



The analysis of methodological integrity in the operational risk management of modern banks

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Abstract

The aim of the article is to study the importance of maintaining methodological integrity in the operational risk management framework in Russian credit institutions. To reach the goal, an analysis of practical approaches to operational risk management is carried out, opportunities for optimising equity capital are presented. The major needs the credit institutions will face due to the transition of operational risk calculation to a new standardised approach are analysed. The significance of a systematic approach in operational risk management applied by credit institutions is determined.

The paper systematises modern factors that influence operational risk management, and applies the author’s approach to calculating operational risk exposure indicators. The author’s approach is based on an item-by-item analysing the ratio of the amount of operational risk losses to the amount of expenses for applying operational risk management methods.

The scientific novelty of the research consists of highlighting the main practical approaches to managing bank risks in the context of digitalisation and development of financial technologies.

The article formulates key trends in operational risk management in commercial banks and presents ways to solve problems caused by the use of operational risk management methods that will improve methodological process of bank risk management. The practical significance of the article is to reflect the need and importance of adequate methodological process of banking risk management and the presentation of practical recommendations aimed at improving the quality of the risk management system and risk culture in general. It can be applied in the work of risk management department and internal control department.

Keywords: credit institutions, methodological integrity, operational risks, operational risk exposure, banking risk management system.

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管理现代银行运营风险的方法完整性保证之分析

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摘要

这篇文章的目标是调查在俄罗斯信贷机构运营风险管理的方法完整性保证之重要性。为了实现这一目标对营风风险管理的实际方法进行了分析，以及提出了自己资本的优化机会。分析了信贷机构在向新的标准化方法下的运营风险计算过渡的过程中会面临的主要需求。信贷机构采取系统的运营风险管理方法的重要性已确定。

使当前影响营运风险管理的因素系统化。作者运用了自己的计算受到营运风险程度指标的方法，基于对营运风险损失与应用营运风险管理技术的成本的比率

的逐条分析。

这项研究的科学创新之处在于在经济数字化和金融技术发展的背景下确定了银行风险管理的主要实践方法。

本文阐述了商业银行营运风险管理过程中出现的关键问题，并提出了处理该问题用营运风险管理技术的方法，这将改善银行风险管理方法过程的组织。本文的实际意义在于它反映了充分提供管理银行风险的方法过程的需要。本文还还为提高风险管理系统和一般风险文化的质量提供了切实可行的建议，这些建议可适用于风险管理和内部控制部门。

关键词：信贷机构、方法完整性、营运风险、受到营运风险程度、银行风险管理制度。

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(俄文。)

Introduction

The use of financial technologies in the banking sector is accompanied by a high probability of various risks, in particular, operational risks. On 8 April 2010, the Central Bank of the Russian Federation (hereinafter referred to as the CBR) adopted Regulation No. 716-P 'On Requirements for the Operational Risk Management System in a Credit Institution and a Banking Group'. It expanded the definition of operational risk from the imperfection of internal banking business processes to the actions of personnel, failures and shortcomings of information, technological and other systems functioning in credit institutions.

As a result, the risk of information security and the risk of information systems have become one of the key components of operational risk. The creation of this regulatory document by the Central Bank of the Russian Federation made it possible to form an integrated approach to the management of operational risks. According to the author, it is a significant step in the implementation of a qualitative analysis of banking business processes and the current methodological support for the management of operational risks in terms of formalising or updating the tools used in the operational risk management process.

Methodological documents of banking risk management used by credit institutions are one of the key elements of the business process and strategic business model of the bank, aimed at ensuring high efficiency of decision-making in the hierarchical structure of risk management in banking.

Taking into account the close relationship between market and credit risks and operational risks that includes the cumulative negative impact of operational risks on banking risks in general and the criticality of incurring losses that affect the stability of a credit institution [Kuznetsova, 2012], the author of this paper focuses on the management of operational risks in Russian credit institutions. The relevance of the research topic lies in the intensification of the use

of financial technologies in the activities of commercial banks, the modernisation of banking business models and risk management models, the development of innovative methodological support for banking risk management in the context of digitalising the activities of credit institutions.

