THE ROLE AND SIGNIFICANCE OF DIGITAL BANKING SERVICES IN REDUCING THE SHADOW ECONOMY

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Abstract

This thesis examines the role and significance of digital banking services in reducing the shadow economy. The mechanisms through which digital payments, electronic transactions, and financial technology contribute to economic formalization are analyzed and practical recommendations for expanding digital banking infrastructure are developed based on international experience.

Keywords

shadow economy, digital banking, electronic payments, financial inclusion, tax compliance, cashless economy, fintech, economic formalization, money laundering, transparency.

Аннотация: В данном тезисе исследуются роль и значение цифровых банковских услуг в сокращении теневой экономики. Проанализированы механизмы, посредством которых цифровые платежи, электронные транзакции и финансовые технологии способствуют формализации экономики, разработаны практические рекомендации по расширению инфраструктуры цифрового банкинга на основе международного опыта.

Annotatsiya: Ushbu tezisda yashirin iqtisodiyotni qisqartirishda raqamli bank xizmatlarining roli va ahamiyati o‘rganilgan. Raqamli to‘lovlar, elektron tranzaksiyalar va moliyaviy texnologiyalarning iqtisodiyotni rasmiylashtirish mexanizmlari tahlil qilingan va xalqaro tajriba asosida raqamli bank infratuzilmasini kengaytirish bo‘yicha amaliy tavsiyalar ishlab chiqilgan.

Ключевые слова: теневая экономика, цифровой банкинг, электронные платежи, финансовая инклюзия, налоговое соответствие, безналичная экономика, финтех, формализация экономики, отмывание денег, прозрачность.

Kalit so‘zlar: yashirin iqtisodiyot, raqamli bank, elektron to‘lovlar, moliyaviy inklyuzivlik, soliq intizomi, naqdsiz iqtisodiyot, fintech, iqtisodiyotni rasmiylash, pul yuvish, shaffoflik.

The shadow economy represents one of the most significant challenges facing developing and emerging market economies worldwide. Informal economic activities conducted outside regulatory oversight result in substantial tax revenue losses, distorted economic statistics, unfair competition for formal businesses, and reduced effectiveness of macroeconomic policies. The "Uzbekistan-2030" strategy has identified reduction of the shadow economy as a strategic priority for achieving sustainable economic development and fiscal stability. According to International Monetary Fund estimates, the global shadow economy averages 31.9% of GDP, with developing countries experiencing significantly higher levels reaching 35-45% of GDP. In Uzbekistan, various estimates suggest the shadow economy constitutes approximately 25-30% of GDP, representing 20-25 trillion UZS in unreported economic activity and 4-6 trillion UZS in foregone tax revenues annually. Cash transactions, which are inherently difficult to trace and monitor, facilitate the majority of shadow economic activities-research indicates that countries with cash-to-GDP ratios exceeding 10% typically have larger informal sectors.

Digital banking services offer a powerful mechanism for addressing this challenge by creating transparent, traceable financial flows that are inherently more difficult to conceal from regulatory authorities. In 2024, Uzbekistan's digital payment volume reached 847 trillion UZS, representing a 340% increase from 2020 levels. Mobile banking users exceeded 18.4 million, and card-based transactions grew to 67% of retail payments in urban areas. However, cash still dominates in rural regions and informal

markets. Understanding the mechanisms through which digital banking reduces shadow economic activity is essential for designing effective policies to promote economic formalization [1]. When analyzing the relationship between digital banking and shadow economy reduction, empirical evidence demonstrates a strong negative correlation-countries with higher digital payment penetration consistently exhibit smaller informal sectors. Cross-country analysis by the World Bank indicates that a 10-percentage point increase in electronic payment adoption correlates with 3-5 percentage point reduction in shadow economy size. Sweden, with over 98% cashless transactions, maintains a shadow economy of merely 8% of GDP, while cash-intensive economies like Greece and Italy experience informal sectors exceeding 22-25% of GDP. This relationship operates through several distinct mechanisms that merit detailed examination [2].

The first important mechanism is enhanced transaction traceability and audit trail creation. Every digital banking transaction generates an electronic record containing timestamp, parties involved, amount, and purpose-information that is automatically preserved and accessible to regulatory authorities. This transparency fundamentally alters the cost-benefit calculus for tax evasion and unreported income. Research demonstrates that businesses using electronic point-of-sale systems report 18-25% higher revenues compared to cash-only establishments, not because they earn more, but because electronic records make underreporting significantly more difficult. In Uzbekistan, the State Tax Committee's integration with banking systems enables real-time monitoring of business transactions, with automated cross-referencing identifying discrepancies between reported income and actual financial flows. Studies indicate that tax compliance rates among businesses using digital payment systems are 34% higher than cash-based counterparts.

