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ФОРУМ СОСТОИТ ИЗ НАУЧНО-ПРАКТИЧЕСКИХ КОНФЕРЕНЦИЙ, МАСТЕР-КЛАССОВ И ЛИТЕРАТУРНЫХ ВЫСТАВОК И ПРЕДСТАВЛЯЕТ КРУПНУЮ ПЛОЩАДКУ ДЛЯ ОБМЕНА НАУЧНЫМ И ПРАКТИЧЕСКИМ ОПЫТОМ В СОЦИАЛЬНО-ЭКОНОМИЧЕСКОЙ СФЕРЕ МЕЖДУ НАЦИОНАЛЬНЫМИ И ОТЕЧЕСТВЕННЫМИ СПЕЦИАЛИСТАМИ

II КОНФЕРЕНЦИЯ, ТРАНСФОРМАЦИОННОЕ  
ЖАРАЁНИДА МОЛИА ТИЗМИ ВА  
БУГАЛТЕРИЯ ХИСОБИ  
АРХИТЕКТУРАСИНИ ТАКОМИЛТАШ  
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1ST TSUE DEVELOPMENT  
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# RAQAMLI IQTISODIYOT VA AXBOROT TEKNOLOGIYALARI

2022

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ORGANIZING THE 1ST TSUE DEVELOPMENT STRATEGY FORUM TO ANALYZE NATIONAL ECONOMIC TRENDS. THE AIM OF THE FORUM IS TO PROVIDE A PLATFORM FOR THE EXCHANGE OF IDEAS AND EXPERTISE ON VARIOUS ISSUES RELATED TO THE CURRENT TRENDS IN THE ECONOMIC DEVELOPMENT OF THE COUNTRY.

20-21

ОКТАБРЬ  
I ФОРУМ СТРАТЕГИИ  
РАЗВИТИЯ



## РАҚАМЛИ ИҚТИСОДИЁТ ВА АХБОРОТ ТЕХНОЛОГИЯЛАРИ DIGITAL ECONOMY AND INFORMATION TECHNOLOGY

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тўловлар, 1PAУ тўлов хизмати, лаҳзали тўловлар, API – интерфейслари, биометрик идентификация тизимлари, код бўйича нақд пул олиш “Quant”, онлайн-конверсия, онлайн-халқаро пул ўтказмаси, онлайн-ҳисобварақ очиш, онлайн пластик карта очиш, халқаро пул ўтказмаларини мобиль илова орқали қабул қилиш, бошқа банклардан очилган пластик карталардан кредит ундириш, мобиль дастурлар, катта маълумотлар (Big Data), чатбот, роботлаштириш, булутли технологиялар, Нарсалар интернет (Internet of Things) технологиялари ва бошқалардир.

Хулоса ва таклифлар. Ўзбекистон эришган онлайн хизмат индекси (OSI) ва инсон капитали индексларининг (HCI) ижобий кўрсаткичлари, давлатимиз томонидан ўз фуқаролари учун яратилган онлайн хизматлар тури ва сифатини оширишга қаратилган чоратадбирларнинг амалга оширилаётганидан, шунингдек, аҳолининг инсон капитали сифатини оширишга қаратилган ислохотларни (ҳаёт давомида узлуксиз таълим, соғлиқни сақлаш, меҳнат бозорида меҳнат талабини ошириш, камбағалликка қарши курашиш, аҳоли салоҳиятини оширишга қаратилган сармояларнинг киритилиши ва ҳоказолар) олиб борилаётганлигидан далолатдир. Шу билан

бирга, Ўзбекистоннинг Э-Ҳукумат ривожланиш индексига кўра, Ўзбекистон ҳукумати томонидан телекоммуникация инфратузилмаси ҳолати яхшиланаётганлигини (халқаро интернет тармоғига уланиш ва унинг умумий ўтказувчанлик имкониятини кенгайтириш, оптик-толали алоқа линияларини қуриш, аҳолига юқори тезликдаги интернет хизматларини кўрсатиш қурилмалари сифимини ошириш, мобиль интернет тезлигини ошириш, давлат аҳамиятига молик автомобиль йўлларини мобил интернет қамрови билан таъминлаш, йирик маълумотларни сақлаш ва қайта ишлаш марказлари қуриш ва ҳоказо) англатади.