As the main method of reducing operational risk, Russian researchers highlight qualitative methodological justification presented in the form of approved internal rules and procedures for banking operations to minimise the likelihood of negative consequences of operational risk. It provides for setting limits for banking activities; separation of powers for ongoing operations; risk transfer to third parties; risk insurance; development of a system of measures to ensure the continuity and restoration of the activities of credit institutions [Ilyina, 2022].

The purpose of the study is to determine the importance of maintaining methodological integrity in the process of managing operational risks, to determine the adequacy of resources allocated by credit institutions for measures to improve methodological support in the process of managing operational risks.

The article focuses on credit institutions in the Russian Federation. The study aims to provide methodological support for the management of operational risk in commercial banks.

The author used the works of Russian scientists on the subject of banking risk management, in particular, operational risk. In addition, statistical and analytical data from the published financial statements of commercial banks, presented on the official website of the Central Bank of the Russian Federation, were used in the calculation part. The methodological basis of the study consisted of general scientific methods: analysis, synthesis, induction, deduction and generalisation of the obtained results.

The author carried out an item-by-item analysis of the ratio of operational risk losses to the amount of expenses allocated to their management for a group of credit institutions with a

basic licence and the largest amount of assets. The author's approach to the analysis of indicators made it possible to obtain a more structured picture of the measures taken by commercial banks to manage operational risks.

1. Description of the research methodology

This study is based on the analysis and evaluation of operational risk management in the banks of the Russian Federation in the following two directions.

The first direction is the analysis of the main practical approaches used by banks to calculate the amount of capital reserved for operational risk. The author provides analytical data on the compliance of credit institutions with the requirements and deadlines for implementation of the Regulation of the Central Bank of the Russian Federation dated 7 December 2020 No. 744-P. These are the results of a questionnaire survey conducted by the British auditing and consulting company Ernst & Young in cooperation with the Association of Banks of Russia.

The respondents to the survey were heads of risk management services of 52 commercial banks (of which 15% of banks were part of a foreign banking group).

The article highlights the main needs that credit institutions will face in the process of transition to compliance with the requirements of Regulation No. 744-P, such as ensuring the quality and availability of information data and other vulnerabilities.

The second direction is assessing the level of operational risk by conducting an analysis of operational risk exposure (an indicator of operational risk to equity), as well as taking into account the actual losses incurred by 15 commercial banks with a basic licence, selected by the largest amount of assets. The financial statements of credit institutions published on the official website of the Central Bank of the Russian Federation were used as information data. Among them are a balance sheet - form 0409806, a report on the level of capital adequacy to cover risks - form 0409808, information on mandatory ratios, financial leverage and short-term liquidity ratio for reporting periods - form 0409813 at the end of the following periods: 01.01.2019, 01.01.2020, 01.01.2021.

As part of the second direction, in order to analyse the trends in expenses allocated to the management of operational risks, the author analyses the main items in the balance sheet of the profit and loss account (form 0409102) related to the management of operational risks for three reporting years - 2019, 2020 and 2021. This makes it possible to assess how effective commercial banks are in financing operational risk management methods.

It is clear that credit institutions must give priority to maintaining the methodological integrity and relevance of internal bank risk management documents. In addition, the version of Regulation No. 716-P provides for the responsibility of commercial banks for the quality and mandatory management of information security risks and information

systems risks as the main components of operational risks that affect capital adequacy.

This study allows us to identify and systematise the main approaches of modern banks to risk management in the context of the development of financial technologies, as well as the main problems that arise in the process of managing banks' operational risks. The directions for solving the problems identified by the author due to the use of methods of operational risk management will improve the organisation of the methodological process in the practical activities of credit institutions.

2. Modern approaches to operational risk management in credit institutions

One of the first references to the need for operational risk management was made in Letter of the Central Bank of the Russian Federation dated 23 June 2004 No. 70-T 'On Typical Banking Risks' and Letter of the Central Bank of the Russian Federation dated 24 May 2005 No. 76-T 'On Organisation of Operational Risk Management in Credit Institutions'. The term 'operational risk' presented in these documents reveals its essence in full, and if we take into account the Regulation of the Central Bank of the Russian Federation No. 716-P 'On Requirements for the Operational Risk Management System in a Credit Institution', there is ambiguity as to which of the definitions of operational risk is the main one.

