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Methodical Approach to Developing a Risk Management System of Risks for the Development of the Russian Stock Market

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ABSTRACT

The **object** of the study is the Russian stock market. The **subject** of the study is the management of risks that may hinder the solution of the current task of ensuring the necessary contribution of the stock market to the transformation and development of the national economy under conditions of sanctions pressure. The **relevance** of the study is due to the high importance of the development of the national stock market for solving problems of long-term funding of the national economy in modern conditions, which requires systematic and proactive risk management. The **purpose** of the study is to work out a methodological approach to risk management for the development of the national stock market in the context of economic transformation. During the study, mainly **methods** of analysis and synthesis, classification, induction and deduction were used. Based on the results of the study, the authorized government bodies were recommended to implement a unified methodological approach to risk management for all involved parties for the development of the national stock market, taking into account the different goals of different participants. The **scientific novelty** of the proposed approach lies in its combination of two levels of risk management (market level and risk owner level) and taking into account the cross-functional and cross-sectoral mutual influence of risks. **Conclusions** are drawn about the potential effectiveness of the developed approach, as well as the possibility of scaling it to the level of the financial market as a whole, provided that organizational issues related to the development of a detailed methodology, its implementation, maintenance and independent assessment of its functioning are resolved, as well as the principle of proportionality of benefits from the implementation of the system to the costs of its organization.

Keywords: stock market; investor confidence; risks; sanctions; financial stability; economy transformation

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INTRODUCTION

The domestic economy is currently going through a difficult period, associated with ongoing transformation under the pressure of sanctions. An important role in this is played by the securities market in financing businesses, whose opportunities abroad have diminished against the backdrop of sanctions.

The stock market has gained additional significance for the economy due to high lending rates under a tight monetary policy. As a result, since the end of 2022, there has been a clear trend towards an increase in the number of placements, including initial ones, in the Russian stock market (Initial Public Offering, IPO).

In the new realities of the functioning of the domestic economy, the stock market has become a subject of increased attention from the state. A striking example is the instruction from the President of Russia to the Bank of Russia and the Government of Russia to take measures to ensure that by 2030 the capitalization of the stock market reaches a level equal to 66% of the gross domestic product (GDP),[1] meaning that the indicator is to be doubled.

Taking into account the level of task setting for the development of the stock market and the potential negative impact of their non-fulfillment on the domestic economy, it is important to prevent possible events that hinder the development of the stock market, that is, to ensure effective risk management, which is impossible without a quality methodological approach.

The specificity of this issue, which inevitably affects the architecture and methodology of risk management, is the involvement of a whole range of parties in market development matters. In particular, these issues fall within the competence of the Bank of Russia, which stems from one of the goals of its activities in accordance with current legislation — ensuring financial stability and the development of the financial market of the Russian Federation.[2] The Bank of Russia pays great attention to the threat to financial stability through the so-called stock channel and its impact on the stability of the banking sector, as well as to issues of financial security, without which not only the development but also the functioning of the stock market is impossible.

Issues related to the development of the stock market also fall within the competence of the Government of Russia — in this case, with an emphasis on stimulating economic growth, implementing state programs, and ensuring the financial and economic security of the state. At the same time, different ministries, such as the Ministry of Economic Development of Russia and the Ministry of Finance of Russia, may have their own goals in the stock market, stemming from the mandates of the agencies.

Moreover, infrastructure organizations, such as Moscow Exchange and major market participants, including those with state participation (in the areas of implementing government programs, managing pension savings, etc.), are also involved in the development of the stock market, each pursuing their own goals, which often have state significance.

In this case, the goals of various departments and organizations can either complement each other or come into conflict. In such conditions, achieving the goals of developing the stock market is hardly possible without the mutual alignment of the goals of all parties. In this regard, it is evident that measures for managing risks that hinder the development of the stock market are unlikely to be effectively implemented in isolation. This issue should have unified methodological foundations, be cross-sectoral in nature, allow for the alignment of macro-level (the market as a whole) and micro-level (individual agencies and organizations) goals, and also take into account the mutual influence of risks.

[1] Website of the President of Russia. List of instructions for implementing the President's Address to the Federal Assembly. URL: http://www.kremlin.ru/acts/assignments/orders/73759 (accessed on 20.05.2024).

[2] Federal Law No. 86 of 10 July 2002 "On the Central Bank of the Russian Federation (Bank of Russia)".

The design of a methodological approach to risk management for the development of the stock market must take into account, among other things, the critical importance of ensuring trust in the retail investor market, whose share in the total trading volume has increased, reaching 80% in certain periods.[3] Just like in the case of ensuring financial stability, without ensuring trust in the market, it is hardly possible to expect its development.

The purpose of the research is to develop a methodological approach to systematic risk management for the development of the national stock market in the context of economic transformation.

As part of the study, the development of a detailed methodology is not planned, including forms and procedures for maintaining risk and risk event registers, as well as a detailed procedure for applying risk management procedures (including risk self-assessments and controls, risk event registration, monitoring of key risk indicators) and their tools (for example, taxonomies of risk sources and risk events, risk appetite), which, as practice shows, makes no sense without involving risk owners who possess the full range of necessary information within their area of responsibility.

The mathematical models used in risk management, for example, for determining risk levels, are not within the scope of this study, as their application becomes possible only when databases are available, which, as a rule, are not present in the required form at the system implementation stage. Moreover, mathematical models are more applicable to financial risks and to entities with quantitative performance indicators, rather than to entities that primarily have socially significant objectives, where the risks are predominantly operational in nature and are usually measured using qualitative/descriptive criteria.

Thus, the purpose of the research is limited to the first and most critical stage of developing and implementing any risk management system, namely, the design of the system, the overall methodological approach, with proposals for its key parameters, in the development of which a detailed methodology is already being developed in practice with the direct participation of risk owners.

The hypothesis lies in the *possibility* of risk management for the development of the national stock market based on the application of a unified systemic methodological approach for all involved parties, which allows for the formation of a common comparable risk map and the alignment of goals, objectives, and risks of various market participants, thereby containing the potential to enhance the efficiency of stock market risk management as a whole.