Хорижда ва мамлакатимизда замонавий рақамли технологияларнинг тижорат банкларида жорий этилаётганлиги ва фаол қўлланаётганлиги банк соҳасида замонавий тенденция сифатида шаклланиб бормоқда ҳамда улар томонидан фойдаланувчиларга кўрсатилаётган хизматлар сифатини ошириш имконини бермоқда. Тижорат банклари фаолиятини рақамлаштирилиши, мижозларнинг маҳаллий банкларга бўлган ишончининг мустаҳкамланишига ва маҳаллий банкларни жаҳон банклари каби глобаллашув жараёнларида фаоллаштиришларига имкон беради.

#### Фойдаланилган адабиётлар рўйхати

1. Норов А. Р. Рақамли иқтисодий ривожлантиришда тижорат банкларининг ролини ошириш механизмлари // “UzBridge” электрон журнали, № 2, июнь, 2020. Б. 28–35.
2. Гулямова А. Л. Банк тизимининг рақамли трансформацияси жараёнида рақамли экотизим // “Халқаро молия ва ҳисоб” илмий журнали, № 2, апрель, 2021. Б. 1–10.
3. Лугаманова, И. Ф., Ярулин Р. Р. Развитие финансовых инновации в банках // *Международный научный журнал «Инновационная наука»*, 2016, № 3.
4. Гулямова, А. Л. Банк тизимининг рақамли трансформацияси жараёнида рақамли экотизим // “Халқаро молия ва ҳисоб” илмий журнали, № 2, апрель, 2021. Б. 1–10.
5. Масофадан хизмат кўрсатиш тизимлари, <https://cbu.uz/uz/payment-systems/remote-banking-services/>

## TRANSFORMATION OF THE BANKING SECTOR IN THE CONDITIONS DIGITALIZATION OF THE WORLD ECONOMY

Hamidov Sardor Rahmonovich,

Doctoral student of the Department of Digital Economy and Information Technologies of Tashkent State University of Economics

### Аннотация

The article explores the specifics of the transformation of banking activities in the conditions of the digitalization of the economy; showing the main directions of development of financial technologies in the banking sector, involving further transformation of traditional banking services and other areas through digitalization.

**Introduction.** In the modern world, the financial system in general and the banking sector in particular are developing in accordance with the requirements of the digital economy. In connection with digital transformation, business models and concepts for the development of the banking sector are being improved. The activity of banks goes far beyond the banking sector and penetrates into the sphere of tangible and intangible services. An analysis of key areas and an assessment of the capabilities of domestic banking institutions in the process of transition to a new model of a «digital» bank show that the characteristic trends are: focus on remote services; investing in artificial intelligence technologies and reducing cyber risks. In this process of digital change, banks are confronted with innovations that require the adaptation of almost all corporate processes.

The rapid development of technology, as well as a wide variety of changes in the world market, have led to the intensification of a new process of cooperative adaptation. The ongoing digital transformation and the introduction of new technologies raise questions about the changes that traditional companies are undergoing. The answer involves creating innovative business models and/or making changes and improvements to existing business models using digital technologies. An important aspect of modern companies is to increase business efficiency through the introduction of new technologies. Traditional business models in various industries compete not only with each other, but also with innovative models. To fit into market changes, enterprises have to adapt, rethinking and reforming the traditional technical base.

One of the drivers of the development of the digital economy is the financial sector. The key process has been the digital transformation of the financial services system through technology (FinTech) - breakthrough innovations of new market participants that challenge the main financial institutions. Retail banks, Russia's most prominent representatives in Tinkoff Bank and Sberbank, Tochka Bank, have emerged as leaders in a technological revolution characterized by the rapid adoption of modern digital services, an exponential pace of change, and innovative breakthroughs that are reshaping traditional banking practices.