In the Regulation of the Central Bank of the Russian Federation No. 716-P, which came into force in 2020, the structure of operational risk was supplemented by the risk of information security and the risk of information systems, while previously operational risk included only legal risk. The study of problems caused by the identification of operational risk and its subsequent quantitative assessment was reflected in scientific works of previous years, for example, in [Filippov, 2015]. The author of this article concludes that the issue of operational risk identification remains relevant against the background of the growing role of financial technologies in the conduct of daily banking activities.

In the Regulation of the Central Bank of the Russian Federation No. 716-P, the supervisory authority determines the mandatory application of uniform requirements for the management of operational risk, in addition to creating favourable conditions for the timely identification of operational risks and the response of credit institutions to offset probable financial losses. The article concludes that important and significant work is being carried out by credit institutions to analyse current business processes and applicable methodological standards, as well as to develop modern management tools and to implement automated solutions as part of operational risk management. Nevertheless, it requires certain financial and time resources.

Having examined the approaches proposed by the Basel Committee on Banking Supervision for calculating the amount of capital reserved for operational risk, we can

identify the main shortcomings in the application of each of the three approaches:

1. When applying the basic indicative approach, researchers focus on a similar amount of operational risk with an equivalent return, including the absence of the need to form reserves for possible losses [Pokrovsky, 2011]. For his part, the author of this work notes that the estimated value of capital is overestimated in comparison with the current practical activities of a commercial bank due to the fact that the losses actually incurred by a credit institution are not taken into account.
2. When applying the standardised approach, the author shares the opinion of academics regarding the underestimation of the amount of capital required to cover operational risks. Some studies also focus on the accuracy of calculations obtained using this approach [Gushan, 2021]. They do not take into account the degree of control over operational risks that occurred in the previous reporting period [Pokrovsky, 2011; Kartukhin, 2015].
3. When applying the improved approach, Russian researchers noted certain difficulties caused by its cost and the need to use expert analysis as part of the continuous updating of the base of operational risk events, taking into account their qualitative characteristics due to the specificity of the bank's financial losses [Pokrovsky, 2011].

In [Manuilenko, 2011], which examines the approaches to calculating the capital allocated to operational risk proposed by the Basel Committee on Banking Supervision, it is emphasised that the values obtained in the calculations for all three approaches do not differ significantly.

In 2021, the Central Bank of the Russian Federation developed Regulation No. 744-P, according to which the amount of operational risk will be calculated according to a new standardised approach using the internal loss ratio. Compliance with this requirement will be mandatory from 1 January 2023 for credit institutions with a universal licence. At the same time commercial banks with a basic banking licence will have an option to perform calculations in accordance with the Decision of the Central Bank of the Russian Federation No. 744-P on the Implementation of the Calculation of Operational Risk in Accordance with Regulation of the Central Bank of the Russian Federation No. 744.

Ernst & Young audit and consulting company, together with the Association of Russian Banks, conducted a survey on the compliance of credit institutions with the requirements and deadlines for implementation of the Regulation of the Central Bank of the Russian Federation No. 744-P in 2021.

Heads of risk management departments of 52 credit institutions participated in the survey: 64% of them were private banks, 19% - banks with the share of state capital over 50%, 17% - with the share of foreign capital over 50%.

The shares of the studied commercial banks were distributed as follows: 27% - banks with assets over 750 billion roubles, 17% - banks with assets from 500 to 750 billion roubles, 22% - banks with assets from 50 to 500 billion roubles, 22% - banks with assets from 10 to 50 billion roubles and 12% - banks with assets not exceeding 10 billion roubles.

Based on the results of the questionnaire survey, 13% of credit institutions set the dates for the transition to the calculation of operational risk according to the New Approach as 2023-2025, for 30% of respondents the transition dates vary between 2025 and 2027. At the same time, 25% of respondents indicated that they do not plan to make the transition. 34% of credit institutions assessed the potential impact, of which 24% of credit institutions expect an additional effect on the amount of capital reserved for operational risk of up to 10%; 10% of credit institutions expect an additional optimisation effect of more than 10% [implementation of requirements 716-P., 2021]. The opportunities for banks to optimise their operational risk capital as a result of the introduction of new regulatory requirements are shown in Figure 1.

