RISKS OF INNOVATIONS ON THE BANKING MARKET

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Abstract**:** *In conditions where the world is digitalizing, and customers tend to seek for low friction and immediacy, banks also tend to transform. The most successful bank products don't need humans or physical assets. This is leading people to move away from the financial products people used to have in the past, to understanding that utility of financial institutions is now served not through products through a channel, but through a set of platform technologies that enable people to do banking. This shift comes along with new risks for customers. The goal of the article is to highlight the most common risks that come along with innovative bank products and their effects in case of occurrence. The conclusions presented in the article contain the ways the risks may be diminished.*

Keywords**:** *banking risk, innovation risk, operational risk, risk management*.

JEL CLASSIFICATION : E42. E 50, E 59, O3

INTRODUCTION

The current period is characterized by fast paced innovations in the banking products market dictated by information and communication technology (ICT) progress, globalization, environmental changes in general and the interests of increasing the efficiency of banking. Under these conditions, the inherent risks specific to the banking activity also increase, innovations attributing new connotations to them. In the academic literature, the notion of risk is treated by several authors in different ways, starting from a general definition according to which risk is understood as "a spontaneous deviation from the expected course of events" (by Samuelson, Haek) [quoted after 1, p.78] and, continuing with definitions given by different authors for diverse types of banking risks, risks classifications, as well as methods and models for their assessment. In order to understand entirely the complexity and interdependence of banking risks it is necessary to identify the place of risks related to innovation process in the banking risk system and elucidate their possible influence on other risks. In this paper we intend to highlight the risks related to the innovation process and their place in the risk management, to establish the interdependence relationships, as well as the management level where risks are treated. The methods used in the research are the following: study the regulation and normative acts about banking risks, analysis and synthesis of the literature, induction and deduction, comparison, analogy, graphic method.

THE RESULTS OBTAINED

The development of banks is determined by a myriad of events - risk factors, with implications for banking. Banking risk, in general, is defined by specialists in the field as "the value expression of a probable event, which can cause bank losses" [1, p. 79]; probability of occurring an event with adverse consequences for the subject [2, p. 10]. Banking risk is generated by the multitude of operations and procedures characteristic of banking. The risk accompanies every activity carried out

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in the bank. Does it produce losses or not, it depends on the circumstances and the efficiency of the management. Depending on the level at which the risk is manifested, we distinguish: macro-, micro- and risks at the functional level (individual), at each level there is a set risk appetite.

There are 4 components that interfere when the bank risk is discussed: (figure 1):

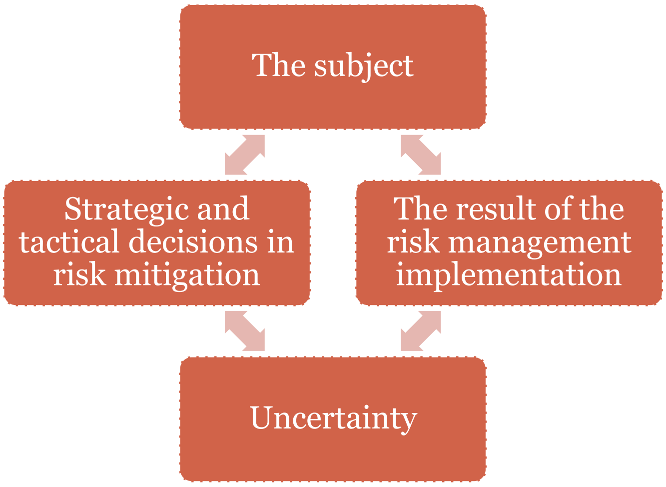

Fig. 1. The relationship between risk components

Source: adapted by the author according to the source Perfiliev,A.A. "Bankovskii menedjment", p.44

I. The subject - represent the decision-makers regarding the banking risk, and it contains the following elements (as described in figure 2):

- the regulator or the Central Bank with low risk appetite resulting from the role of ensuring the prudential supervision of commercial banks, by assessing the risk structure of assets and compliance with capital and solvency reserves, aiming at price and financial stability; the management of the commercial bank, which carries out the processes of an efficient risk management, aiming at a reasonable maximum profit;
- shareholders of commercial banks, which aim at maximum profit and low risks;
- managers of commercial banks on risks;

Fig. 2. Bank risk subjects and their objectives

Source: elaborated by the author

II. Managerial decisions (risk appetite) and risk culture at all levels;

III. Losses or the result of risk management;

IV. Uncertainty - a criterion of the severity of the risk, having a certain probability of occurrence. At the early stages of the innovation process, there is more uncertainty and higher risks due to a lack of information. By having better information in context, this uncertainty can be reduced which leads to better and speedier business decisions.