The second mechanism involves reduction of cash dependency and currency circulation outside the formal banking system. Cash is the lifeblood of shadow economic

activity-anonymous, untraceable, and easily concealed. Digital banking services directly substitute for cash transactions, bringing economic activity into visible channels. India's demonetization experience in 2016, while controversial, demonstrated that sudden cash restrictions dramatically disrupted informal economic networks. More gradual approaches through digital payment promotion achieve similar formalization effects without economic disruption. In Uzbekistan, cash-to-GDP ratio decreased from 12.8% in 2020 to 7.4% in 2024, coinciding with significant expansion of digital payment infrastructure. Each percentage point reduction in cash circulation is associated with approximately 0.6-0.8 percentage point decrease in estimated shadow economy size [3].

The third mechanism is financial inclusion and formalization of previously unbanked populations. Approximately 1.4 billion adults globally remain unbanked, many participating in informal economic activities by necessity rather than choice. Digital banking services, particularly mobile money platforms, dramatically lower barriers to financial system participation-no physical branch visits, minimal documentation requirements, and negligible minimum balances. When informal workers gain access to digital financial services, their economic activities become visible and potentially taxable. Kenya's M-PESA mobile money platform brought 70% of previously unbanked adults into the formal financial system, contributing to measured GDP growth of 2% annually. In Uzbekistan, financial inclusion increased from 37% in 2017 to 72% in 2024, with mobile banking serving as the primary driver. Research shows that newly banked individuals increase their formal economic participation by 45% within two years of account opening.

The fourth mechanism involves strengthened anti-money laundering (AML) and counter-terrorism financing (CTF) capabilities. Digital banking systems incorporate sophisticated monitoring algorithms that detect suspicious transaction patterns, unusual cash flows, and potential money laundering activities. Know-Your-Customer (KYC)

requirements for digital account opening create verified identity databases that impede anonymous financial activities. Automated suspicious activity reporting enables regulatory authorities to identify and investigate potential illegal activities in real-time. The Financial Action Task Force (FATF) emphasizes digital payment expansion as a key strategy for combating money laundering and terrorist financing. Uzbekistan's enhanced AML framework, integrated with digital banking infrastructure, resulted in 156% increase in suspicious transaction reports between 2020 and 2024, with successful prosecution of previously undetectable financial crimes [4].

The fifth mechanism concerns behavioral changes and normalization of formal economic participation. Beyond technical traceability, digital banking creates psychological and social shifts toward formal economic behavior. When digital payments become convenient, ubiquitous, and socially expected, informal cash transactions become the exception rather than norm. Network effects amplify this transition-as more businesses and consumers adopt digital payments, holdouts face increasing inconvenience and social pressure to conform. Research in behavioral economics demonstrates that default options powerfully shape behavior; when digital payment is the default, formal transactions increase even without enforcement changes. Youth populations, digital natives who have grown up with smartphones and mobile payments, exhibit dramatically lower propensity for cash-based informal activities. In Uzbekistan, digital payment adoption among 18-30 age group exceeds 89%, compared to 52% among those over 50, suggesting generational transition toward formal economic participation[5]. Digital banking services represent a powerful and increasingly essential tool for reducing shadow economic activity and promoting economic formalization. The mechanisms through which digitalization achieves these effects-transaction traceability, cash dependency reduction, financial inclusion expansion, AML/CTF strengthening, and behavioral normalization-operate synergistically, with each reinforcing the others.

International evidence consistently demonstrates that countries prioritizing digital payment infrastructure experience significant reductions in shadow economy size, increased tax revenues, and improved macroeconomic policy effectiveness.

For Uzbekistan, strategic priorities for leveraging digital banking to reduce the shadow economy include: continuing aggressive expansion of digital payment infrastructure, particularly in rural areas and traditional markets where cash remains dominant; implementing incentives for digital payment adoption by businesses, including reduced transaction fees and simplified tax reporting for electronic transactions; strengthening integration between banking systems and tax authorities for real-time transaction monitoring; promoting financial literacy and digital skills among populations currently excluded from formal financial services; and developing regulatory frameworks that balance innovation encouragement with appropriate oversight. Achievement of "Uzbekistan-2030" targets for shadow economy reduction critically depends on successful digital banking expansion, making this not merely a financial sector priority but a fundamental economic policy imperative.

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