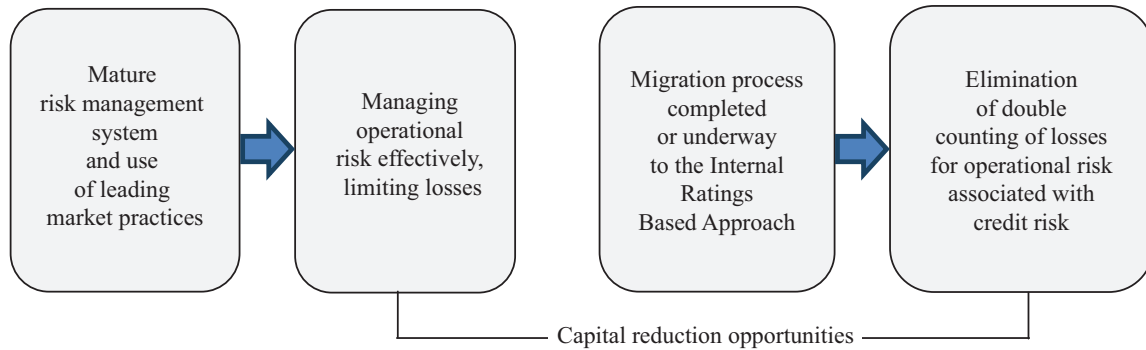
One of the main differences of the developed approach is the calculation of the capital required to cover operational risk based on the level of actual losses due to operational risks that have occurred. It is assumed that savings in the amount of capital required to cover operational risks are due to the calculation of the actual level of financial losses. In addition, the volatility of the calculation multiplier gives commercial banks more opportunities for capital management. It should be emphasised that the implementation of calculations according to this approach will allow medium and small credit institutions to reduce the burden on capital, including the capital buffer.

It is important to note the existence of certain types of problems that credit institutions will face in the process of implementing the requirements of Regulation No. 744-P, such as the completeness, reliability and timeliness of the information in the operational risk database (Fig. 2).

According to the results of a questionnaire survey, ensuring the quality and availability of information data is the most demanded by credit institutions with assets over 500 billion rubles when implementing the transition to a new standardised approach in the process of implementing the requirements of Regulation of the Central Bank of the Russian Federation No. 744-P. At the same time, credit institutions with assets of less than 100 billion roubles are most interested in providing quality accounting.

Summarising the results, we can emphasise the importance of applying a systematic approach by credit institutions in the process of managing operational risks, more precisely, in terms of initiating automation of the process of managing operational risks. This will improve the quality of the analysis of operational risk events, reduce the subsequent financial burden on the bank associated with the collection and systematisation of operational risk

Fig. 1. Opportunities for optimising equity capital for credit institutions according to new valuation standards



Source: compiled by the author on the basis of [Implementation of Requirements 716-P..., 2021].

information, and minimise or eliminate the occurrence of grey areas that contribute to the emergence of explicit and implicit operational risks.

Automated systems for the management of operational risks contribute to their qualitative and quantitative assessment, followed by the prompt extraction of information in order to respond in a timely manner at a given hierarchical management level. It should be noted, however, that unlike systemically important and large credit institutions, medium and small commercial banks, which directly include credit institutions with a basic licence, do not have the opportunity to acquire automated information systems.

