

# WAYS TO IMPROVE RISK MANAGEMENT IN PAYMENT SYSTEMS

*Daminova B. E.*

*Assistant professor of Karshi State University*

*Karshi, Uzbekistan*

*Bozorova I. J.*

*PhD of Karshi State University*

*Karshi, Uzbekistan*

*Murodaliev S. I.*

*Student of Karshi State Technical University*

*Karshi, Uzbekistan*

*Qorjovov O. X.*

*Student of Karshi State Technical University*

*Karshi, Uzbekistan*

*Turkmanov A. S.*

*Student of Karshi State Technical University*

*Karshi, Uzbekistan*

**Annotation.** This article analyzes various methods for classifying risk management tools for payment systems. A unified scheme of the main directions of classifying risk management methods specific to payment systems has been developed. The main goal of this study is to correctly assess and manage risks in the developing payment systems market today. Also, this article systematically analyzes ways to improve risk management in payment systems and develops the necessary recommendations and conclusions.

**Keywords.** Payment system, risk management, classification, systematization, method.

**Аннотация.** В статье проведен анализ различных методов построения классификации инструментов управления рисками платежных систем. Также в исследовании представлена обобщенная схема методов управления рисками платежных систем. Основной целью проведения данного исследования является правильная оценка и управление рисками на современном развивающемся рынке платежных систем. Также в статье системно проанализированы пути совершенствования управления рисками в платежных системах и разработаны необходимые рекомендации и выводы.

**Ключевые слова.** Платежная система, управление рисками, классификация, систематизация, метод.

Establishing a highly efficient system of monetary circulation and using modern payment mechanisms is a prerequisite for the development of the country's economy.

housing sector requires confidence in the timely and correct fulfillment of payment obligations.

Cash flow disruptions negatively impact material production, which serves as the basis for the formation of the financial resources of the entire country.

In the modern economic system, every day economic participants carry out numerous transactions for the exchange of goods, services and financial assets, which, in turn, are carried out through monetary settlements. The effectiveness of the functioning of the national economic mechanism depends on the uninterrupted, fast and secure implementation of payments and settlements in payment systems. Scientific and technological progress is triggering the process of changing payment and settlement relations in the country. Forms and methods of payment, payment instruments are changing, the latest information technologies are being introduced to increase the speed, reliability and quality of payment services provided, and reduce

transaction costs of payment operations. At the same time, the rapid development of this industry leads to an increase in the risks inherent in payment systems.

The new legislation on the payment system of the Republic of Uzbekistan strengthens the requirements for the procedure for ensuring the continuity of the operation of payment systems, the risk management system, as well as general aspects of regulation and supervision.

One of the main components of the procedure for ensuring the continuity of payment systems developed by the payment system operator is the selection of appropriate tools for managing payment system risks.

### **Discussion and results**

Currently, in economic practice, a wide variety of methods are used to manage the risks of payment systems.

At the same time, the study showed that there is no clear logical systematization of the methods used.

, it is proposed to consider risk management methods from two perspectives to form a classification:

- risk management methods used by international financial organizations;
- risk management methods given in scientific literature.

Below, we will examine these aspects in more detail.

The methodology used by the Bank for International Settlements distinguishes two main groups of methods for managing payment system risks: analytical and operational procedures.

Analytical procedures involve continuous monitoring and analysis of the risks to which participants are exposed to the system.

Operational procedures involve the implementation of risk management decisions, such as setting credit limits for positions at risk, managing transaction queues, <sup>1</sup>etc.

---

<sup>1</sup>Regulirovanie i kontrol riskov platejnyx system — Finnish perspective. Platezhne i raschetne sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 19. 2009. URL: <http://www.cbr.ru/publ/PRS/prs19.pdf> (Russian)

In the materials of the Bank of Finland on the regulation and control of payment system risks, risk management mechanisms are grouped according to the areas of the risk minimization strategy: areas of settlement organization, creation of payment system rules, organization of self-regulation, security, <sup>2</sup>etc.