The hypothesis is based on the author's observations during many years of work in the field of risk management concerning management objects that combine a large number of activities and divisions (organizations), as well as the exchange of experiences on this issue in well-known international professional associations.[4] These observations indicate that when applying a unified approach to risk management for all involved parties, a common understanding of risks at the level of management objects as a whole emerges, meaning what is truly significant for the object. At the same time, it becomes possible to rank all risks by their significance and prioritize their management.

Moreover, with the presence of unified approaches, including a common glossary and tools, there is an opportunity for systematic coordination of risks across various activities and divisions (organizations), usually along the chain of cause-and-effect relationships, where the root causes of risks in one area of

[3] Website of the Bank of Russia. Overview of financial market risks. April 2024. URL: https://www.cbr.ru/analytics/finstab/orfr/ (accessed on 20.05.2024).

[4] Including within the framework of the IORWG (International Operational Risk Working Group), which brings together risk management specialists from most of the world's central banks (regulators), and the PRMIA (Professional Risk Managers' International Association), which unites and certifies specialists in the field of risk management.

activity (division, organization) often include the realization of risks in another. Thus, the decomposition of significant risk sources of the management object into separate significant risks of different risk owners is effectively carried out.

Ultimately, such a systematic approach enhances the efficiency of risk management by preventing the oversight of risks that are significant for the management object as a whole, and conversely, reducing the costs associated with managing insignificant risks. It also allows for better prioritization in work, taking into account the comparability of risks in terms of significance at any management level, and managing them more effectively through the coordination of actions among entities whose risks are interconnected.

The effect of applying such an approach in practice is most evident for the main beneficiaries of its application — the management and owners of the management object, ultimately manifesting in increased effectiveness (reduction in the number and scale of risk events (risk realization cases)) and efficiency (cost-effectiveness) of risk management overall for the management object.

These observations are confirmed by both authoritative economists and government officials. For example, one of the leaders of the Bank of Russia, V.P. Goreglyad [1], expressed in his work the opinion on the effectiveness of applying a unified systemic approach to risk management for large and complex entities such as central banks (regulators). The work also notes that due to the effectiveness of the systemic approach, there has been a trend towards its implementation worldwide in recent decades.

Over the course of 20 years, from 1996 to 2015, around 50 Central banks and other financial market regulators began to implement a systematic centralized approach to risk management, as the most advanced method. The impetus for such development of risk management in relation to financial markets were the crises of the 1990s and early 2000s, which revealed obvious shortcomings in the regulation of financial markets and corporate governance. Taking into account the crises that followed after 2015, this indicator has obviously become even higher.

According to one of the studies on current trends in risk management,[5] approaches to risk management across various management entities are becoming increasingly systematic, and the industry itself is rapidly evolving. It is projected that the global market for systemic risk management services will be valued at $ 39 billion in a few years (by 2028). The main consumers of these services (over 40%) are representatives of the financial sector of the economy. At the same time, the most dynamically developing market is considered to be the Asia-Pacific region, where the average annual growth rate of the market for these services from 2023 to 2028 is estimated at 13%, which is associated with the increasing demand for a systematic approach to risk management among organizations in the region.

The implementation of a systematic approach to risk management for management objects takes an average of about one year, but specialists claim its effectiveness. Thus, in commercial organizations, the return on investment for such a system (including personnel, automated systems) is estimated to be up to 300%. In non-profit organizations, the effect is manifested in a higher quality, including with fewer losses, in achieving goals.

The work on proving the hypothesis formulated in the study was carried out by solving the following tasks:

- analysis of internationally recognized standards, guidelines, and methodological approaches to risk management for the purpose of assessing their applicability to the research object;
- cross-sectoral analysis of the approaches to risk management applied in Russia to various

[5] Isorobot. Enterprise Risk Management In 2024: A Statistical Analysis of Emerging Trends. URL: https://isorobot.io/blog/enterprise-risk-management-in-2024-a-statistical-analysis-of-emerging-trends.

entities related to the stock market, with the aim of identifying patterns;

• development (adjustment) of a methodological approach to the development of a risk management system for the development of the Russian stock market;

• approbation of the methodological approach for its effectiveness using one of the risks as an example.

The scientific novelty of the developed approach lies in the following:

• the combination of different levels of risk management (market level and risk owners' level);

• cross-sectoral coordination of risks among different risk owners.

No similar developments were found in the scientific and economic literature during the research, which determines the scientific and practical value of its results.

MATERIALS AND METHODS OF RESEARCH

The informational basis of the work was provided by the results of an independent study conducted in 2024 as part of the implementation of the state assignment from the Government of Russia to the Financial University on the topic «Stimulating the inflow of investments into the Russian securities market and its development based on the protection of investors' rights and risk reduction in the context of national financial security», works by domestic and foreign scholars, internationally recognized standards and guidelines for risk management, and other information from open sources, including websites of relevant international organizations, the Bank of Russia, Rosfinmonitoring, Moscow Exchange, Deposit Insurance Agency, Analytical Center under the Government of Russia, and others.

The study of contemporary foreign and domestic scientific thought in the field of risk management in the securities market has shown that researchers mainly focus on practical issues that have been relevant in recent years. In particular, T. Tang [2] studies the impact of the coronavirus epidemic on the functioning of the stock market and risk management within it. E. Kilic and S. Sonmezer [3] analyze the interconnections between the financial regulator's interest rate decisions (using the example of the U. S. Federal Reserve System), liquidity provision mechanisms, and risk management issues in the stock market. A. Samimi, M. Samimi, and A. Bozorgian [4] address current issues in risk management for retail investors in the stock market. Y. Zhang, J. He, M. He, and S. Li [5] investigate the impact of geopolitics on stock market stability. B. Musholombo [6] studies the interconnection of shocks in the cryptocurrency market and the stock market. P. V. Klimova [7] examines the management of market risks in the stock market under conditions of globalization. I. Yu. Vygodchikova [8] focuses on the development of a decision-making model for transactions in the stock market, allowing for the assessment of investment risks taking into account volatility.