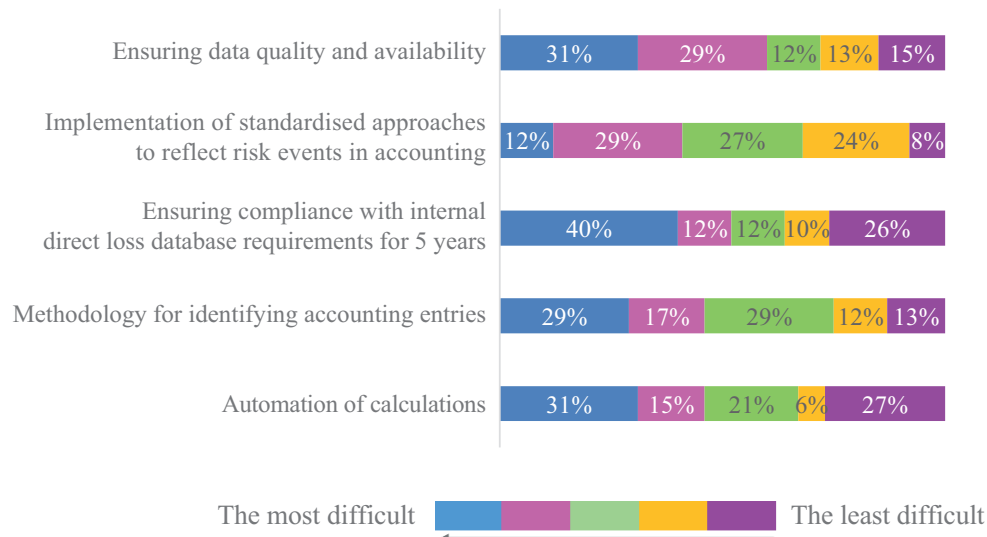
This study uses data from 15 credit institutions with a basic licence (by the largest amount of assets as of 1 January 2021), obtained from the official website of the Central Bank of the Russian Federation. Their selection is based on the fact that commercial banks with a basic licence in some cases have an adequate level of capital adequacy compared

to the minimum requirements of the Bank of Russia, and in other cases have a significant number of problems caused by external factors of market conditions. The high proportion of unprofitable banks with a basic licence, accompanied by low profitability and problems with capitalisation, indicates a fundamental weakness in the business models of banks [Economics and banks..., 2020].

It can be assumed that a certain degree of inefficiency of the operational risk management system, accompanied by a high level of financial losses due to operational risk events, is due to the inadequate strategic orientation of commercial banks to maintain positions in the financial market.

A similar study was conducted by I.A. Yankina and E.E. Debt for systemically important and large banks [Yankina, Dolgova, 2016]. It is necessary to emphasise the structure and practical significance of the methods used by these authors, while I would like to complement existing studies in the following aspects.

Fig. 2. The credit institutions' demands in implementing the Regulation of the Central Bank of the Russian Federation No 744-P



Source: compiled by the author on the basis of [Implementation of requirements 716-P..., 2021].

Let us first analyse the exposure of commercial banks with a basic licence to the operational risk of credit institutions (Table 1). The amount of operational risk is calculated using the basic indicative method. It is necessary to note certain limitations in the scope of the study due to the non-disclosure of financial statements of Russian commercial banks since March 2022.

A peculiarity of the analysis is that it uses the financial indicators of commercial banks as of 01.01.2021, which developed under the influence of the pandemic, international sanctions, the development of the digital economy and the introduction of financial technologies.

The exposure of the analysed credit institutions to operational risk is considered significant. In seven out of fifteen credit institutions, the ratio of operational risk to equity significantly exceeded the value of the economic standard CAR.

Statistical calculations confirm the idea about the imperfection of the applied basic indicative method of assessing operational risk, accompanied by inefficient management of operational risk [Sokolinskaya, Nikandrov,

2019], and the fact that in the context of improving financial indicators characterising the reliability of a bank's activities, operational risk increases when applying the basic assessment method.

Second, operational risk is measured in terms of financial losses actually incurred. In the column 'Operational risk (the ratio of operational risk costs to capital)', Table. 1, the amount of operational risk is calculated according to the data obtained from the statement of financial results (form 0409102) as on 1 January 2021.