The use of digital technologies improves the ways of interaction between banks, the state and potential customers. Digital transformation involves the widespread introduction of modern methods of providing banking services. Bank branches are shrinking and many services are moving online, especially lending and investing (for example, some types of online investing such as stock trading). Innovative development is the main opportunity to improve the efficiency of banks.

**Literature review.** Theory and practice of applying digital technologies in the leading countries of the world Digitalization has a significant impact on the functioning of the modern banking system. It is the use of digital technologies to change the business model and provide new revenue and value creation opportunities; it is a process of transition to digital business. This phenomenon is typical both for the top five countries and for developing countries, as evidenced by numerous analytical reviews and fundamental studies by various scientists. In particular, S. Carbo-Valverde, K. Kahn, analyzing the effectiveness of American and European payment systems, emphasize the role of online banking products and do not see a threat to them from cryptocurrency. A. Omarini, considering the digital transformation of banking services, substantiates the place of new technological platforms in the Mediterranean countries. T. Ahisar, K. Tunay emphasize the growing efficiency of electronic banking services. A study conducted by F. Libana-Cabanillas in Spain shows the growing interest of business and people in this segment. Electronic banking and interest in digitalization is actively growing and developing in Russia, Asia, Africa and the Middle East.

N. P. Savina emphasizes that socio-economic relations are increasingly moving into the network space. The introduction of digital banking concepts are new business models with such key factors as investment in high-performance artificial intelligence technologies and cyber risk mitigation technologies, competition for the introduction of digital banking products, the use of flexible information and communication systems compatible with a wide range of components – data sources, financial instruments, management mechanisms.

Currently, several additional definitions of the term «digitalization» have been adopted. According to Gartner, digitalization is the improvement of existing business models, the emergence of new opportunities for creating added value using digital technologies. It covers several areas, including: changes in thinking, changes in leadership, technology adoption, digitalization of resources and the development of innovations. Thus, the term «digitalization» should be distinguished from a similar term - «digitization»; the former rather refers to the impact of digital technologies on the organization, while the latter represents the transition from an analog solution to a digital one. Digitalization is the renewal of an organization with the help of new information and communication technologies. According to K. Matt, digital transformation is a complex process that includes: changes in value creation, structural changes and the use of technology and financial aspects - and is designed to solve the problems that banks are currently facing. Digital transformation is blocked by a number of barriers that can hinder or even destroy this process.

Sadygov showed that the development of fintech contributes to economic growth by increasing GDP generated in the financial sector, and indirectly by increasing the turnover of e-commerce and financing the real sector, in particular, by creating more favorable lending conditions. small and medium business.

Among the main effects of digitalization, scientists and business practitioners distinguish the following:

- changing consumer expectations;
- adding value to the product/service through improved data management;
- transformation of operating models into new digital ones;
- formation of new forms of cooperation and partnership.

For example, big data technologies allow bank employees to see a complete customer profile before making a decision on loan terms (thanks to the analysis of information from social networks, the media and other aggregated data sources).

This approach allows you to create a psychological profile of potential customers, predict their solvency, improve the efficiency and effectiveness of work. Such changes lead to the emergence of new business models that can be used by world banks as a more efficient resource configuration. In addition, new ways of cooperation between banks and with their

partners, in particular with financial technology start-ups and partly with fintech, are emerging.

**Results.** Each medium-sized bank will inevitably have to play on the same field with large competitors. It is easier for large credit institutions to create unique personalized offers for each client using modern IT services and technologies based on Big Data.

Competition in the banking services market is shifting from the bank's pricing policy to the area of service quality, ease of interaction and communication channels, completeness of the product offer, personalization opportunities and product design. Therefore, only banks that are able to offer customers a full range of products and services in the most convenient way can actively increase their customer base and sources of income. For most of the world's banks, the implementation of such projects is extremely difficult. In the medium term, small and some medium-sized banks may not be able to cope with the growing competition in the market, competition between large banks will also intensify.

The world's major banks are looking to transform into digital organizations that provide a wide range of financial products and services. They actively invest in fintech and implement innovative projects. Through a full-scale digital transformation, banks will be able to provide a wide range of services to customers within their own financial and even non-financial ecosystems.