The notion of uncertainty is used as an indicator of the severity of risk in modern economic theory [1, p.79]. Uncertainty in innovation is related to the lack of similarities and can lead to maximum risk. However, both uncertainty and risk can be analyzed, measured and managed in order to make decisions to eliminate, mitigate possible adverse effects or transfer them to third parties (ex: risk insurance). The problem in this case consists in admitting the value of the admissible error in the measurement, the prediction of the long-term effects. The risk is measurable and the quantitative measure is the probability of a negative result [1, p.79]

The problem regarding the banking risks is addressed by many authors that try define, classify, identify interdependencies, evaluate and analyse solutions for their effective measurement, monitoring and control. Risks are also defined by the Basel Committee on Banking Supervision, which classifies them into: country risks, reputational risks, strategic risks, operational risks and financial risks, the latter including the four main types of risks: liquidity, market, credit and of capital (of bankruptcy) [4]. The legislation in force in the Republic of Moldova highlights and defines 15 types of risks [5]. For comparison, with reference to its business-process functions, the Central Bank of Russia indicates 9 types of risks, classified into financial and non-financial risks. Non-financial risks include strategic, reputational and operational risks, the latter taking the form of legal, compliance and project [6]. The financial risks are credit, market, liquidity risk. But in the academic literature, there are broader classifications. Thus, the literature also mentions such types of risks as: country risk, regulatory risk, legal risk (contractual), performance risk, environmental risks, competition, system, fiscal, possible risks related to events or force majeure, investment risk, cyber risk, fraud risk, etc. [2, p.11-14]. The thorough and reasonable broadening of the risks typologies, as well as the elaboration of the methodological and methodical basis for their monitoring, evaluation and efficient management can contribute to the increase of the banking performance. In the last 20 years worldwide, were set the foundations for the systematic approach to the risks specific to the financial-banking system, their evaluation, monitoring and control [7, p.100]. At the same time, we believe that a special place in this system must be given to the risks related to the innovation process, which are currently less treated. Banking innovation risk can be defined as probable losses related to unexpected events and deficiencies related to the realization of the innovation process. The higher the risks involved in the innovation activity, the higher the commercial success (profit), but the lower the probability of achieving a high profitability by the bank. The risk factors that can influence the innovation activity of banks can be both internal and external. Thus, the risks of banking innovations are determined by:

- particularities of the innovation process on the banking products market, as each stage involves certain risks depending on the type of innovation - product, process, regulation, ICT, etc.;
- collaborative and open character of innovation projects, which involve the participation of several entities in the innovation process - banks, institutions and organizations in the field

of ICT, international organizations in the field, marketing research institutions, etc., each of them totaling certain risks;

- the impossibility of predicting the results of innovation due to inadequate perception of innovation by partners and customers;
- low degree of readiness to purchase innovative banking products / services, low assimilation of new service technology, lack of experience and fear of the new;
- lack of a strong motivation for innovation and / or diminishing the real effects of innovation;
- lack of analogies and standards for carrying out innovation activities, which implies an emerging approach to the innovation process, especially related to ICT;
- faulty management of creativity and innovation process;
- incipient innovative marketing or traditional marketing approach.

The analysis of banking innovations globally shows that in this field innovative business models have been implemented, the main ones being illustrated in figure 3.

Field	Innovation	Goal	Result
Card projects	Debit cards as payment method	Safe payments, safe client on-boarding	The share of card fees in profits increased
Mortgage loans	Preferential rates, % calculation according to the credit balance	Increase the volume of loans, maintain past clients	Increase in profits due to mortgage loans
Stock market	Securities with new features	Extend the products range	Increase profits
Deposits	Combine current account with saving account, online accounts	Optimize expenses for accounts service, Expand possibilities for clients	Compensate the % with the low expenditure for service
Bank technologies	Automatisation, Internet banking, customer relations management	Improving quality of service, Delivering to customer priority services	Optimization of operational expenditure
Innovative business-models	Increase the price of the bank, enhance it's resilience.		

