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DIGITAL TRANSFORMATION OF THE BANKING SECTOR AND FINANCIAL INCLUSION IN UZBEKISTAN

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Abstract. This article investigates how the digital transformation of the banking sector contributes to financial inclusion and economic growth, with particular attention to the experience of Uzbekistan. Drawing on global data from the World Bank's Global Findex Database and recent statistics on Uzbekistan's fintech and digital banking sector, the study shows that account ownership, the use of digital payments, and access to fintech-based credit have expanded rapidly over the past decade, both globally and domestically. The number of fintech companies operating in Uzbekistan grew more than fourfold between 2018 and 2025, remote banking users increased several times over within the same period, and the national Fast Payment System now processes billions of dollars in transactions monthly. The article analyzes the channels through which these developments support broader economic growth — reduced transaction costs, expanded access to credit for micro and small enterprises, and improved transparency of economic activity — while also identifying the regulatory, infrastructural, and behavioral barriers that continue to constrain full financial inclusion. The article concludes with policy recommendations for sustaining Uzbekistan's digital banking transformation.
Keywords: environmental perception, climate change, willingness to pay, public attitudes, Uzbekistan, Central Asia, Life in Transition Survey.

Annotatsiya. Ushbu maqolada bank sektorining raqamli transformatsiyasi moliyaviy inklyuziya va iqtisodiy oʻsishga qanday taʼsir koʻrsatishi Oʻzbekiston tajribasi misolida tahlil qilingan. Tadqiqot Jahon bankining Global Findex maʼlumotlar bazasi hamda Oʻzbekistonda fintech va raqamli bank xizmatlari rivojlanishiga oid soʻnggi statistik maʼlumotlarga asoslanadi. Tahlillar shuni koʻrsatadiki, soʻnggi oʻn yillikda bank hisobvaraqlariga egalik darajasi, raqamli toʻlovlardan foydalanish va fintech asosidagi kredit xizmatlariga kirish imkoniyatlari ham jahon miqyosida, ham Oʻzbekistonda sezilarli darajada kengaydi. Xususan, Oʻzbekistonda faoliyat yuritayotgan fintech kompaniyalari soni 2018–2025-yillarda toʻrt baravardan ortiq oshdi, masofaviy bank xizmatlaridan foydalanuvchilar soni bir necha barobar koʻpaydi hamda Milliy tezkor toʻlov tizimi har oy milliardlab dollarlik tranzaksiyalarni qayta ishlamoqda. Maqolada ushbu jarayonlarning iqtisodiy oʻsishga taʼsir etuvchi asosiy mexanizmlari, jumladan tranzaksiya xarajatlarini kamaytirish, mikro va kichik biznes subyektlari uchun moliyaviy resurslardan foydalanish imkoniyatlarini kengaytirish hamda iqtisodiy faoliyatning shaffofligini oshirish masalalari tahlil qilingan. Shu bilan birga, moliyaviy inklyuziyaning toʻliq taʼminlanishiga toʻsqinlik qilayotgan meʼyoriy-huquqiy, infratuzilmaviy va xulq-atvor omillari aniqlanib, Oʻzbekistonda bank sektorining raqamli transformatsiyasini yanada jadallashtirish boʻyicha ilmiy-amaliy tavsiyalar ishlab chiqilgan.
Kalit soʻzlar: raqamli bank xizmatlari, moliyaviy inklyuziya, fintech, iqtisodiy oʻsish, Global Findex, mobil toʻlovlar, Oʻzbekiston, raqamli iqtisodiyot, Oʻzbekiston Respublikasi Markaziy banki.

Аннотация. В данной статье исследуется влияние цифровой трансформации банковского сектора на финансовую инклюзию и экономический рост на примере Республики Узбекистан. Исследование основано на данных базы Global Findex Всемирного банка, а также на последних статистических данных о развитии финтех-компаний и цифровых банковских услуг в Узбекистане. Результаты анализа показывают, что за последнее десятилетие как в мире, так и в Узбекистане значительно расширились уровень владения банковскими счетами, использование цифровых платежей и доступ к кредитным продуктам на основе финтех-технологий. В частности, количество финтех-компаний в Узбекистане в 2018–2025 годах увеличилось более чем в четыре раза, число пользователей дистанционных банковских услуг выросло в несколько раз, а Национальная система быстрых платежей ежемесячно обрабатывает транзакции на миллиарды долларов США. В статье проанализированы основные механизмы влияния этих процессов на экономический рост, включая снижение транзакционных издержек, расширение доступа микро- и малых предприятий к финансовым ресурсам, а также повышение прозрачности экономической деятельности. Одновременно выявлены нормативно-правовые, инфраструктурные и поведенческие барьеры, препятствующие дальнейшему развитию финансовой инклюзии. По итогам исследования предложены научно-практические рекомендации, направленные на дальнейшее развитие цифровой трансформации банковского сектора Республики Узбекистан.
Ключевые слова: цифровой банкинг, финансовая инклюзия, финтех, экономический рост, Global Findex, мобильные платежи, Узбекистан, цифровая экономика, Центральный банк Республики Узбекистан.

