficult for managers to evaluate what might be outcomes of different options they can choose among (Erner et al., 2013). Eventually, it amplifies the risk they encounter.

1.3 Implications of Behavioral Corporate Finance for Decision Making Under Risk

1.3.1 Intuition

Intuition can be defined as all those processes which happen in human mind on subconscious level (Isenman, 1997).

Hadžić and Ilgun (2015, p.14) provide another more detailed definition of intuition by Woiceshyn (2014) who says that „Intuition, or the process of intuiting, is described as the inexplicable emergence of a sudden understanding – a “hunch” or a “gut feeling” – seemingly out of nowhere but involving the subconscious and one's previous experience, often described as recognition of familiar patterns from previous experiences“.

According to evidences from neuroscientists, people do not have conscious control of their behavior. They inform us that human brain is influenced by environment in which human operates. (Bloom, 2014)

Therefore, managers cannot make their decisions as dissected from the context in which they operate, or influences of other group members.

Managers are continuously asked to make decisions, which involves solving difficult questions under ambiguity, complexity, uncertainty. Confronted with such pressures, they tend to make the challenge easier, by swapping the actual problem for an easier one. The easier problem is the problem they perceive compatible with the present one, but it does not necessarily have to be true. The essence is that they take to the surface a problem which they are familiar with, their minds know how to solve it. This swap pattern is at the fundamentals of intuitive judgments and decision making. (Kahneman, 2011)

Intuitive thinking underlies human thinking, judgment, and decision making overall. However in order to be properly utilized in academic circles, its importance has to be acknowledged by leading academicians. (Isenman, 1997)

Intuition underlies the concept of heuristics, which are discussed in the following section.

1.3.2 Heuristics

Heuristics are mental shortcuts which managers use when making difficult decisions in complex settings. They substitute difficult question with an easier one – which might lead decision maker from the essence of the actual problem, or in absence of relevant data they reach for available data – which might or might not be relevant for a problem at hand, but also might mislead decision maker from the actual problem. (Hadžić, 2015)

Following the book „Thinking, Fast and Slow“ by father of behavioral economics Daniel Kahneman, which he wrote with priceless help of his colleague and friend Amos Tversky, authors of this research count four basic types of heuristics. These are: availability, representativeness, anchoring, and affect heuristic. Each of these will be discussed in following paragraphs.

2.3.2.1 Availability Heuristic

Availability heuristic is decision making pattern based on information that is easily obtainable, that is on information that comes to a mind of managers with an ease and effortlessly (Sewell, 2011).

It comes as result of replacing a difficult problem for an easier one and basically solving a problem and making a needed decision based on the information that can be reached the most easily, even though it might not be relevant for the present situation. Such decision making has a power to leave actual problem unresolved, or in the worst case make the problem even the more serious one. (Kahneman, 2011)

One way in which bank managers can hurt bank's asset structure is by following the available data from the news, since there is evidence for example that investments which are the most prompted up on the media platform, perform the poorest among other investments in two years (Sewell, 2011). This example is implicative of how data which is the most easily accessible, can be misleading. Managers should not carelessly follow the news on the macroeconomic situation or industry performances, but rather take an analytical and critical evaluation approach.

2.3.2.2 Representativeness Heuristic

According to Kahneman (2011), people are wired to seek for certain correlation between events and situations to the extent that he refers to human species as to „pattern seekers“. Managers as well have a need to fit in any new circumstance into specific scheme, give it meaning, purpose and justification. It provides sense of control, while loss of control over situation upon which our well-being depends, causes negative feelings.

Instead of objective assessment of events and situations, managers find certain context to put those events and situations in. In that way the actual situation or event loses its true context and of course can be misleading for decision making.

It is troublesome especially when this need implies neglect of actual problem that needs to be solved.

So, people have this tendency to perceive events and things which share certain attributes as the same (Baker & Nofsinger, 2002).

If managers misevaluate potency of certain event's amplitude to disturb their asset positions, it can significantly change their risk attitudes and behaviors.

2.3.2.3 Anchoring Heuristic

Managers tend to evaluate options they have at disposal based on what those options contribute - either positively or negatively to their current level of returns. It harms their choice of options and final decision in a way that they neglect objective final utility expected from each of those options. While anchoring their evaluation to a certain value or a number, they focus on subjective value which those options provide them. (Helson, 1964; Rabin, 1998)

More worrisome fact is that managers have tendency to anchor their evaluations to some values or numbers that are completely unrelated to the prospects they are evaluating, as opposed to their current returns level. Reference value upon which managers compare their options does not have to have any logical correlation to the actual choice they are making. Kahneman (2011)

2.3.2.4 Affect Heuristic

Affect heuristic is based on influence that people's emotions have on their judgments and decision making and according to Kahneman (2011) emotions have the highest power in directing the risk attitudes and preferences of managers. Basically, all decisions that people make are simply manifestation of their feelings towards specific option at certain point in time.