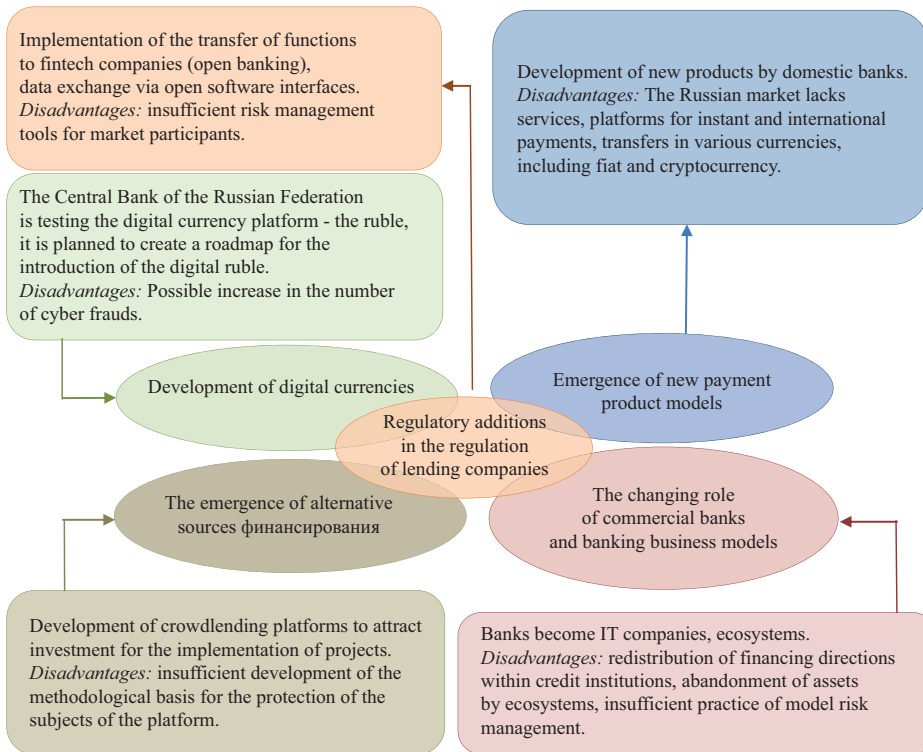
Contrary to the values obtained as a result of the calculation using the basic method, the value of operational risk for credit institutions varied from 0.01% to 2.7%. The operational risk for the period analysed can be considered acceptable. However, the amount of operating expenses incurred by Kamkombank, LLC in the analysed period was different. Taking into account the indicator of Kamkombank's exposure to operational risk, the assumption of an inefficient system of operational risk management, expressed in significant one-time losses due to inadequate activity of the organisation in the financial market, was confirmed.

Table 1
Operational risk exposure of banks with a basic license as of 01.01.2021

Bank	Value of OR (thousand rubles)	Equity capital (thousand rubles)	Exposure to OR (%)	CAR, (min. 8%) (%)	Total expenses for OR (thousand rubles)	OR (ratio of expenditures on OR to equity capital) (%)
LLC PTB	110 332	986 430	11.18	14.2	2584	0.3
JSC 'Black Sea Bank for Development and Reconstruction'	83 753	398 680	21.01	17.25	4383	1.1
'Kuznetsky Bank' Public JSC	80 136	622 964	12.86	13.8	1225	0.2
Public JSC 'Stavropolpromstroybank'	127 288	931 178	13.67	14.48	13 922	1.5
LLC 'Oranzhevyi'	92 873	709 371	13.09	10.55	429	0.1
JS Investment Commercial Bank 'Eniseisk United Bank'	78 554	552 382	14.22	11.13	3222	0.6
JSC 'Avtogradbank'	83 747	840 468	9.96	11.98	22 338	2.7
JSC 'Royal Credit Bank'	59 172	561 277	10.54	14.28	1218	0.2
Public JSC 'Bank Siab'	12 675	881 148	1.44	17.51	1979	0.2
Commercial Bank 'Dolinsk'	76 991	383 953	20.05	13.19	2	0.0
JSC 'Municipal Kamchatprofitbank'	86 641	811 869	10.67	17.79	4193	0.5
JSC 'Bratsky Narodny Bank'	45 663	562 850	8.11	16.9	122	0.0
LLC 'Kama Commercial Bank'	177 484	712 292	24.92	19.4	294 366	41.3
LLC Commercial Bank 'Altaikapitalbank'	150 097	676 394	22.19	16.69	12 820	1.9
JSC 'Ikano Bank'	206 881	564 638	36.64	12.41	6197	1.1

Source: Author's compilation based on data from the Central Bank of the Russian Federation. https://cbr.ru/banking_sector/credit/.

Fig. 3. Modern factors influencing operational risk management in banks



Source: compiled by the author.