The well-known events of recent years related to market stability and investor protection have not gone unnoticed by researchers. In particular, T. Adrian, N. Abbas, S. L. Ramirez, and G. F. Dionis [9] assess the impact of the regional bank crisis in the U.S. in March 2023 on the stock market and overall financial stability. J. Guo, L. Liu, and Y. Tang [10] investigate the dependence of the Chinese stock market on trade disputes between China and the United States. A. Aloosh, H. Choi, and S. Ouzan [11] study the impact of manipulations with so-called meme stocks on the U.S. stock market. (meme stocks). M. Kang [12] examines the issue of insider trading in the stock market.

Great attention from researchers around the world is also drawn to the issues of risks and returns of investing in the rapidly growing stock markets of developing countries. For example, N. Li, C. Wei, and L. Zhang [13] conduct a factor analysis of returns on the Indonesian stock market, which, according to indices from

Morgan Stanley Capital International (MSCI),[6] has shown growth exceeding that of the group of developing countries as a whole since 2020. S.R. Mitragotri and N. Patel [14] focus on low-risk investment rules in the stock market of another rapidly growing Asian country — India.

The expected specificity of contemporary domestic scientific literature has been a large number of publications dedicated to the issues of risks in the Russian stock market under sanctions. In particular, A.P. Garnov, E.V. Afanasyev, and N.P. Tishkina [15] examine changes in market functioning under sanctions. D.D. Nakostik [16] emphasizes the increase in cases of unfair practices. A.A. Bortnik and E.V. Travkina [17] examine specific risks that hinder the development of the Russian market. M.V. Luneva [18] examines processes and phenomena in the stock market under conditions of uncertainty. A.G. Zinovyev, I.N. Dubina, and P.I. Kuzmin [19] study the correlations of stock indices of sanctioning countries and the countries affected by them in the context of systemic risks. K.O. Ternavshchenko, E.V. Lehman, and E.A. Podieva [20] focus on identifying the main threats and determining key directions for the development of the stock market in conditions of geopolitical instability.

Regarding the issues of risk management methodology in the stock market, relevant subject studies, although available, are not numerous either in Russia or abroad. This circumstance can be explained, on the one hand, by the fact that the issues of methodology for managing classical types of risks, primarily financial ones, have long been developed. On the other hand, the development of an effective methodology concerning specific objects and circumstances requires practical experience in the relevant field.

As noted in the scientific work of V.P. Goreglyad [1], the theory of risks as an independent established scientific discipline is virtually nonexistent. The so-called riskology only covers individual issues. The well-known scientific studies on risks by such scholars as Fermat, Bernoulli, Pascal, and others were mainly dictated by practical needs and were situated within the realm of applied disciplines (physics, mathematics, cybernetics, etc.). One cannot disagree with the author that the specific risk management methodologies required in practice should not be developed in isolation from the specific circumstances to which they are intended to be applied.

The development of a methodological approach to the risk management system for the development of the Russian stock market, with a large number of stakeholders involved and the specifics of their operational context, is no exception. Therefore, in its development, alongside the use of generally accepted international standards, special attention is paid to studying practical approaches to risk management of various organizations (both foreign and domestic). The practical experience of the author was also utilized.

Various scientific methods were used in the study, including analysis and synthesis, classification, induction, and deduction.

RESULTS AND DISCUSSION

In studying foreign practices in open sources, no information was found about systematic methodological approaches that simultaneously address market stability, its development, and ensuring trust in the market, while combining both macro and micro levels of risk management. Various risk maps and matrices typically focus on specific issues at the level of the global economy/region (for example, the Global Financial Stability Risks Map[7]) or serve as indicative tools for investors (for example, the Control Risks map[8]).

[6] MSCI. Emerging Markets Indexes. URL: https://www.msci.com/our-solutions/indexes/emerging-markets (accessed on 18.05.2024).

[7] IMF. URL: https://www.imf.org/~/media/Websites/IMF/imported-flagship-issues/external/pubs/ft/GFSR/2008/02/c1/_figure11pdf.ashx (accessed on 21.05.2024).

[8] Control Risks.— URL: https://www.controlrisks.com/riskmap/maps (accessed on 1.05.2024).

Table 1

Key Internationally Recognized Risk Management Standards and Guidelines

Organization	Standards (guidelines)
International Organization for Standardization (ISO)	31000: "Risk management — Principles and Guidelines" 31010: "Risk management — Risk assessment techniques"
Committee of Sponsoring Organizations of the Treadway Commission (COSO)	"Enterprise Risk Management — Integrated Framework" "Enterprise Risk Management — Integrating with Strategy and Performance" "Risk Assessment in Practice" "Understanding and Communicating Risk Appetite"
His Majesty's (HM) Treasury	"The Orange Book Management of Risk — Principles and Concepts" "Risk Management Assessment Framework: a tool for departments"
Institute of Risk Management (IRM)	"A Risk management standard" "Risk Appetite & Tolerance Executive Summary" "A structured approach to Enterprise Risk Management (ERM) and the requirements of ISO 31000"

Source: Compiled by the authors.

The European financial markets regulator ESMA[9] conducts an investor-oriented assessment of financial market risks, taking into account their current sources. The FATF[10] group emphasizes identifying vulnerabilities in national financial systems to risks related to anti-money laundering and counter-terrorism financing (AML/CFT). IOSCO,[11] specializing in the development of standards for securities market regulation, focuses on risks to market stability.

The analysis of key standards and practical guidelines for risk management (*Table 1*) showed that, although their knowledge is undoubtedly necessary for building any risk management system due to the foundation they provide, they are predominantly focused on corporate governance tasks, which is insufficient to achieve the research objective.

The analysis of Russian risk management practices concerning entities related to the national securities market has shown that advanced standards and practices have been integrated into the daily operations of many agencies and organizations, including the Bank of Russia,[12] the Deposit Insurance Agency,[13] VEB,[14] structures of the Government of Russia,[15] trade organizers,[16] professional securities market participants,[17] the national payment system,[18] the anti-money laundering

[9] European Securities and Markets Authority.