A distinctive feature of the Bank of England's approach to classifying the risks of payment systems and their management tools is a detailed analysis of the main business processes of payment system participants,

as well as the distinction between risk subjects (settlement participant, payment agent, system component) and three main types of risk of disruption of the functioning of the payment system: settlement, business and operational <sup>3</sup>.

One variant of the classification of payment system risk management methods in the materials of the Committee on Payment and Settlement Systems of the Bank for International Settlements presents the risk of disruption of the uninterrupted operation of the payment system from a structural point of view according to the system of risk types:

- credit risk management methods (use of systems with zero credit risk; access criteria; credit limits for maximum amounts at risk, etc.);
- liquidity risk management methods (payment sequence management; setting limits on positions; collateral; use of hybrid systems, etc.);
- operational risk management methods.

The operational risk management methods described in the Bank for International Settlements guidelines, in turn, are divided into three areas: ensuring operational reliability, ensuring security, and ensuring the uninterrupted operation of the payment system <sup>4</sup>.

---

<sup>2</sup>Regulirovanie i kontrol riskov platejnyx system — Finnish perspective. Platezhne i raschetne sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 19. 2009. URL: <http://www.cbr.ru/publ/PRS/prs19.pdf> (Russian)

<sup>3</sup> Risk-orientirovannaya methodology monitoring of payment systems. Nbludenie Banka Anglii za mejbankovskimi payment sistema v sootvetstvii s "Law on banking" telnosti" in 2009. Competition and regulirovaniev evropeyskikh roznychnyx paymentjnyx sistemax // Payment and raschetnye sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 27. 2011. URL: <http://www.cbr.ru/publ/PRS/prs27.pdf>

<sup>4</sup>Klyuchevye principy dlya sistemno znachimyx payment system. Komitet po payment i raschetnym sistema Banka medunarodnykh raschetov // Payment i raschetnye sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 23. 2010. URL: <http://www.cbr.ru/publ/PRS/prs23.pdf>

In the process of analyzing mechanisms for managing this type of risk in payment systems, such as operational, it is recommended to refer to materials devoted to the analysis of operational banking risk.

The Central Bank of the Russian Federation has grouped these types of risk management methods into the following main sections: Stages of operational banking risk management: identification, assessment, monitoring, control and risk minimization <sup>5</sup>.

In this arrangement, the use of business continuity mechanisms acts as a general measure to limit operational risk.

Below, we will consider the most common approaches to classifying payment system risks found in the scientific literature.

In the works of EV Kurdyumova, the three main components of an integrated risk management system for payment systems are analyzed: organizational (institutions and bodies), information (collection and analysis of information on the state of risks) and methodological (risk management policy, risk assessment methods) elements.

In his scientific work, he also identifies two levels of risk management: microlevel (individual credit institutions, associations and unions) and macrolevel (government bodies, auditing, consulting firms, investors, etc.) <sup>6</sup>.

Also, bank risk management methods can be classified into four areas: localization, distribution (distribution), risk avoidance and compensation <sup>7</sup>. This scheme can be used to create a risk classification of payment systems.

In his scientific work, researcher NV Zhukov analyzes the methods of managing credit risk and liquidity risk in settlement and clearing systems used by central banks of different countries. The scientist also adds to the list of risk management methods the establishment of criteria for selecting participants according to their financial

---

<sup>5</sup>O svoevremennosti osushchestvleniya raschetov po korrespondentskim schetam i merah po upravleniyu riskami pri osushchestvlenii raschetov: pismo Banka Rossii No. 18-T dated 08.02.2010.

<sup>6</sup>Kurdyumova E.V. Nekotorye aspekty po stroeniyu kompleksnoy sistemy management riskami v payment system // Fundamentalnye issledovaniya. 2007. No. 6. S. 36-40.