It can be concluded that the value of operational risk, calculated on the basis of actually incurred expenses of a credit institution, more objectively illustrates the amount of funds allocated by the bank to cover losses.

3. Methods of operational risk management

In this paper, unlike the previous ones, two risk factors that may have a significant impact on the choice of operational risk management methods are highlighted separately: the introduction of international sanctions and a technological factor.

In the analytical materials of the national rating agencies, the introduction of international sanctions against a credit institution is considered as an operational risk, acting as one of the categories of force majeure situations [Methodology for assigning credit ratings..., 2020, p. 15]. Taking into account the influence of technological risk factors, it can be noted that the difficulties of qualitative mathematical structuring of the assessment of the potential impact of technological risk factors negatively correlate with the adequacy of the determination of the magnitude of operational risk. In addition, the works devoted to the modelling of operational risk lack universal components of economic capital and uniform approaches to the aggregation of operational risk models.

In Regulation No. 716-P, the Central Bank of the Russian Federation proposes to pay special attention to the practice of managing model risk in order to optimise the reserved capital to cover operational risk. It should be noted that this direction

of the development of the risk management system of banks is one of the innovative and key directions for improving the reliability of Russian credit institutions and the banking sector as a whole.

Thus, the current methodological base of credit institutions is formed in the context of the development of the digital economy, the introduction of innovative technologies and international sanctions. This study allowed us to highlight the factors caused by international sanctions and the development of financial technologies that affect the management of operational risks in banks (Fig. 3).

In this respect, the importance of improving the research and practical activities of banks is emphasised, taking into account modern factors in the development of the digital economy.

It is necessary to consider the structure of the total expenses allocated by credit institutions

for the management of operational risks (Table 2). In the author's opinion, the sum of the items of balance groups 48100 'Personnel expenses' and 48400 'Organisational and administrative expenses' reflects as much as possible the amount of the bank's expenses directed to the management of operational risks.

The largest share of costs allocated to risk management is the cost of using such operational risk management methods as the use of telecommunications and information systems - 22.8%. It can be explained by the complication of business process management systems against the backdrop of the development of digital technologies and the constant growth of risks related to cybersecurity in financial transactions [Morozko, 2022]. It is necessary to focus on information security risks, which should be prioritised in the process of organising a banking risk management system as a component of the operational risk management process, and determine the growing needs of credit institutions in the formation of effective and personalised resources that ensure proper control.

In the structure of total expenses for operational risk management, the share of insurance is 22.1%, while the share of other organisational and management expenses is 22.8%.

Table. 3 shows that the smallest share in the structure of the expenses for the management of operational risks is occupied by the expenses for the training and retraining of personnel: over the three periods under review they varied within 0.2%.

Looking at the expenses in the context of credit institutions, we note that only Ikano Bank, LLC allocated financial resources to research and development, which may indicate the measures taken by the bank to improve the efficiency of its activities, while the other banks under consideration have no expenses in this balance sheet item.

Conclusion

Based on the results of the analysis, the main approaches to risk management in connection with the development of financial technologies in modern credit institutions were identified:

- Legal (regulatory) approach, which creates a legal framework for commercial banks that stimulates the formation of competitive advantages, differentiation of the range of services provided and facilitates the integration of various experiences in managing the risks of the functioning of credit institutions;
- A financial approach that includes the following ways to create optimal conditions for the functioning of credit institutions in the context of the digital transformation of the financial market, where a positive financial result is a key indicator of their success:
 - Improvement of the banking sector, including reducing the number of unprofitable credit institutions and increasing the overall profit of the banking sector;
 - Strengthening of competitive advantages through synergy of business practices, expansion of service

portfolio and increase in financial performance (including transformation of microfinance companies into a bank or merger of microfinance companies with commercial banks, etc.);

- Maximisation of the profitability indicators of credit institutions, taking into account the increasing volume of transactions carried out through financial platforms;
- A methodical approach that places great emphasis on the degree of interaction between regulatory authorities and commercial banks in the process of developing and applying certain regulatory requirements, as well as on the direct involvement of credit institutions themselves in the implementation of internal legal norms. It includes external project programmes for the development of an innovative environment implemented at the government level. The method involves the development and assistance in application of norms of banking legislation, provisions and requirements of regulatory legal acts, methodologies and other regulatory documents.