[10] Financial Action Task Force on Money Laundering.

[11] International Organization of Securities Commissions.

[12] See the Risk Management Policy of the Bank of Russia and the annual reports of the Bank of Russia, posted on the regulator's website. URL: www.cbr.ru.

[13] See the Risk Assessment Methodology of the Deposit Insurance Agency (DIA), approved by the Agency's Board of Directors on 04.09.2017 (protocol No. 107) and the annual reports of the DIA, posted on the DIA website. URL: www.asv.org.ru.

[14] See the information on risk management in VEB posted on the VEB website. URL: www.csr2014.veb.ru.

[15] See, for example, the information on risk management issues posted on the website of the Analytical Center under the Government of Russia. URL: www.ac.gov.ru.

[16] See, for example, the Rules for Managing Risks Associated with the Activities of a Trading Organizer and a Digital Financial Asset Exchange Operator, and the annual reports of the Moscow Exchange, published on the Moscow Exchange website. URL: www.moex.com.

[17] See the information on risk management posted on the websites of Professional Participants in the Securities Market.

[18] See, for example, the Bank of Russia Regulation dated 27.10.2020 No. 738 "On the Procedure for Ensuring the Continuous Operation of the Bank of Russia Payment System".

and counter-terrorism financing system[19] and others.

The relevant systems are focused on risk management at the corporate level or in relation to systems performing individual functions related to the operation of the stock market, which does not fully cover the purpose of the research.

At the same time, the results of the analysis allowed for important conclusions relevant to the research objectives. Firstly, all the examined systems have the same classical elements that comply with international standards, including a cyclical process algorithm, similar terminology, classification, and a set of applied procedures, tools, and methods.

Secondly, the configuration of risk management system elements in each specific case directly depends on the objectives of the object's functioning, its profile, and the scale of its activities.

Thus, the attention of commercial organizations is focused on risks to financial results and the feasibility of conducting activities in principle. Therefore, the risks that are primarily recognized as significant are those associated with substantial financial losses and non-compliance with regulatory requirements (compliance risks). This circumstance also necessitates the application of procedures, tools, and risk management methods appropriate for this type of risk, where various databases and mathematical models play a significant role.

In the case of entities that primarily have socially significant objectives, where profit extraction is either not the goal of the activity at all or is secondary to state tasks, which also applies to the object of this study, the main focus in risk management is on the quality and timeliness of the processes aimed at achieving these objectives. This determines the operational nature of significant risks and the focus on expert procedures, tools, and methods for managing them. Examples of such risk management entities include the Bank of Russia, the structures of the Government of Russia, the Deposit Insurance Agency, VEB, the National Payment System, the anti-money laundering and counter-terrorism financing system, and others.

In entities whose functioning is associated with market stability issues, risks in the area of business continuity (BC) and the corresponding methodologies and tools (including scenario analysis, BC plans) become of great importance, which is relevant for systemically important credit organizations and professional participants in the securities market,[20] trading organizers, part of the functions of the Bank of Russia, and others.

In the event that the operation of the facility is related to risk management for the execution of important projects, the project risk management methodology is applied, and risk management itself is integrated into the project management system, which is the case at the Analytical Center under the Government of Russia and partially in a number of large agencies and organizations, including the Bank of Russia.

Taking into account the above, it becomes evident that the risk management system for the development of the Russian stock market, considering the stated socially significant goal (market development), will tend towards more operational and expert systems aimed at proactive management of risks associated with improper process execution. Issues of HSE and project management in this system will also be relevant given the importance of

[19] See the Public Reports on the National Risk Assessment of the legalization (laundering) of proceeds of crime and the financing of terrorism, as well as the Sectoral Risk Assessment Reports, posted on the Rosfinmonitoring website. URL: www.fedsfm.ru.

[20] See, for example, the Bank of Russia Guidelines dated 21.08.2017 No. 4501 "On the requirements for the organization of professional participants in the securities market for risk management systems related to professional activities in the securities market and operations with their own assets, depending on the type of activity and the nature of the transactions" and dated 15.04.2015 No. 3624 "On the requirements for the risk and capital management system of a credit institution and a banking group".

ensuring financial stability and implementing comprehensive projects.

At the same time, adjustments to the basic parameters of the risk management system, dictated by the specifics of the research object, will take place during the execution of almost every classic process in the risk management cycle, which will be discussed further.

THE FIRST PROCESS IS RISK IDENTIFICATION

At this stage, out of the multitude of risks for the development of the Russian stock market, it is necessary to identify the significant ones — those that actually warrant the expenditure of resources for their management. In accordance with international risk management practices, significant risks are those that simultaneously meet two criteria:

1) the realization of risks is associated with noticeable negative consequences for achieving the objectives of the entity;

2) the risks can indeed materialize, taking into account the existing sources of risks and vulnerabilities in the activities, meaning they are not abstract but rather quite real events in the current conditions, albeit possibly with a low probability of occurrence.

If the second criterion can generally be considered universal for various objects (it makes sense to manage only what is real), then the first is adjusted to the object's goals by determining a list of high-level consequences when realizing risks that negatively affect the achievement of goals. All possible events that could lead to the occurrence of the specified negative consequences are included in the system's perimeter as significant risks.

At the same time, the identification of significant risks for the development of the Russian stock market should, in accordance with international practice, begin with the first criterion — first, the range of possible events (risks) that truly pose a danger to the object as a whole (associated with the identified negative consequences) and on which it makes sense to spend resources is determined, and then the reality of these events is assessed taking into account the existing sources of risks and vulnerabilities. A detailed analysis of risk sources will be important at the risk assessment stage (probability level) and critical at the stage of developing response measures, as the measures are directed at specific sources (as well as at consequences).

The correct identification of the list of relevant consequences is critical, as the effectiveness of the entire system depends on it, including the cost-benefit ratio of its functioning. In practice, one to four relatively independent consequences are usually identified, which allows, on the one hand, not to overlook important consequences, and on the other hand, not to complicate risk identification.