According to Finucane, Alhakami, Slovic and Johnosn (2000) how managers perceive risk and therefore form their risk attitudes which drive their risk behavior is influenced primarily by affect heuristic. Prospects which provoke positive emotions with managers, they are likely to frame as „a low risk and high benefit“, whereas prospects which provoke negative emotions with managers, they are likely to frame as „high risk and low benefit“.

Another leading behavioral economist Dan Ariely (2008), came to a conclusion that people's emotions obscure their deliberate thinking and have potency to drive their behavior.

According to Kahneman (2011), people make deliberate decisions, except in those situations when their emotions take over their deliberate thinking.

2.3.3 Bias

Bias refers to subconscious, faulty and unreasonable judgment and decision making. It fundamentally differs from logical and analytical objective thinking patterns. (Kahneman, Slovic, & Tversky, 1982)

Biased thinking and acting is a path to situations in which the manager believes that he is close to maximizing firm value - and, consequently his incentives - but is in fact deviating from this ideal (Baker & Wurgler, 2011).

Managers, as other humans do not always make judgments logically. Furthermore, once formed judgments do not always lead to final decisions in rational and consistent way. (M. P. Baker & Wurgler, 2011)

However, there is evidence that certain personal abilities of managers are correlated to the performance of the firm (Kaplan, Klebanov, & Sorensen, 2011).

On the other side, Simon (1955) introduced the term bounded rationality, under which he assumes that some type of cognitive or information gathering cost prevents managers from making fully optimal decisions. Bounded rationality allows managers to deal with complex environment by using heuristic. In that manner they manage to obtain satisfying performance. Since such approach to decision making has certain benefits they should strive at least to diminish sensitivity to their own biases.

In following sections, authors discuss several most applicable biases when it comes to corporate behavior of managers individually and in groups.

2.3.3.1 Confidence and Optimism Bias

These two types of biases are related and feed each other, so are discussed jointly.

Managers have tendency to overvalue their capabilities and expertise and to be overly optimistic over future prospects that they personally feel affection for. Additionally, managers tend to put more value on the role that they played in certain achievements and successes, than they actually had. (Jarboui & Boujelbene, 2012)

They are prompted to see their circumstances as more favorable than they really are. Also, managers usually fail at time management by overestimating their abilities and assigning less time for activities than they actually need. (Barberis & Thaler, 2003)

Shiller (2000) notes that people in general have tendency to focus on favorable sides and ignore possible negative effects when a new situation arises.

While over optimism and overconfidence can reflect negatively on corporate behavior, it has positive sides also when experienced moderately. They encourage managers to look for new prospects in environment, increases their self-awareness, and makes them utilize their full capacities. (Jarboui & Boujelbene, 2012)

So, in order to benefit from these characteristics, managers have to control for them. But, along with complexity of environment and decisions that need to be made, managers are additionally burdened with group pressure. Group decision making feeds overconfidence and makes it harder to de-bias. (Gervais, 2010)

2.3.3.2 Confirmation Bias

Once the move is made, no matter what the outcome is, managers put that outcome in the context and seek for proper justification of their previous actions. They seek confirmation for their actions. This is „tendency to interpret evidence as consistent with one`s preexisting beliefs“ (Daniel, Hirshleifer, & Teoh, 2002, p. 143)

Beliefs and judgments once formed, is what managers firmly hold unto (Barberis & Thaler, 2003; Rabin, 1998) and are likely to discard any new data that opposes established judgments, however relevant these might be (Baker & Nofsinger, 2002).

2.3.3.3 Herding effect

According to Sewell (2011), herding effect is due to need of people to socialize and make groups in order to survive and improve well-being through evolution. Socializing is crucial for information exchange, which is one of the most important resources.

There is evidence that people are more likely to take higher risks when acting in a group. Being a member of a group reduces feelings of insecurity and anxiety over decisions. Company of other people changes risk behavior of each group member. (Chou & Nordgren, 2016)

According to Shiller (2000) information exchanged between people in face-to-face conversations has higher impact than the same information exchanged in other ways. It is due to capacity of face expressions, or tone of voice to provoke specific emotions with participants of conversation.

Acting in group benefits each member, since his capacity to perform increases. On the other side, it can be harmful since each member is likely to follow explicitly or implicitly implied set of activities. (Shiller, 2000)

3. Conclusion

Effective risk management needs to account for insights from behavioral corporate finance, which are derived from psychology, neuroscience, and sociology. It is deemed necessary to approach risk taking behavior from a broader and more realistic perspective, instead of relying solely on standard risk approaches, which include relationship between risk and return, constant preferences and utility maximization.

Significance of effective risk management increases in domain of banking industry, which serves as an integrator and financier of country`s economic system. It is up to academicians and practitioners both to gain more understanding into how human minds work and how managers make decisions. It will empower them to create

environments in which managers are compelled to behave in the best interest of all stakeholders involved.

Managers themselves, should strive to understand and get to know themselves and members of their executive boards better. In that way, they will be better able to control their own decision making and establish better control over themselves.

This study shed a light on the suggested approach to risk management, draw attention to its importance and hopefully developed interest from professionals in academics and real sector. Future research should definitely include development of model of managerial decision making under risk in commercial banking, since it would help standardization of risk management processes.

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