The focus of the supervisory authorities has shifted to the implementation of comprehensive and high-quality control and regulation of digital and technological risks by credit institutions. At present, with the development of the market for new digital technologies, changes in the business models of financial market participants, their adaptation to new operating conditions, a new methodological base

Table 2
Ratio of operational risk losses to the amount of its management costs in commercial banks with a basic license

Balance cost	1 January 2022		1 January 2021		1 January 2020	
	Cost of OR management for 15 banks (thousand rubles)	Share in total expenses for OR management (%)	Cost of OR management for 15 banks (thousand rubles)	Share in total expenses for OR management (%)	Cost of OR management for 15 banks (thousand rubles)	Share in total expenses for OR management (%)
48112	2330	0.2	1882	0.2	2414	0.2
48113	5542	0.5	6534	0.6	7130	0.6
48402	4080	0.3	24 633	2.2	27 219	2.1
48403	250 674	20.9	213 456	18.7	213 162	16.5
48405	13 519	1.1	10 898	1.0	19 689	1.5
48406	95 879	8.0	107 990	9.5	122 314	9.5
48409	272 554	22.8	228 799	20.0	197 211	15.3
48410	15 938	1.3	9413	0.8	9796	0.8
48411	—	0.0	—	0.0	—	0.0
48412	264 157	22.1	297 240	26.0	474 464	36.8
48414	272 829	22.8	240 733	21.1	215 096	16.7
Total operational risk management expenses	1 197 502	100.0	1 141 578	100.0	1 288 495	100.0

Source: compiled by the author according to the Central Bank of the Russian Federation. <http://www.cbr.ru>.

is being developed, which will improve the quality of procedures and methods of risk assessment in accordance with the characteristics of the innovative technologies and business processes introduced. Priority will be given to the process of building competence in digital tools and the implementation of a specific course of action in certain high-risk situations.

The study identified the main problems that arise in the process of operational risk management in Russian banks with a basic licence:

- Insufficiency of resources allocated by credit institutions to research and development, which indicates the vulnerability of credit institutions to the risks of the global economy: technological, information and other risks caused by digitalisation. A systematic approach to the allocation of resources in this area will help to minimise the problems associated with forecasting and timely identification of potential threats. However, the limited own resources of individual commercial banks hamper the implementation of reforms aimed at improving the methodological support of bank risk management;
- Inadequate resources for training and retraining of personnel due to increasing requirements for the level of professional qualifications of employees of credit institutions as a result of ongoing transformation processes;
- High demand for quality management of business processes and initiation of the process of making operational decisions in conditions of insufficient adaptation and scarcity of resources;
- An intensively growing number of cyber risks.

The directions for solving the problems caused by the application of the methods of operational risk management involve the following:

- Including the expenses in the budget of commercial banks for improving the qualifications of the responsible employees in the process of operational

risk management, taking into account the specifics of the personnel, industry and other nature of the credit institution;

- Considering the introduction of modern software products that facilitate the collection and systematisation of information data on operational risks;
- Implementing a set of relevant measures, adapted to the digital reality, to reduce the time gap that occurs in the process of updating internal bank documents on risk management in the context of the introduction of certain technological innovations, to bring the methodological framework for risk management in line with the minimum prudential requirements of the supervisory authorities;
- Providing for software development activities related to the application of internal bank risk assessment models, including operational risk.

At the same time, attention needs to be paid to the quality of the risk management system and risk culture of banks with a basic licence which to a large extent do not meet the requirements for assessing operational risk. In this regard, it is recommended that banks with a basic licence consider the transition to the use of a standardised method for assessing operational risk, although one of the main constraints is the accumulation of a historical base of operational events due to the cost of financial, human and time resources.

In addition, one of the methods to solve problems related to the cost of the process of creating and implementing technological solutions for medium and small banks can be interaction with fintech companies as part of the proposed modernised approach to risk management. Interaction can take the form of concluding cooperation agreements, where the technology company acts as a start-up supplier for the period of the agreement. In the author's opinion, in the future, adequate provision of the methodological process against the background of integrated interaction between banks and fintech companies will make it possible to make progress in matters of effective risk management.

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