In commercial organizations, the corresponding negative consequences primarily include financial losses (with the possible establishment of a significance threshold). All relevant events are included in the management perimeter, and their occurrence is recorded in databases with loss documentation. Significant importance is also given to damage to business reputation, but again through its impact on financial results.

In organizations and systems with socially significant (governmental) objectives, as previously noted, the focus is shifted towards operational activities — ensuring the proper execution of functions. Damage to business reputation and financial losses are also often highlighted as separate negative consequences, but they have a lower priority (significance).

As part of the methodological approach to developing a risk management system that hinders the development of the national stock market, for the purpose of identifying significant risks, it is proposed to define the following high-level negative consequences:

1) failure to ensure the expected contribution of the stock market to the transformation and development of the economy (non-fulfillment of assignments, guidelines, roadmaps, directions,

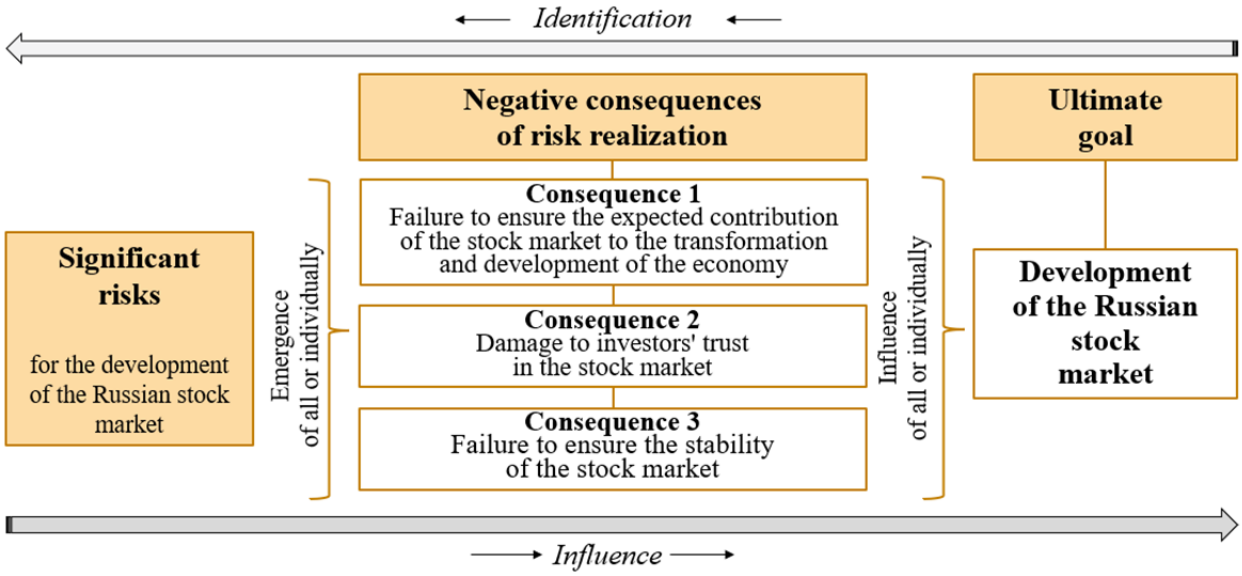

Fig. 1. **Proposals for a List of Top-Level Negative Consequences to Identify Risks for the Development of the Russian Stock Market**

Source: Compiled by the authors.

programs/projects aimed at the stock market by higher authorities for this purpose[21]);

2) damage to investors' trust in the stock market, without which market development is unlikely, is similar to damage to business reputation in the case of commercial organizations;

3) failure to ensure the stability of the stock market, without which not only development but also the functioning of the market is impossible.

The above proposals are schematically presented in *Fig. 1*.

Additionally, the scope of identifying significant risks for the development of the stock market may include potential financial losses/inefficient expenditures. But they are unlikely to be decisive given the priority of ensuring market development. It is a well-known fact that when it is necessary to ensure market stability (without which its development is impossible), the regulator can, for example, reduce collateral requirements within the framework of refinancing and even issue unsecured loans. The presence of negative capital among regulators in international practice is not unusual. Moreover, the subsequent assessment of the effectiveness/ineffectiveness of expenditures on achieving set objectives or ensuring market stability is highly subjective.

If any financial losses, regardless of the type of risk, are capable of leading to the aforementioned negative consequences, hindering the achievement of the ultimate goal (market development), the corresponding risks will fall within the scope of the methodological approach due to the presence of the specified consequences.

Financial risks are risks of financial losses that may arise from owning financial assets and conducting transactions with financial instruments (credit and market risks, liquidity risks).[22] Like any other type of risks, they can also directly fall within the system's perimeter when it is built based on the proposed approach, regardless of the type of risk owner (government, private investors, or others). In the event that, for example, state structures make errors in

[21] Taking into account the Strategy for the Development of the Financial Market of the Russian Federation until 2030 (URL: https://insurancebroker.ru/f/strategiya_2030_utverzhdennaya_29122022.pdf) and the Main Directions for the Development of the Financial Market of the Russian Federation for 2024 and the Period of 2025 and 2026 (URL: https://www.cbr.ru/about_br/publ/onfinmarket).

[22] Classification of the Bank of Russia: Risk Management Policy of the Bank of Russia. URL: https://cbr.ru/Content/Document/File/36486/policy.pdf.

managing their financial risks while conducting operations with financial assets (instruments) on the stock market, which due to the resulting effects undermine investor confidence in the market as a whole or disrupt market stability, such risks must be identified within the framework of the system.

In the event that financial risks consciously accepted by investors (including private ones) are limited to damage to themselves, they should not be identified as significant in relation to the market, but such risks will be within the system's perimeter in the context of analyzing and managing the associated risks for market development. For example, the risk of failing to protect investors' rights, which directly leads to difficulties in achieving the market development goal through the consequence of damaging investors' trust, may be associated with investors taking on increased financial risks due to financial intermediaries imposing their services on them, the insufficient effectiveness of the qualified investor institution, and other reasons. Relevant aspects should be taken into account when managing regulatory risk (response measures should be directed at them).