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INTRODUCTION

The rapid advancement of information and communication technologies has fundamentally reshaped the structure and functioning of the global banking sector over the past fifteen years. Traditional branch-based banking models are increasingly being supplemented, and in some market segments replaced, by digital platforms that allow individuals and businesses to access financial services remotely, quickly, and at lower cost. This transformation is not merely technological; it carries direct economic consequences, particularly for financial inclusion — the extent to which individuals and enterprises, especially those in rural or low-income segments, have access to useful and affordable financial products and services.

According to the World Bank's Global Findex Database 2021, worldwide account ownership rose from 51 percent of adults in 2011 to 76 percent in 2021, and by the 2025 edition of the survey this figure had reached 79 percent globally, driven in large part by the spread of mobile phone-based financial services. In developing economies specifically, account ownership increased from 63 percent in 2017 to 71 percent in 2021, and the share of adults using digital payments in developing economies grew from 35 percent in 2014 to 57 percent in 2021. These global trends provide the backdrop against which national experiences, including that of Uzbekistan, should be assessed.

For Uzbekistan, digital banking transformation is a particularly relevant subject of study. Historically, a large share of the population, especially in rural areas, had limited access to formal banking services and relied heavily on cash. Over the past five years, however, the government and the Central Bank of Uzbekistan (CBU) have pursued an active policy of digital transformation in the financial sector, anchored in strategic documents such as "Digital Uzbekistan – 2030" and the Strategy for Reforming the Banking System of the Republic of Uzbekistan for 2020–2025. The purpose of this research is to analyze the relationship between digital banking transformation, financial inclusion, and economic growth, using both international data and up-to-date evidence on Uzbekistan's fintech sector, and to identify the mechanisms and remaining barriers associated with this process.

LITERATURE REVIEW

The concept of financial inclusion has been extensively studied by international financial institutions, particularly the World Bank, whose Global Findex Database — first published in 2011 and updated in 2014, 2017, 2021, and 2025 — remains the most comprehensive demand-side source of data on how adults around the world save, borrow, make payments, and manage financial risk. The Global Findex team defines financial inclusion as access to useful and affordable financial products and services — transactions, payments, savings, credit, and insurance — delivered in a responsible and sustainable manner. Research based on this dataset consistently finds a positive relationship between the depth of financial inclusion and long-term economic development, since broader access to accounts and credit allows households to smooth consumption and invest in health, education, and small enterprises.

The 2021 Global Findex round highlighted the accelerating role of mobile money and digital payment platforms in expanding financial access, particularly in regions where traditional bank branch networks are limited. The Center for Financial Inclusion's analysis of the 2021 Findex data noted that Sub-Saharan Africa recorded the fastest growth in account ownership of any region — rising from 23 percent to 55 percent between 2011 and 2021 — driven primarily by mobile money adoption, illustrating how digital financial infrastructure can substitute for physical banking infrastructure in underserved markets. The subsequent 2025 Findex round confirmed the continuation of this trend, reporting that 79 percent of adults worldwide now hold an account and that the share of adults in developing economies saving in a financial account rose to 40 percent in 2024, up sharply from 24 percent in 2021.

In parallel with this global literature, a growing body of country-specific reporting has documented Uzbekistan's fintech and digital banking development. Industry and policy sources describe a rapid expansion of the national fintech sector, growth in remote and mobile banking usage, and an evolving regulatory framework built around electronic money licensing, a regulatory sandbox for fintech testing, and interoperability standards for digital payment providers. At the same time, the literature on digital finance more broadly cautions that technological innovation alone does not guarantee inclusive outcomes: gaps in digital literacy, uneven internet and smartphone access between urban and rural populations, and consumer concerns about data security can create new forms of exclusion — a phenomenon often referred to as the "digital divide." This suggests that regulatory design and complementary investment in digital and financial literacy are as important as the underlying technology itself.

