

Definitions of concepts scope and interaction of risk-engineering on the financial market

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Abstract. Essential and meaningful characterization of risk-engineering is justified by the author drawing on the subject matter of modern financial science, supplemented by a comprehensive analysis of the economic nature of the origin of the categories of "financial instrument" and "financial product" in the process, which reveals patterns of formation and development of financial engineering innovations on the market. Revealed concept definition and scope of risk-engineering, as the process of designing innovative financial products created to reduce various types of risks, tools and relationships through the spheres of influence of financial engineering, financial management and risk-management.

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Introduction

Financial markets today have significant potential for development due to different kinds of innovation. However, any investment and innovation activity of economic entities associated with certain types of risks [1]. In general, any risk is probability of occurrence of negative or undesirable event for the subject. Characteristic of financial markets - the financial risk is the possibility of loss of liquidity and (or) financial losses (losses) related to internal and external factors influencing the activity of the economic entity.

Traditional approach of reducing different types of risks in theory and practice is to obtain a penalty guarantee, bank guarantee, deposit, bill of exchange software and other methods provided by applicable law (see Fig. 1, panel 1). All of these ways to ensure commitments are:

- 1) additional to the main obligation that they provide, and are more related to basic civil legal relations between the different actors;
- 2) directly related to the tools of risk management, the use of which allows to identify and evaluate risks, as well as select the corresponding methods and control methods to minimize the risks [2].

However, the majority of them is not applicable in the market of innovative financial products because of its specificity. Since the nature of the latter is the basis of financial engineering [3, 12], the methods and techniques and to reduce the existing risks in the market of innovative financial products to be found in themselves instruments of financial engineering (see Fig. 1, panel 2) [4].

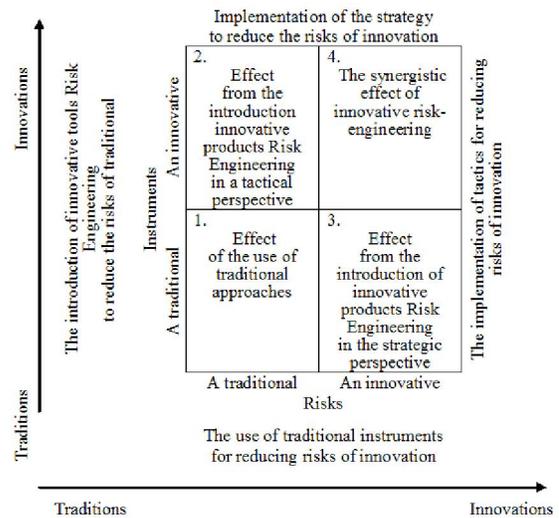


Fig. 1. Matrix directions implementing innovative risk engineering capabilities

Analysis of the definitions of "financial product" and "financial instrument"

In this regard, it is necessary, in our view, to distinguish between the concepts of "financial product" and "financial instrument". In the specialized financial literature there are different approaches to the interpretation of these terms [5; 6; 7; 8]. In this regard, the position is of interest Russian scientist of Y.I. Kapelinskiy in relation to the result of financial engineering - financial instruments. According to him, financial services arise only in the banking sector to meet the demands in the redistribution of risk, liquidity and profitability between different market participants. A financial instrument acts as a material form of financial

services. In our opinion, here comes confusion financial services - financial product - a financial instrument. The result of the banks is specific banking products and services that are only part of the more general concept of a financial product. And material - this is by no means a defining feature of the financial instrument: it can act in the material (documentary) form and intangible (non-documentary).

In this paper, L.D. Gitman and M. D. Junk "Basics of Investing" is determined that the financial instruments can be securities, investments in property, etc. In this case, states that all depends on the timing of the operation, price, level of risk and return, as well as conditions and taxation approaches. They can be used to accumulate funds, dividends and / or interest, receive periodic income, fixing the term of the purchase / sale of assets, tax protection, the creation of mutual funds, etc.