Fig. 3. Global innovations - end of the century. XX beginning of the XXI century

Source: Reference 8, p.24

In the process of implementing innovations, it is important for management to have a visionary capacity, taking into account the current situation and position of the bank, possible risks due to innovation and target strategic development objectives in current and future markets.

Banking innovations, as a product sold on the market of banking products / services, are characterized by virtual character, personalization, diversification / differentiation, interdependence, integration, convergence or divergence, being at the same time intangible and subject to moral wear. All these make it difficult to predict the effects of the innovation process, the evaluation of the new banking product / service, its degree of novelty and the acceptance of innovation by customers, etc. Through their spontaneity, complexity and interdependence, unexpected events related to the innovation process can create very serious risk situations with disastrous effects, which require careful analysis and competent management. Most often, innovations generate operational risks, the action of which affects the loss of reputation, revenue, customers, etc. Innovation risks are also interdependent with credit, investment, market, cybernetic, legal, etc. risk, depending on the system of relating the components of the risk situation: partners, regulations, customers, environment, internal factors, etc. Practice shows that banking innovations can also cause systemic risks, economic crises. For example, some authors consider that the financial crisis of 2007-2009 is a consequence of the US implementation of innovations and their mismanagement. Also, the specialists in the field, at the IORWG conference in May 2019, appreciated that over 15 new risks appear with the implementation of cloud computing technology, including legal risk, risk of loss of information, loss of links, espionage, impossibility of total control, information leaks and so on. In this context, it is recommended to measure the risk appetite for new technologies and to outsource some banking functions to transfer the possible risks and tasks of ensuring business continuity, the presence of a strategy to get out of risk situations. Therefore, in situations where commercial banks' risk appetite for new technologies cannot be reduced, the main task is to monitor the effectiveness of residual risk response measures [7, p. 110] .

Given the fact that the innovation process is based on human creativity, encompassing all activities, we believe that innovation risks can intervene in the action of different types of risks, depending on where the innovation activity takes place - service delivery process, changing credit conditions, granting new types of loans, implementing innovative leasing, ICT, relational approach with customers, etc. Depending on the interdependence of innovation risks with other banking risks, we can highlight:

1. innovation risks unique to banking - innovations are naturally accompanied by these risks, for example an investment project involves strategic, investment and operational risk;
2. mitigative innovation risks: the risk component existing in the bank's activity is diminished or mitigated by innovations, for example, the implementation of the COREP / FINREP reporting framework will ensure the development of the banking sector by strengthening internal governance, maintaining adequate capital, both quantitatively and in terms of quality, and will boost the supply of safer and better quality financial services;
3. risks derived from innovations - the risk appears in the process of exploiting the innovation, for example the ICT risk;
4. fortifying innovation risks - innovation increases the size and significance of an existing risk, for example, a new technology will increase cyber risk.

Therefore, the risks related to the innovation process will be reflected in the other risks, for which there is the Assessment Methodology imposed by the Bazel III requirements, which includes 29 principles, as well as theories, methods, models and econometric solutions of several authors, supplemented and continuously developed. It is important that the employees responsible for implementing the innovations are specialists in the fields of respective innovations (banking product / service, technology, management, etc.) able to promote innovations and predict the possible effects and risks of implementation in order to manage them as efficiently as possible.

CONCLUSIONS

Innovations and the resulting risks can increase the performance and development of the bank or slow it down, causing damage. As innovations can refer to any aspect of the bank's activity, the risks related to them will generate the operational risks characteristic to that activity, enhancing or diminishing them, contributing to the triggering of the chain and other associated risks. At the current stage, the achievement of efficient innovation activity in the banking field requires the recognition not only of the importance of innovations, but also of the risks related to them. It is also necessary to train specialists - managers in the field of innovation and innovation risks able to promote innovations in the banking field and to carry out the efficient management of their risks.

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