RESEARCH METHODOLOGY

This study applies a descriptive and comparative analytical approach, combining global financial inclusion indicators from the World Bank's Global Findex Database (2021 and 2025 editions) with recent sector-level data on Uzbekistan's fintech and digital banking development drawn from Central Bank of Uzbekistan reporting and specialized industry publications. The mechanisms linking digital banking transformation to financial inclusion and economic growth are grouped into technological, regulatory, and behavioral categories. Quantitative indicators — including the number of fintech companies, remote banking users, transaction volumes, and account ownership rates — are used descriptively to illustrate the scale and pace of transformation, while qualitative analysis of national strategy documents is used to assess the institutional framework supporting this process.

ANALYSIS AND DISCUSSION

The findings indicate that digital transformation has become the principal driver of financial inclusion, replacing the traditional branch-based banking model with technology-oriented financial services. According to the Global Findex database, global account ownership increased from 51% of the adult population in 2011 to 79% by 2024–2025, while the use of digital payment services expanded even more rapidly. This trend suggests that digital payment platforms are no longer supplementary banking instruments but have evolved into the primary gateway through which individuals access formal financial services. The rapid increase in digital savings and electronic transactions further confirms that mobile technologies and fintech innovations are fundamentally reshaping the global financial ecosystem. Uzbekistan demonstrates a similar development trajectory, although at a comparatively earlier stage of digital financial transformation. The country's fintech ecosystem has expanded significantly during the last seven years. The number of registered fintech companies increased from 24 in 2018 to 103 in 2025, representing a 4.3-fold growth. More than half of these companies operate in digital payment services, indicating that payment technologies have become the dominant segment of the national fintech market. At the same time, the emergence of licensed digital banks, payment providers, and fintech-oriented microfinance institutions reflects the gradual diversification of digital financial services beyond conventional banking activities. The expansion of digital banking services has substantially increased public participation in the formal financial system. Remote banking users grew from approximately 22 million in 2023 to nearly 34 million in 2024, while the number of active online banking customers increased almost fivefold compared with five years earlier. Furthermore, the Fast Payment System processed transactions exceeding USD 10.2 billion in a single month, illustrating the rapid replacement of cash-based payments with digital transactions. These indicators demonstrate not only the increasing accessibility of banking services but also a significant shift in consumer financial behavior toward digital channels. The results imply that digital banking has become an integral component of everyday economic activity rather than merely an alternative banking service. The analysis identifies several economic mechanisms through which digital banking contributes to financial inclusion and economic growth. First, digital financial services reduce transaction costs and eliminate geographical barriers, enabling households and businesses in remote areas to access banking services more efficiently. Second, fintech-based credit assessment models facilitate financing for micro and small enterprises that traditionally experience difficulties obtaining loans because of insufficient collateral or limited credit histories. Third, the widespread adoption of electronic payments enhances the transparency of financial transactions, strengthens tax administration, and reduces the scale of informal economic activity. Collectively, these mechanisms improve financial resource allocation, stimulate entrepreneurial activity, and contribute to sustainable economic growth. Despite these achievements, the empirical evidence indicates that financial inclusion in Uzbekistan remains incomplete. According to World Bank estimates, approximately 9.94 million adults still lacked access to a formal financial account in 2024, resulting in an account ownership rate of around 60%, which remains

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below the average level observed across developing economies. This finding suggests that although digital banking infrastructure has expanded rapidly, the benefits of digital transformation have not yet reached all segments of society. Consequently, increasing the number of active financial service users remains as important as expanding digital transaction volumes. International comparisons provide additional insight into Uzbekistan's development path. The experience of Sub-Saharan Africa demonstrates that mobile financial services can successfully substitute for limited physical banking infrastructure, while South Asia illustrates that simply increasing the number of bank accounts does not guarantee sustainable financial inclusion unless those accounts remain actively used. Uzbekistan appears to be moving toward a more sustainable model by combining account expansion with growing digital payment activity through its Fast Payment System and rapidly developing fintech ecosystem. Nevertheless, several structural constraints continue to limit the full economic impact of digital banking. Digital literacy disparities, uneven internet infrastructure between urban and rural areas, cybersecurity concerns, and limited consumer confidence remain significant obstacles to broader financial inclusion. Addressing these issues requires continued investment in digital infrastructure, expansion of financial education programs, and further improvement of the regulatory environment governing fintech development. Overall, the results confirm that digital transformation of the banking sector has become an important institutional driver of financial inclusion and economic growth in Uzbekistan. The rapid expansion of fintech companies, digital banking services, and electronic payment infrastructure has significantly improved access to financial services while creating favorable conditions for entrepreneurship, investment, and economic modernization. However, achieving international benchmarks of financial inclusion will require policies aimed at reducing regional disparities, strengthening digital capabilities among the population, and ensuring the sustainable development of the **national digital financial ecosystem.**