The financial capabilities of banks allow significant investments in innovation. If until recently, the main task of the IT departments of banks was the implementation of business goals set by the management using digital technologies, then in the era of digital transformation, the tasks of a complete rethinking of the business idea arise. Thus, we see that, first of all, the IT architecture of banks is being transformed, allowing the use of innovative information technologies.

■ Cloud technologies and big data (Big Data). Cloud technologies provide access to data without installing special applications on the device, which allows banks to offer their products anywhere in the world by centralizing services on the network. Big data, in turn, provides customers with personalized targeted offers based on the analysis of heterogeneous and rapidly changing digital information, the sources of which are the Internet, corporate document archives, etc.

■ API (Application Programming Interface, that is, application programming interface, application programming interface) integrated



into customer interaction systems. One API is a set of prepared classes, procedures, functions, structures, and constants provided by an application, service, or operating system for use in external software products [8].

■ Payments and transfers: online payment service, online transfer service, P2P, currency exchange service, B2B payment and transfer, cash cloud, smart terminal, mass payment service, digital wallet.

■ Financing: P2P consumer lending, P2P business lending, crowdfunding.

■ Social networks and mobile communication with a dedicated application. The integration of the banking business with social networks makes it possible to provide information about customer preferences.

An example of the successful implementation of such relationships in retail is Amazon, in the banking sector - Deutsche Bank. Digital transformation is achieved through a full study of customer experience and analysis of existing needs and identifying promising ones. It is the consumers of banking services that are the driving force behind the innovative development of banks, since it is they who form the needs for modern banking products and services through the expression of their needs.

The ranking of expert assessments that monitor the introduction of new technologies and innovative products, as well as the results of an analytical review of the Russian banking sector in key areas of financial technology, made it possible to identify the most popular products and services for users.

■ Wealth management: robo-advising, financial planning software and applications, social trading, algorithmic stock trading, targeted savings services.

■ Technologies: biometric identification, voice, gamification, contactless technologies; integration with social networks.

Clients evaluate the experience of interacting with banks depending on how easy and comfortable it was for them to receive this or that service, so the banking sector should constantly study the experience of communicating with clients, identify shortcomings in their work, as new clients require the use of even more modern technologies. Previously, the effectiveness of banking was assessed by increasing targeted sales of products and services, but in the era of the digital economy, banks are forced to reckon with modern digital challenges: now banks are increasingly

focused on customers with their immediate needs.

Coming of these technological components into the banking sector has made it possible to form a new model of banking services, which is a whole ecosystem of value exchange. Competition in the banking sector is getting tougher every year, without the introduction of new technologies in the service mechanism, even the strongest banks with a conservative strategy may lose a significant part of their customers. By 2024, more than 35% of financial services businesses will be at risk due to the influence of the fintech segment. The losses of the retail banking business, according to experts, may amount to 20-60% of profits in the next 10 years. However, updating the software does not solve the problem. Structural transformation using fintech is needed.

The digital transformation of banks requires an integrated approach based on the development and application of a digital strategy. Digital transformation covers all aspects of financial and credit activities, including bank management mechanisms, therefore, the digital transformation of the banking sector should be coordinated with other development strategies in order to develop solutions that contribute to maximum efficiency. The digital strategy should be aimed at solving four main tasks: the introduction of digital technologies, the transformation of the process formation of the cost of services, the financial aspect of digitalization, as well as a change in the organizational structure.

For the successful implementation of the digital strategy, it is necessary to coordinate the listed development areas, which largely depends on the operating model of the bank. There is no general operating model suitable for all banks, therefore, depending on the maturity of the bank, its structure, the services provided, various models for implementing a digital strategy are possible.

Confederate model. This type of operating model is mainly applicable to large banks that are pursuing digital transformation gradually, in various areas of their activity. In such a situation, some departments are involved in the implementation of the digital strategy, independently regulating the flow of costs for digital technologies and applying new requirements for staff qualifications, while other departments may not participate in digital transformation. It is expected that in the future all employees of the bank will appreciate the benefits of digital transformation and also master it. An example of such an operating model is the transition to electronic document management:



innovations are transferred from department to department and eventually implemented in the bank's activities on a regular basis.