This definition coincides with the semantic meaning of the definition introduced by the Russian legislator. However, it is, in our opinion, does not disclose the nature of the financial instrument as a financial and economic categories. Moreover, financial instruments are understood in Russia (as well as in other countries, that actually follows from the definition given above) as a means of investment, acquisition and distribution of capital (stock value), as a means of payment and as a means of credit (or in general terms - financial assets or liabilities).

Can also lead to a similar sense of the definition of financial instruments in accordance with International Financial Reporting Standards (IFRS 32): financial instrument - is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity.

Viewpoint other foreign authors James C., Van Horne and John M. Vahovicha coincides with the views of L.D. Gitman and M.D. Junk and Russian practice. They investigated the role of financial instruments in the investment activities of the organization and brought the following definition: financial instruments - convertible securities, securities that can be exchanged for other securities and warrants (in Russian legislation, the last call options of the issuer). Scientists clarify that the various financial instruments are inherent in different degrees of risk, and these tools provide different amounts of investor expected profits. Consequently, they emphasize that the functional purpose of the financial instruments is partly financial risk management, than with the whole think we can agree.

Most acceptable from our point of view, showing the economic entity would determine - a financial product and - the financial instrument data

using one of the leading Russian experts Professor A.B. Feldman. Summarizing his conclusions on this issue, under the financial product can be understood as a specific use value, characterized by the essential properties of Finance, causing supply and demand and therefore intended as a commodity for sale. Financial products in their implementation through specific mechanisms of interaction of financial market participants act as financial instruments, i.e. special financial product.

Analyzing the definition of "financial product" and "financial instrument" Russian researcher Poltoradneva N.L. highlights the similarities and differences on the basis of the concepts under consideration imposed criteria (Table 1).

Table 1. Comparative analysis of the terms "financial product" and "financial instrument"

Criteria of a financial product/tool	Characteristics of "financial product"	Characteristics of "financial instrument"
similarity		
Aim / purpose	management mainly financial risks and other parameters of the alignment of financial relations	
Registration	contract / agreement extra / additional items in the contract	
Scope of application	financial market	
differences		
Time presence in the financial market	short	long
Legislative consolidation	there are no regulations or are in the stage of formation	regulations have also been adopted
Jurisprudence	no	Formed and / or act on the basis of regulations adopted
Margin level	high	low
Number of market participants using the product	small	large
The number of transactions using financial product	small	large

Thus, our research concepts of "financial product" and "financial instrument" allows us to give the following conclusion in the definition of the above mentioned definitions of economic categories : financial instruments are a means of achieving economic entities in solving specific tasks in the area of financial management - financial management, whereas financial products is the very purpose of the financial engineering as the solution of a problem is not possible given the available financial instruments. When speaking about the "legitimate transformation in the tradition of innovation" [9, 13] we can say that the innovative financial products, as for the very purpose of financial engineering at a certain stage, naturally transformed into financial instruments in their implementation and transmission as a financial management tool (see Fig. 2).

In this regard, if the existing instruments do not meet the requirements set a new goal of reducing risk, it is necessary to create a new product based on the new conditions and available tools (see Fig. 1, segment 3), or solve the problem by getting a completely new financial product as a result achieve through financial engineering instruments synergistic innovation effect (see Fig. 1, segment 4).

Risk – engineering

The process of designing innovative financial products created to reduce various types of risks by financial engineering instruments and call risk-engineering.

Thus, in the most general definition, a risk - engineering refers to a set of methods of financial engineering aimed at eliminating or optimizing financial risks. Or, using the definition of financial engineering, cited in the book "Financial Engineering: A Complete Guide to Financial Innovation" [10, 14] - risk -engineering, in our opinion, is a complex of measures including the design, development and implementation of innovative financial products and processes, as well as creative new approaches to solving problems associated with the reduction or elimination of risks arising from financial market subjects.