Thus, the type of risks is not important for the purposes of identifying significant risks for market development; the determining factor will be the possibility of the specified consequences when realizing the risks. At the same time, despite the expected predominance of operational risks, other types of risks can also lead to the specified consequences. Differences in types of risks will be important at the stage of responding to them due to differences in risk management methods, as well as for analytical purposes.

As an example of a significant risk negatively affecting the development of the stock market due to its insufficient contribution to the transformation and development of the economy (the first type of consequences), one can cite the risk of failing to fulfill the instruction of the President of Russia to achieve a stock market capitalization level equal to 66% of GDP by 2030. It is also advisable to establish key risk indicators (KRI) for this risk, which, depending on the progress of activities aimed at fulfilling the specified directive, will characterize the vulnerabilities to its realization and, accordingly, the likelihood of its realization and the level of possible consequences under current conditions.

An example of a significant risk hindering the development of the stock market due to damage to investor trust could be the risk of

Table 2

The Proposed Scale for Assessing the Likelihood of Risks for the Development of the Russian Stock Market

Grade	Description
1	"Extremely unlikely" / Very low level
2	"Unlikely" / Low lev
3	"Quite likely" / Medium level
4	"Very likely" / High level
5	"Almost certain" / Very high level

Source: Compiled by the authors.

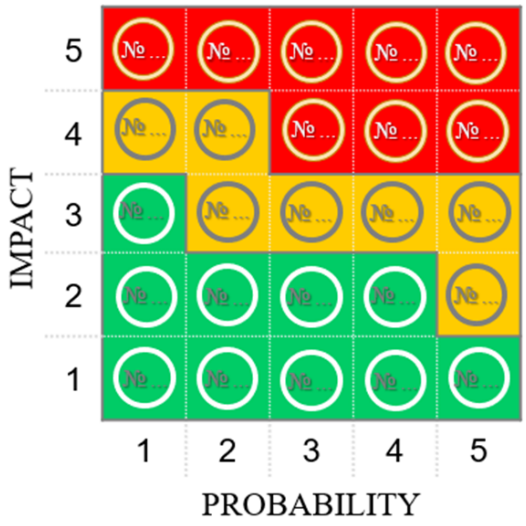

Fig. 2. **Proposed Map for Risks for the Development of the Russian Stock Market**

Source: Compiled by the authors.

Table 3

The Proposed Scale for Assessing the Impact of Risks for the Development of the Russian Stock Market

Impact grade	Failure to deliver expected contribution to the transformation and development of the economy	Damage to investor confidence			Failure to ensure stock market stability
		Impact duration	Trust in the source and the severity of judgment	Scale of event coverage	
5 — very strong	Failure (improper) to perform all or part of the tasks	More than 10 years, the canonization of the event	A series of negative trust-inspiring statements, comments are needed	A multitude of well-known media, a large number of complaints and appeals	Unforeseen suspension/ disruption of market functions for more than a few days
4 — strong	Delays in completing key tasks, significant decline in quality of execution	From 5 to 10 years	Individual negative trust-inspiring statements, comments are necessary	Certain well-known media, a large number of complaints and appeals	Unforeseen suspension/ disruption of market functions for a period of one to several days
3 — medium	Significant difficulties in performing key tasks	From 1 year to 5 years	A series of credible negative statements	Regional/ thematic media, a number of complaints and appeals	Periodic and significant disruptions in work
2 — low	Significant difficulties in completing tasks that can negatively impact other important actions within their execution	From 6 months to 1 year	Separate credible negative statements	Regional/ specialized media, individual complaints and appeals	Individual noticeable disruptions in work, of a temporary nature
1 —insignificant	Difficulties in performing individual actions	Less than 6 months	Separate untrustworthy negative statements	Lesser-known media	Short-term individual interruptions in work

Source: Compiled by the authors.

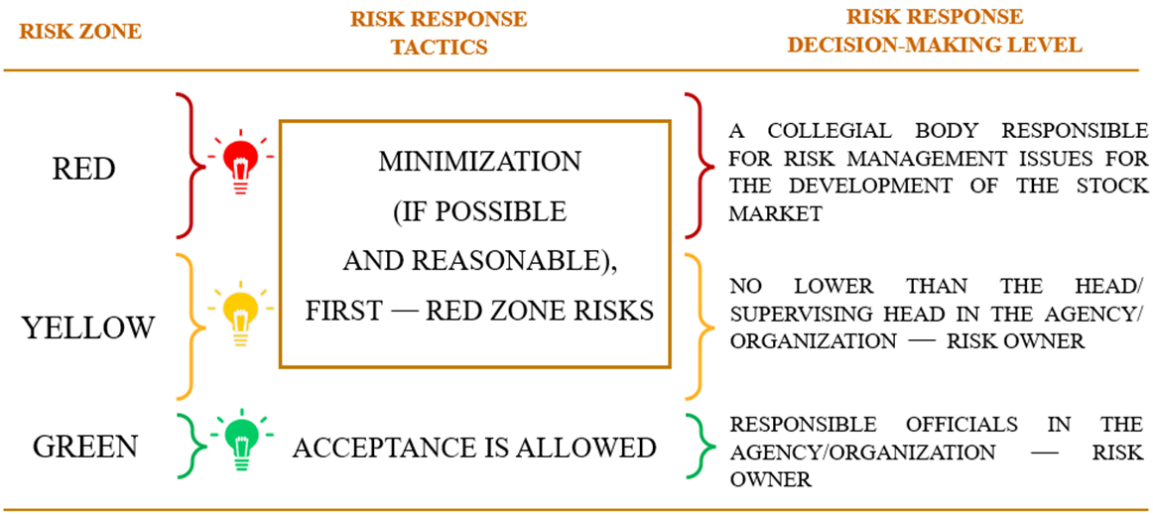

Fig. 3. **Proposals for Adjusting Risk Appetite to Address Risks for the Development of the Russian Stock Market**

Source: Compiled by the authors.

investor losses resulting from the use of insider information in the market. It is also advisable to manage this risk proactively by establishing Key Risk Indicators (KRIs) that characterize the scale of the relevant phenomena and the vulnerability to risk.