**Shared service model.** If a company has already passed the stage of realizing the importance of digital transformation and has taken the first steps towards the implementation of a digital strategy, then with a relatively large bank size, you can use the so-called shared services model, based on the transfer of similar functions to one centralized department. The department responsible for the execution of certain operations becomes the center of common services. This model is similar to outsourcing, in which some functions are performed by an external counterparty. The main goals of this operating model are to improve the coordination of actions within the bank and rationalize business processes due to the absence of standard repetitive activities, and, consequently, reduce the cost of individual banking operations.

**Model of the centers of strategic competences.** The next stage in the development of the bank's operating model in the context of digital transformation is the formation of competence centers - structural organizational units that manage information systems and business processes by collecting and analyzing data and developing ways to use them as efficiently as possible. This element of the organizational structure will allow coordinating the implementation of the digital strategy, predicting market trends and positioning the bank in this market segment in order to increase its competitiveness.

**Digital operating model.** This model can be implemented in banks undergoing the final stages of digital transformation; as a rule, the model is suitable for the so-called network players, that is, single-industry organizations. The hallmark of the digital operating model is the digital platform for operations. Currently, this model is used either in companies providing mobile payment systems services or in banks based on a modern online banking system.

In general, the banking sector is focused on the development of operating models, as over time an increasing number of customers realize that in order to receive a variety of banking products and services, it is not necessary to go to a bank branch, but a person can use the achievements of digital technologies. The introduction of digital financial innovations in the banking sector of the economy makes it relevant to create a common space that unites the banking business and the digital

environment.

Experts identify three main approaches to the process of digital transformation of the banking sector.

The first approach, followed by 26% of the world's banks, is based on the introduction of digital technologies as a separate project, which does not involve a full-scale digital transformation. At the same time, digital transformation is being carried out gradually, based on long-term planning and implementation of pilot projects.

The second approach is implemented through the creation of a subsidiary, which was originally built to meet the needs of the digital economy. This is the most popular digital transformation method, used by 42% of banks. The advantages of this approach are a clear focus on customer needs in the long term; creation of teams within the organization, including specialists in various fields (information technology, software, analytics, marketing), which achieves high flexibility of the organizational structure; and the opportunity to try new lines of business without compromising existing ones.

The third approach to the digital transformation of banks is based on the recognition of digital technologies as the main value of the organization. This method can be combined with other approaches, but it involves a more complete implementation of the digital strategy through the transformation of all internal and external processes of the bank. 32% of banks have begun implementing digital transformation using this approach.

According to experts, digital transformation in the banking sector can take place in five main stages.

**I stage.** Emergence of digital channels: internet banking, mobile banking, chatbots. A user who wants to interact with the bank through any available channels at a convenient time is at the center of the ecosystem.

**II stage.** Emergence of digital products: big data, contactless payments, virtual cards, artificial intelligence, technology. With the help of modern software, E2E (end to end) products are created, designed to meet the financial needs of customers within 24 hours.

**III stage.** Creation of a full cycle of digital services: banks not only add digital services to traditional products, but also create new digital businesses, completely change business models, expand business boundaries.

**IV stage.** Creation of a «digital brain». The

Digital Brain continuously and automatically examines data across all business segments, departments, product lines and services, giving the organization a deeper understanding of its capabilities.

V stage. Creation of «digital DNA» - a new coordinate system for making strategic decisions throughout the entire life cycle of the bank.

Key digital transformation technologies are big data analysis and predictive analytics, artificial intelligence, robotics, machine learning and chatbots, distributed registry technologies, open interfaces, optical recognition, virtual and augmented reality. In addition, according to the audit firm KPMG, 72% of banks plan to develop artificial intelligence technology in the next two years, 61% of surveyed banks have already implemented or are testing robots, 45% of banks have already implemented predictive analytics in several processes. Moreover, banks have already taken a leading position in the use of chatbots in various fields of activity. New technologies allow various banks to reduce costs and constantly improve the quality of services provided, to develop new areas of influence.