<sup>7</sup>Sokolinskaya N.E. Creation of an effective system of complex and internal control for banking risk // Accounting and banking. 2000. No. 7. S. 33-39.

reliability and technical equipment. Analyzing the means of limiting the maximum permissible risks of payment systems, he determines the limits regulating the individual net credit positions of banks and debit limits for the system as a whole. He also describes in detail the methods of managing operational risks (the use of double-entry technology, identity control) and methods of managing fraud risks (data encryption technology, access restrictions, two-way control, password protection) [6].

LI Khomyakova analyzes the methods of risk management of payment systems based on the principle of systematization of the risk of disruption of the uninterrupted operation of the payment system. The researcher analyzes each type of credit risk, liquidity risk, as well as operational and currency risk, and risk management methods in turn <sup>8</sup>.

A distinctive feature of this approach is the separation of methods for managing currency risks.

A distinctive feature of the SV Krivoruchko approach is a careful formulation of the risks of disrupting the uninterrupted operation of the payment system and the identification of risk management tools for each specific type (subtype) of risk <sup>9</sup>.

In her scientific work, AS Obaeva considers methods for managing payment system risks in two groups depending on the type of system (net and gross settlements). Studying the net settlement system, she analyzes the Lamfalussi standards <sup>10</sup>.

Based on the comparative analysis conducted, it is possible to compile a unified scheme of the main areas of classification of risk management mechanisms inherent in payment systems, shown in Figure 1.

An option for classifying risk management methods for payment systems, built on the basis of the classification of bank risk management methods, is also proposed.

---

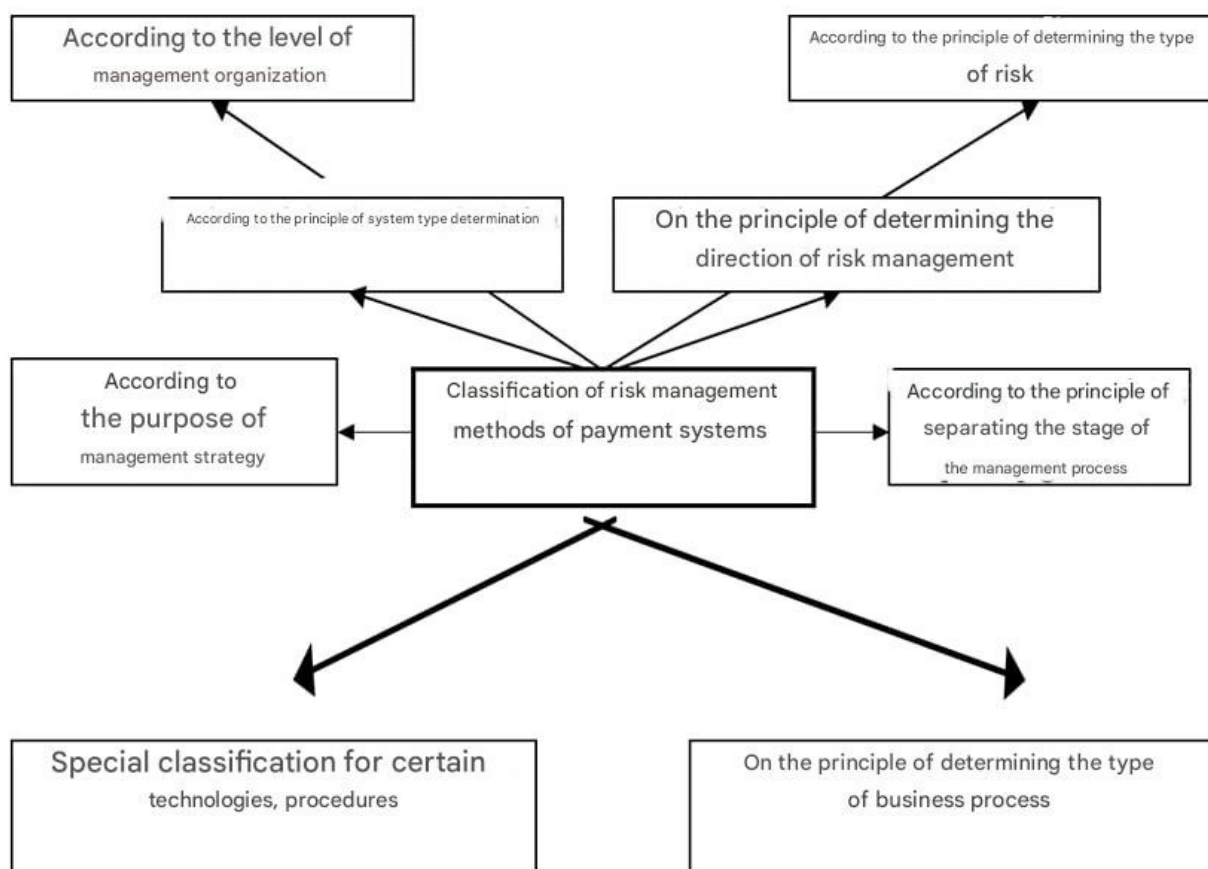
<sup>8</sup>Khomyakova L.I. Upravlenie riskami v platejnyx sistemax // Bankovskoe delo. 2008. No. 9. S. 81-89.