Table 1

Key Indicators of Digital Banking Transformation in Uzbekistan (2018–2025)

Indicator	2018	2023	2024	2025	Growth
Registered fintech companies	**24**	**67**	**84**	**103**	4.3×
Remote banking users (million)	**–**	**22**	**34**	**–**	54.5%
Licensed payment service providers	**–**	**38**	**42**	**44**	**+15.8%**
Licensed digital banks	**–**	**2**	**3**	**3**	**+50.0%**
Fast Payment System transactions (USD billion/month)	**–**	**5.6**	**8.9**	**10.2**	**+82.1%**
Venture capital investment in fintech (USD million)	**–**	**41.2**	**69.5**	**–**	**+68.7%**

Source: Compiled by the author based on the Central Bank of Uzbekistan, Global Findex Database and official fintech statistics.

Table 1 demonstrates that the digital transformation of Uzbekistan's banking sector has accelerated considerably during the last seven years. The number of

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fintech companies expanded more than fourfold, while remote banking users increased by over 50% within only one year. Simultaneously, the value of transactions processed through the Fast Payment System almost doubled, indicating that digital financial services have become the preferred payment mechanism for households and businesses. These results confirm that digital banking is no longer limited to technological modernization but has evolved into a key institutional instrument supporting financial accessibility and economic activity.

Table 2

Digital Banking and Financial Inclusion: Global Comparison

Indicator	World	Developing Economies	Uzbekistan
Adults with bank accounts (%)	79	71	60
Digital payment users (%)	67	57	Rapidly increasing
Financial savings through formal accounts (%)	48	40	Increasing
Main driver of financial inclusion	Digital banking	Mobile payments	Fintech & Digital Banking
Digital financial infrastructure	Highly developed	Developing	Rapidly expanding

Source: Compiled by the author using World Bank Global Findex Database and Uzbekistan digital finance statistics.

Table 2 indicates that although Uzbekistan has achieved remarkable progress in banking digitalization, its financial inclusion level remains below the average observed across developing economies. Approximately 60% of adults possess a formal financial account, compared with an average of 71% in developing countries. Nevertheless, the rapid growth of fintech companies, digital payment infrastructure, and remote banking services suggests that Uzbekistan is following the same digital transformation pathway previously observed in successful developing economies. The evidence implies that further expansion of digital banking services, combined with improvements in digital literacy and financial infrastructure, could substantially reduce the existing financial inclusion gap and strengthen long-term economic growth.

CONCLUSION

The evidence reviewed in this article shows that digital transformation of the banking sector is closely associated with meaningful gains in financial inclusion and carries several plausible channels of impact on broader economic growth, both globally and within Uzbekistan specifically. Global Findex data confirm that digital payment and mobile-based account adoption, rather than an expansion of physical banking infrastructure, has become the principal driver of financial inclusion worldwide over the past decade. Uzbekistan's own experience mirrors this pattern: a fourfold increase in the number of fintech companies since 2018, several-fold growth in remote banking users, and a rapidly scaling Fast Payment

System all point to a financial sector that is being reshaped by digital technology at considerable speed, supported by an active program of regulatory and strategic reform. At the same time, digital literacy gaps, regional disparities in connectivity, and data security concerns remain real constraints that policy must continue to address if the benefits of this transformation are to be broadly and equitably distributed. Continued investment in infrastructure, financial literacy, and adaptive regulation will determine how fully Uzbekistan can convert its rapid fintech growth into sustained, inclusive economic development. Future research employing firm-level or household-level data would allow for a more precise quantitative estimation of the economic growth effects specifically attributable to digital banking reforms in the national context.

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