**Conclusion.** Based on the analysis of foreign experience, it is possible to identify the main promising areas for the use of financial technologies in the banking sector.

■ Use of smart assets and smart contracts for lending. The implementation of blockchain technology in the form of a smart asset (blockchain 2.0) can be used to account for tangible and intangible assets, including financial ones. Assets, the ownership of which is registered in the blockchain, transactions with which (on the transfer of ownership of which) can be made using smart contracts.

■ Maintaining credit histories of borrowers using blockchain technology. Blockchain platform «Credit Bureau» (White Paper on the Development of China Blockchain Industry, 2018) – the

accumulation and storage of data on the credit history of borrowers will allow interested users to exchange information without intermediaries.

■ Blockchain technologies (platforms) for the use of bank guarantees.

■ Blockchain technologies (platforms) for trade finance – factoring transactions, non-cash payments under letters of credit.

■ Blockchain technologies (platforms) for the exchange of interbank messages at the domestic and international levels.

■ Bill transactions between banks.

Digitalization has great potential, but it comes with new risks and threats that still need to be recognized. On the other hand, financial technologies are risk management tools in banks (for example, big data can be used to minimize credit risk, in internal audit, control, etc.).

The use of experience and technological solutions will help all world banks to form their own ecosystem in this area. This will enable faster attack detection and response, providing a unique advantage in protecting banking customers. Thus, we came to the conclusion that fintech in the banking sector is the result of the mutual influence of two megatrends - the digitalization of society and the financialization of the economy - objective global irreversible trends along with globalization and informatization, virtualization and networking, etc. This means that the transformation of the banking sector economy through the introduction of financial technologies into business processes is a systemic and large-scale phenomenon, a new stage in the development of the banking business. For some time in the world, financial technologies were considered unreliable and expensive, so banks had to, if not abandon them, then use them very carefully. However, increased attention to this industry and the growth of investment in fintech have led to the support and leadership of the mega-regulator of the development of financial technologies in the world.

## References

1. Ablyazov, T., & Asaul, V. (2018). On competitive potential of organization under conditions of new industrial base formation. SHS Web of Conferences, 44, 00003.
2. Akhilar İ., Tunay K. B. and Tunay N. Interaction Between Internet Banking and Bank Performance: The Case of Europe // Procedia-Social and Behavioral Sciences. Vol. 195. P. 369–375.
3. Al-Hawary S. I. S., Hussien A. J. A. The Impact of Electronic Banking Services on the Customers Loyalty of Commercial Banks in Jordan // International Journal of Academic Research in Accounting, Finance and Management Sciences. Vol. 7 (1). P. 50–63.
4. Banking sector stability evaluation method: trends and problems. The European Proceedings of Social & Behavioural Sciences EpSBS Conference: SCTCGM 2018, 1735-1741.

5. Basnukaev, M. S., Sugarova, I. V., Musostova, D. S., Aliyeva, Z. M., & Jushaeva, R. S. E. (2018). Monetary and credit system and its impact on the economy of the country. IBIMA 2018 – Vision 2020:
6. Belous A. P., Lyalkov S. Yu. The vector of development of banks in the digital revolution stream // Banking business. 2017 No. 10, pp. 16–19.
7. Breidbach C. F., Keating B. W., Lim C. Fintech: Research Directions to Explore the Digital Transformation of Financial Service Systems // J. Serv. Theory Pract. 2020. Vol. 30. P. 79–102. [CrossRef].
8. Carbo-Valverde S., Kahn C. M. Payment Systems in the US and Europe: Efficiency, Soundness and Challenges // Financial Stability Journal (Bank of Spain), 2016. Vol. 30. P. 11–33.
9. Development of banking technologies: opportunities and challenges 2017 (Moscow: Bank of Russia) 40–42. Digitalization Definition (2017). – URL: <http://www.gartner.com/it-glossary/digitalization>.
10. Didenko V. Yu. Influence of the era of digitalization on banking business models // Trade and Economic Journal, No. 3(2). 2016, pp. 183–194.
11. Kazarenkova N. P., Svetovtseva T. A. Transformation of the banking system of Russia under the influence of digitalization of the economy. Bulletin of the South-Western State University. Series: Economics. Sociology. Management. 2018. V. 8, No. 4 (29). 188–195.