<sup>9</sup>Krivoruchko S.V. Reformirovanie payment system and financial integration: the role of central bank. M.: BDTs-press, 2006.

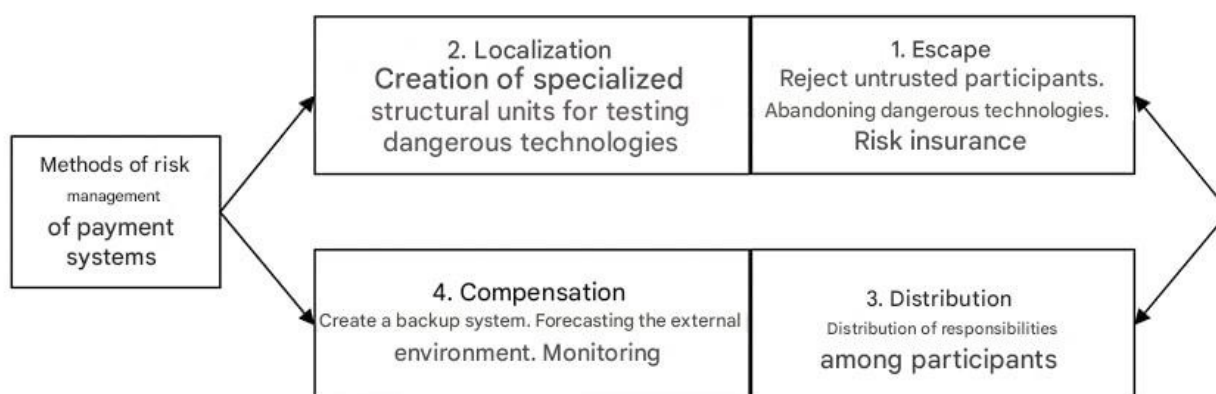
<sup>10</sup>Obaeva A.S. Teoreticheskie aspekty postroeniya i razvitiya platezhnoy sistemy. SPb.:Izd-vo Saint-Peterb. un-ta ekonomiki i finansov, 1996. 159 p.

This classification method is of practical importance when the payment system operator is solving the problems of changing the risk management system and developing a procedure for ensuring the uninterrupted operation of payment systems.

In the context of the adoption of new legislation and increased requirements for ensuring business continuity in the country's payment system, designing a risk management system is one of the main tasks facing the payment system operator.



**Figure 1. Main approaches to classifying payment system risk management methods**





## **Figure 2. Payment system risk management methods based on the classification of bank risk management methods**

### **Conclusion**

Depending on the strategy being implemented and the task being solved, as well as the specifics of the organization of internal business processes, the payment system operator may use one or another of the approaches we have considered to classify payment system risk management mechanisms.