Risks that can negatively impact the development of the stock market due to the lack of market stability include, for example, prolonged unforeseen trading halts or disruptions in the uninterrupted functioning of the payment infrastructure. These risks, considering the high severity of the potential consequences from their realization, are obviously already being managed (at least by the Bank of Russia and Moscow Exchange) using various risk management measures.

The task of identifying macro-level risks should be addressed within a collegial body that includes representatives from key parties (at a minimum, the Bank of Russia, the Government of Russia, and Moscow Exchange).

THE SECOND PROCESS IS RISK ASSESSMENT

After compiling a list of significant risks for the development of the stock market at the macro level (market level), it is necessary, considering the limited resources of specialized agencies and organizations for managing them, to rank the risks by significance. For this, it is no longer enough to simply assess whether the risk is real and whether its consequences can be considered significant in principle; it is necessary to evaluate the level (degree) of probability of the risk materializing and the possible consequences (respectively).

The methodology for risk assessment is directly related to the key negative consequences for the respective object and the profile of its activities. In organizations where financial losses are of primary importance, databases on losses, scenario analysis, various tests, and mathematical models are used to assess both the probability and impact of risk, with gradations in the form of financial thresholds, etc.

In objects where the key negative consequence is improper performance of functionality, which is the case for the object of study, risk assessment is generally carried out using predominantly expert methods, including various scales describing different levels of probability and impact. The application of mathematical models is possible with the accumulation of the necessary statistics, but they are quite simple, mainly taking into account the number and frequency of risk events.

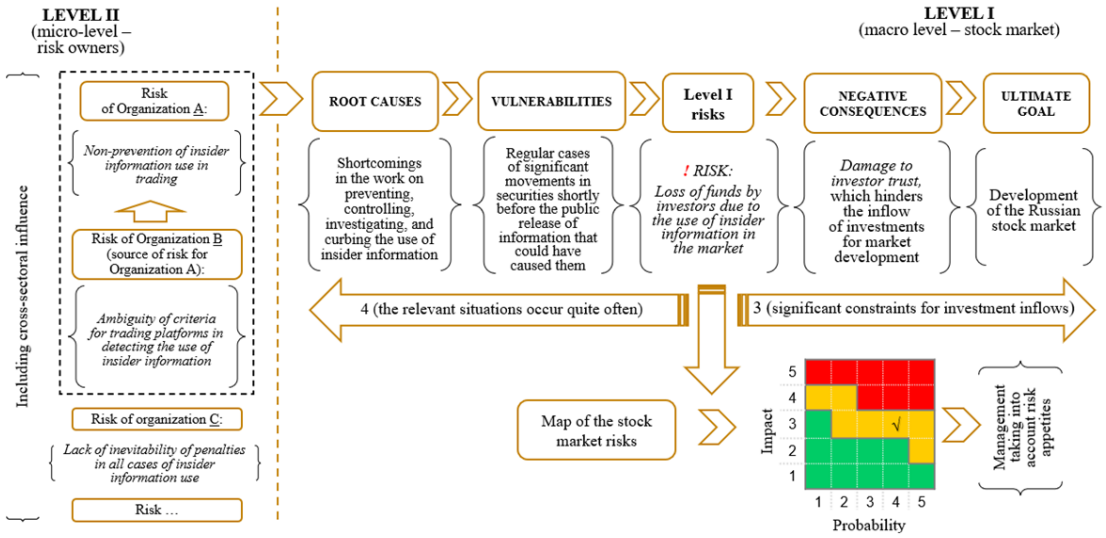

Fig. 4. **Methodical Approach to Developing a Risk Management System of Risks for the Development of the Russian Stock Market with a Practical Example**

Source: Compiled by the authors.

The most commonly used scales in international practice for assessing both probability and impact are 5-point scales. The uniformity in both criteria allows for the subsequent formation of a risk map. For the object of the present study, it is proposed to use a generally universal scale, as presented in *Table 2*.

Unlike the risk probability assessment scale, the risk impact assessment scale requires the adjustment of impact level (degree) descriptions for each negative consequence relevant to the risk management object. Proposals regarding the object of study are presented in *Table 3*.

The overall impact assessment, considering that the risk can receive different evaluations for different types of consequences, is proposed to be assigned according to the most common conservative scenario (based on the highest value). The final assessment of each significant risk will represent a combination of "Probability × Impact" (for example, 2 × 5, 1 × 4, etc.).

As a result of the assessment conducted according to unified rules, all significant risks can be placed on a common risk map for all involved parties, which will serve as a managerial guideline for prioritizing subsequent risk responses. For this purpose, heat maps are generally used, divided into risk zones depending on their level. When assessing risks on a 5-point scale, the risk map for market development will look as shown in *Fig. 2*.

The specific procedure for risk assessment for the development of the Russian stock market will also be characterized by the fact that adequately assessing the level of risks at the macro level, as well as subsequently managing them effectively, is impossible without their decomposition to the level of departments and organizations in cases where deficiencies in their area of responsibility are actually the root causes of macro-level risks. In particular, it is impossible to accurately assess the likelihood of the realization of macro-level residual risk[23] without knowing the vulnerabilities and control environment in the processes of the relevant departments and organizations. This statement will also be valid regarding impact assessment, as different root causes can lead to different consequences both in composition and level.

To carry out the work on assessing micro-level risks and aligning them with macro-level risks, it will be necessary to identify an authority that would coordinate this work — among the bodies most closely related to this issue due to their functional responsibilities and existing

[23] Residual risk is the risk taking into account the action of the control environment (response measures), for which further management measures are already being applied in practice.

competencies regarding the securities market. тенций в отношении фондового рынка.

THE THIRD PROCESS IS RISK RESPONSE

In international risk management practice, risk appetite (risk tolerance) is used when making decisions on risk response, which allows resources to be concentrated on the most significant risks. If for commercial organizations this indicator is usually expressed in financial terms, then in management objects with non-commercial goals, this issue is often resolved by establishing tactics and decision-making levels for risks in various zones on the risk map. The adjustment of risk appetite applicable to the object of study is presented in *Fig. 3*.