## IS-LM-BP MODELINING MOHIYATI, ASOSIY XUSUSIYATLARI VA MEZONLARI

**Boltayeva Dilafza Jumaqulovna,**

Toshkent davlat iqtisodiyot universiteti Iqtisodiyot (tarmoqlar va sohalar) yoʻnalishi talabasi

### Annotatsiya

Har qanday mamlakatning makroiqtisodiy barqarorligini taʼminlash uchun iqtisodiyotni tartibga solishning bozor mexanizmlari va instrumentlarini qoʻllash bilan bir qatorda, davlatning budjet-soliq va pul-kredit siyosatlarini toʻgʻri yoʻlga qoʻyish, ularning samaradorligini oshirish kerak boʻladi. Ushbu maqolada mamlakat makroiqtisodiy barqarorligini taʼminlashda IS-LM-BP modelining fiskal va monetar siyosatga bogʻliqligi oʻrganilgan, uning asosiy xususiyat va mezonlari aniqlangan, tahlil qilingan.

### Kalit soʻzlar

*Budjet-soliq siyosati, pul-kredit siyosati, balans, kredit, Markaziy bank, IS-LM modeli, IS-LM-BP modeli, kapital, valyuta kurslari, foiz stavkasi, pul bozori.*

**Kirish.** Mamlakat jahon sivilizatsiyasi yetakchilari qatoriga kirish, tez va sifatli ilgariylashini taʼminlashi uchun davlat moliyasini boshqarishni takomillashtirishga asoslangan holda islohotlarini amalga oshirishiga toʻgʻri keladi. Bularni taʼminlovchi asosiy vositalar davlatning budjet-soliq va pul-kredit siyosati hisoblanadi.

Oʻzbekiston Respublikasi Prezidentining 08.01.2019 dagi “Iqtisodiyotni yanada rivojlantirish va iqtisodiy siyosat samaradorligini oshirishning qoʻshimcha chora-tadbirlari toʻgʻrisida”gi farmoniga koʻra, fiskal siyosat samaradorligi quyidagi kompleks chora-tadbirlarni ishlab chiqish orqali amalga oshiriladi:

vaqtinchalik tashqi shoklar va islohotlar natijasida yuzaga keladigan yoʻqotishlarni boshqarishning yetarlicha moslashuvchan shart-sharoitlarini taʼminlaydigan fiskal siyosat qoidalarini ishlab chiqish;

umumiy fiskal balans doirasida davlat dasturlarini kreditlash boʻyicha Oʻzbekiston Respublikasi Tiklanish va taraqqiyot jamgʻarmasi konsolidatsiyalashgan budjeti va amaliyotlarini aniq hisobga olishni joriy etish;

fiskal xavf-xatarlarning aniqlash, oshkor qilish va boshqarish qoʻllanmasini ishlab chiqish.

Makroiqtisodiy barqarorlikni taʼminlash uchun iqtisodiyotni tartibga solishning bozor mexanizmlari va instrumentlarini qoʻllashni kengaytirish, shuningdek, pul-kredit siyosati samaradorligini tubdan oshirish maqsadida:

pul bozorida foiz stavkalarini tartibga solish va inflatsion jarayonlarni boshqarish maqsadida pul-kredit siyosatining keng qamrovli instrumentlarini qoʻllash;

pul-kredit siyosati sohasida obyektiv qarorlar qabul qilish maqsadida ichki va tashqi bozorlarda mavjud boʻlgan ochiq maʼlumotlarni





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


# TASHKENT STATE UNIVERSITY OF ECONOMICS



+998 71 239-28-94  <http://dgeconomy.tsue.uz/>

 [dgeconomy\\_tdiu@mail.ru](mailto:dgeconomy_tdiu@mail.ru), [dgeconomy@tsue.uz](mailto:dgeconomy@tsue.uz)

 100066, Toshkent shahri, Islom Karimov ko'chasi, 49-uy.