### **REFERENCES USED:**

1. Регулирование и контроль рисков платежных систем — финская перспектива. Платежные и расчетные системы. Международный опыт. Центральный банк Российской Федерации. Вып. 19. 2009. URL: <http://www.cbr.ru/publ/PRS/prs19.pdf> (rus)

2. Daminova B. FORMATION OF THE MANAGEMENT STRUCTURE OF EDUCATIONAL PROCESSES IN THE HIGHER EDUCATION SYSTEM //Science and innovation. – 2023. – Т. 2. – №. А6. – С. 317-325.

3. Даминова Б. Э. СОДЕРЖАНИЕ ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ И ТЕНДЕНЦИИ ЕГО ИЗМЕНЕНИЯ ПОД ВЛИЯНИЕМ НОВЫХ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИХ УСЛОВИЙ //Yosh mutaxassislar. – 2023. – Т. 1. – №. 8. – С. 72-77.

4. Daminova B. FORMATION OF THE MANAGEMENT STRUCTURE OF EDUCATIONAL PROCESSES IN THE HIGHER EDUCATION SYSTEM //Science and innovation. – 2023. – Т. 2. – №. А6. – С. 317-325.

5. Daminova B. Algorithm of education quality assessment system in secondary special education institution (on the example of guzor industrial technical college) //International Scientific and Practical Conference on Algorithms and Current Problems of Programming. – 2023.

6. Рахимов Н., Эсановна Б., Примкулов О. Ахборот тизимларида мантикий хулосалаш самарадорлигини ошириш ёндашуви //International



Scientific and Practical Conference on Algorithms and Current Problems of Programming. – 2023.

7. Daminova B. E. MONITORING METHODS BASED ON MULTILEVEL EDUCATIONAL PROCESSES DATA //Экономика и социум. – 2025. – №. 2-1 (129). – С. 140-142.

8. Даминова Б. Э. Сравнительный анализ состояния организации многоуровневых образовательных процессов //Экономика и социум. – 2023. – №. 1-2 (104). – С. 611-614.

9. Риск-ориентированная методология наблюдения за платежными системами. Наблюдение Банка Англии за межбанковскими платежными системами в соответствии с «Законом о банковской деятельности» 2009 года. Конкуренция и регулирование европейских розничных платежных системах // Платежные и расчетные системы. Международный опыт. Центральный банк Российской Федерации. Вып. 27. 2011. URL: <http://www.cbr.ru/publ/PRS/prs27.pdf>

10. Ключевые принципы для системно значимых платежных систем. Комитет по платежным и расчетным системам Банка международных расчетов // Платежные и расчетные системы. Международный опыт. Центральный банк Российской Федерации. Вып. 23. 2010. URL: <http://www.cbr.ru/publ/PRS/prs23.pdf>

11. О своевременности осуществления расчетов по корреспондентским счетам и мерах по управлению рисками при осуществлении расчетов : письмо Банка России № 18-Т от 08.02.2010 г.

12. Курдюмова Е.В. Некоторые аспекты построения комплексной системы управления рисками в платежных системах // Фундаментальные исследования. 2007. № 6. С. 36—40.

13. Соколинская Н.Е. Создание эффективных систем комплексного и внутреннего контроля за банковскими рисками // Бухгалтерия и банки. 2000. № 7. С. 33—39.

14. Хомякова Л.И. Управление рисками в платежных системах // Банковское дело. 2008. № 9. С. 81—89.

15. Криворучко С.В. Реформирование платежных систем в условиях финансовой интеграции: роль центрального банка. М.: БДЦ-пресс, 2006.

16. Обаева А.С. Теоретические аспекты построения и развития платежной системы. СПб.:Изд-во Санкт-Петерб. ун-та экономики и финансов, 1996. 159 с.