Scope of risk engineering discussed in detail by the author in "Risk-Engineering as an element of financial engineering on the market of innovative financial products" [11, 15] in conjunction with the classification of the possible types of risks inherent in the financial markets and on the basis of the terminology of financial engineering proposed approaches to solving problems. At the same time, the study scope of risk-engineering reveals the following characteristics:

- the main objective of risk influencing the market development of innovative financial products include credit, interest rate, market risk and liquidity risk;
- the need for the application of risk - engineering, as a set of methods for risk insurance, lies on the demand side and the supply side of innovative financial products;
- the basis for transactions between counterparties in the market of innovative financial products are differences in predicting the behavior of the market, different investment horizons, different tolerance to risk and subjective nature.

Results

Figure 2 illustrates the relationship our spheres of influence of financial engineering, financial management, risk-engineering and risk management in the financial markets and "risk areas." Triangle ABC - schematic map of area at risk; triangle DEP - financial markets; intersection of these spheres - Allen KYNQGH - zone risks inherent in the financial markets, anyway - financial risks. Sphere of influence of major economic categories under consideration are in the grounds of the above mentioned geometric shapes, namely "financial engineering" and "financial management" in the base

of the triangle DEP, and the "risk -engineering" and "risk management" in the base of the triangle ABC.

The final product of the risk-engineering is specific to a particular task, a toolkit that provides risk management or, in a broader concept, its use in the process of realization of the basic functions of risk management (zone 2 at the intersection of RI and RM 2).

In turn, the ultimate goal of risk management - in the broadest sense - is to obtain maximum profit at the optimum acceptable for businesses profit and risk ratio that is directly correlated with the main objectives of financial management (zone 2 at the intersection of FM and RM Fig.2), based on the principles and methods of effective management of financial resources on the basis of designed and engineered financial products financial engineering (zone 2 at the intersection of FM and FI 2).

While we have mentioned above, the risk is the process engineering design innovative financial products generated to reduce the risk of various kinds, through financial engineering tools (zone 2 at the intersection of FI and RI 2).

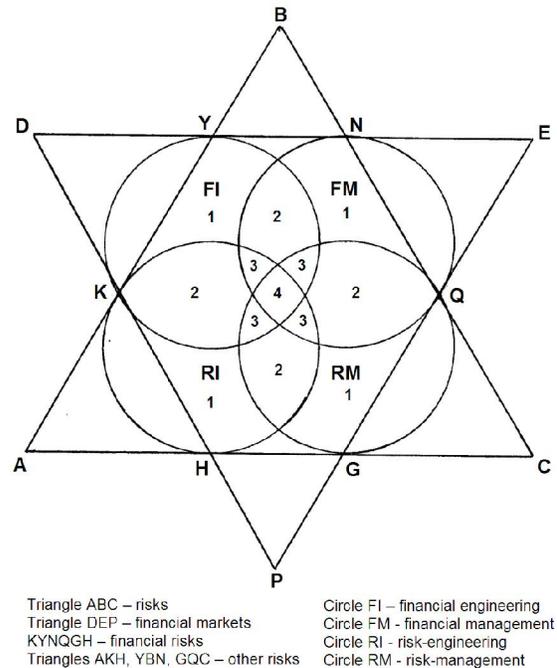


Fig. 2. Relationships spheres of influence of financial engineering, financial management, risk-engineering and risk-management in the financial markets and "risk areas"

In this zone of intersection of spheres of influence that we have studied categories (zone 3 in Fig. 2) is the result of a synergistic interaction effect,

respectively, reflected earlier in Fig. 1, as the segment 2 and 3, depending on the instruments used (innovation through financial engineering or traditional - financial Management), as well as the impact of the relevant types of financial risks (innovation through risk-engineering or traditional – risk – management).

The apotheosis of this mutual influence and penetration is zone 4 in Fig. 2, which in turn has a corresponding segment numbering in Figure 1 signposted and characterizes us as an innovative synergistic effect of risk-engineering.

Conclusions

Thus, in an organic combination, we have mentioned in the financial categories and is, in our opinion, the content and scope of the concept of risk engineering in the financial market. As we have shown, it is manifested in the relationship of spheres of influence of financial engineering, financial management, risk-engineering and risk-management.

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