Regarding the direct management of risks, taking into account their frequent mutual influence (the risks of one agency/organization often cause risks for others) and, accordingly, the possible jurisdiction of the risks themselves and the issues of responding to them by different agencies/organizations, the developed methodological approach proposes cross-sectoral coordination of risks with each other. For example, the organizer of the trading platform is unlikely to be able to effectively combat the risk of investor losses due to the use of insider information in the trades (the realization of which at the macro level can lead to damage to investor trust) if the necessary criteria for this are not clearly defined outside the organizer's area of responsibility.[24]

The response measures themselves, taking into account the operational/qualitative nature of the main risks for the development of the Russian stock market, will also primarily be of an operational/qualitative nature, corresponding to this type of risk (implementation of activities, regulation of procedures, measures in the area of personnel management, etc.).

At the same time, within the scope of the proposed system, there will also be special response measures aimed at specific risks — such as measures in the field of occupational health and safety regarding risks whose consequence is market instability. The methodology for managing project risks will be relevant for activities carried out in a project format. In the case of identifying financial risks (credit, market, liquidity), it is evident that classic measures for managing these risks can be applied.

THE FOURTH PROCESS IS MONITORING AND REPORT PREPARATION

No specific settings in this process regarding classical tools and their application order are observed by the authors. Specific settings will be determined by the needs of the system participants and outlined in the detailed methodology.

An important aspect of this process will be the inclusion of a periodic independent audit of the system's effectiveness in the monitoring perimeter for the functioning of the risk management system. At the same time, commercial entities should not be involved in the execution of this procedure, considering the possible sensitivity of information about risks and risk events in the current conditions.

The general scheme of the methodological approach to developing a risk management system for the development of the Russian stock market, recommended for implementation by relevant state bodies (primarily the Bank of Russia and the Government of Russia), is presented in *Fig. 4*. As a trial demonstrating the applicability of the approach, the figure presents an example of identifying and assessing one of the macro-level risks.[25]

In particular, when identifying significant macro-level risks, the list should include, alongside other risks, the risk of investors losing funds due to the use of insider information in

[24] Example — conditional, may not align with the opinions of the direct risk owners. Provided solely for the demonstration of the methodology.

[25] The risk data is provided solely to demonstrate the functionality of the approach and may differ from the positions of the direct risk owners. Moreover, in practice, the formulation of the risk is adjusted by the risk owners in such a way that it is unequivocally clear which event is being referred to, including for the purposes of recording risk events, meaning it can also be specified.

the market, as its realization may lead to one of the identified consequences that hinder market development — damage to investor trust. Regarding this risk, it will be extremely difficult to document its realization, including due to legal peculiarities, but identifying the risk is necessary for proactive management.

When assessing macro risk using the proposed scales, the level of consequences and the level of probability of risk realization are determined through expert evaluation (using available statistics). At the same time, the main sources and vulnerabilities of the risk are identified for the probability assessment. The likelihood of risk realization can be indicated by vulnerabilities, such as the scale of relevant market phenomena, which can be monitored, including quantitatively using KPI. As sources of risks, possible deficiencies (unresolved issues) in the activities of system entities, for which they are responsible, will be considered. For these entities, the corresponding aspects will act as risks that need to be managed. The external nature of the macro-risk source relative to the system will not be a reason for not decomposing it to the level of risk owners, as appropriate events also need to be prepared for.

The sources of the considered macro risk at the micro level can theoretically be: the failure of trading organizers to prevent cases of insider information use in trading, the ambiguity of the criteria for the use of insider information established by the relevant authority (which specific actions should be considered as insider information use), and the lack of inevitability of penalties for such facts. At the same time, the first reason may be due to the second, falling under the jurisdiction of another agency (organization).

As a result of discussing all key root causes of risk and vulnerabilities to them, taking into account the presence and effectiveness of the existing control environment, conducted with the participation of stakeholders (during the RCSA[26]procedure), an assessment of the probability of the macro risk will be given, which in combination with the assessment of consequences will allow obtaining the final risk assessment and placing it on the overall risk map for the development of the stock market, in our example — with an assessment of 3×4.

Next, taking into account the accepted risk appetite at the appropriate managerial level, the method of responding to the risk is determined; in our example, it is minimization (if feasible and appropriate).

Risk response will be carried out at the micro level by departments and organizations that are responsible for the root causes of macro-level risks. For them, these causes are separate risks subject to classical risk management processes, including response and monitoring. For the first two macro-risk causes, which are interrelated micro-level risks, it will be necessary to coordinate measures with the risk owners.

Only by decomposing the considered macro-level risk into its causes, which will be treated as separate micro-level risks with their cross-functional alignment and the application of management measures, will it be possible to achieve high manageability of the macro risk.

CONCLUSION

Based on the research results, an author's methodological approach to the development of a risk management system for the development of the Russian stock market has been proposed, taking into account the specifics of both the risk management object itself and the set goal (market development) in its basic settings. Within the framework of the methodological approach, the integration of two levels of risk management has been implemented (risks of the market as a whole and the risks that condition them at the level of direct risk owners — specialized agencies and organizations) and cross-sectoral risk coordination (considering that the risks of one agency/organization can be the cause of risks in others).

The conducted testing of the methodological approach on one of the risks indicates the possibility of its application. Considering the similarity in many aspects of goals, infrastructure, and participants between the

[26] Risk and Control Self-Assessment.

stock market and the financial market as a whole, the proposed approach can be scaled up to the level of the financial market if necessary.

The expected benefit of implementing a methodological approach is ultimately the increase in the stock market's contribution to the development of the national economy through the development and implementation of a systematic approach to risk management for the development of the stock market.

To implement the methodological approach, it will be necessary to determine the agency responsible for coordinating the work, as well as to create (define) an interdepartmental collegial body for discussing current issues and making decisions, which should include key system participants, including the Bank of Russia, the structures of the Government of Russia, and Moscow Exchange.

The main challenges for implementing the approach will be the difficulty of reconciling the interests of a range of involved parties and the need to ensure a balance between the costs and benefits of applying the approach.

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