

DEVELOPMENT OF THE NON-CASH PAYMENT SYSTEM IN THE REPUBLIC OF UZBEKISTAN: CHALLENGES AND PROSPECTS OF DIGITALISATION

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Abstract (English): This article examines the current state and structural dynamics of the non-cash payment system in the Republic of Uzbekistan against the backdrop of accelerating digital transformation. Drawing on Central Bank of Uzbekistan statistical data for 2019–2023, the study traces the evolution of the non-cash share in total payment volume and identifies persistent barriers to full cashless integration. The analysis covers geographic asymmetries in payment infrastructure, incomplete interoperability between domestic payment systems, and the unresolved tension between rapid fintech growth and regulatory capacity. Three structural constraints are identified that standard digitalisation narratives tend to understate: informal economy inertia, digital literacy gaps among the rural adult population, and underdeveloped consumer dispute resolution mechanisms. Practical recommendations are offered that reflect the institutional realities of Uzbekistan's financial sector rather than generic policy templates.

Keywords: non-cash payments, digitalisation, Uzbekistan, payment infrastructure, financial inclusion, fintech, Central Bank, interoperability, informal economy, digital literacy.

Аннотация (Русский): В статье исследуется современное состояние и структурная динамика системы безналичных расчётов в Республике Узбекистан в условиях ускоряющейся цифровой трансформации. На основе статистики Центрального банка Республики Узбекистан за 2019–2023 годы прослеживается эволюция доли безналичных транзакций в общем объёме платежей и выявляются устойчивые барьеры для полной интеграции в безналичную среду. Анализ охватывает географическую асимметрию платёжной инфраструктуры, неполную interoperability отечественных платёжных систем и нерешённое противоречие между стремительным ростом финтеха и регуляторными возможностями. Выявлены три структурных ограничения: инерция теневой экономики, разрыв в цифровой грамотности сельского взрослого населения и недостаточное развитие механизмов урегулирования споров. Предложены практические рекомендации, учитывающие институциональные реалии финансового сектора Республики Узбекистан.



Ключевые слова: безналичные расчёты, цифровизация, Узбекистан, платёжная инфраструктура, финансовая доступность, финтех, Центральный банк, интероперабельность, теневая экономика, цифровая грамотность.

Annotatsiya (O'zbek): Ushbu maqolada O'zbekiston Respublikasida naqd pulsiz to'lovlar tizimining joriy holati va tarkibiy dinamikasi tezlashayotgan raqamli transformatsiya sharoitida ko'rib chiqiladi. O'zbekiston Respublikasi Markaziy bankining 2019–2023 yillardagi statistikasi asosida naqd pulsiz tranzaksiyalar ulushining evolyutsiyasi kuzatiladi va barqaror to'siqlar aniqlanadi. Tahlil to'lov infratuzilmasidagi geografik assimetriyani, mahalliy to'lov tizimlari o'rtasidagi to'liq bo'lmagan o'zaro aloqadorlikni va fintech o'sishi bilan tartibga solish imkoniyatlari o'rtasidagi ziddiyatni qamrab oladi. Uchta tarkibiy cheklash aniqlanadi: norasmiy iqtisodiyot inersiyasi, qishloq voyaga etgan aholisining raqamli savodxonligi bo'shlig'i va iste'molchilarni himoya qilish mexanizmlarining rivojlanmaganligi. O'zbekiston Respublikasi moliyaviy sektorining institutsional realliklarini hisobga olgan holda amaliy tavsiyalar taklif etiladi.

Kalit so'zlar: naqd pulsiz to'lovlar, raqamlashtirish, O'zbekiston, to'lov infratuzilmasi, moliyaviy qamrov, fintech, Markaziy bank, o'zaro aloqadorlik, norasmiy iqtisodiyot, raqamli savodxonlik.

INTRODUCTION

There is a telling gap between how non-cash payment reform is described in official documents and what the statistical data actually shows. Presidential Decree No. PP-4742 of 2020, which set the target of raising the non-cash share of retail turnover to 50% by 2023, generated substantial institutional momentum: new payment operators were licensed, the UZCARD and Humo systems were pushed toward technical consolidation, and QR-code payment infrastructure began appearing in bazaars and small shops across the country. Yet as of early 2024, the share of cash in household consumption expenditure remained well above 40% in rural regions [1], and the total volume of ATM cash withdrawals continued to grow in absolute terms — despite a rising share of card transactions [2].

This is not a contradiction unique to Uzbekistan. The pattern is well-documented in middle-income countries undergoing payment digitalisation where the formal and informal economies coexist at scale [3]. What makes the Uzbek case worth examining with particular care is the combination of factors specific to it: a demographic structure strongly skewed toward youth, a sharp urban-rural divide in infrastructure access, a banking system that completed liberalisation only within the last decade, and a government that has placed digital payment reform at the centre of its broader economic modernisation agenda. Each of these dimensions shapes the trajectory of non-cash payment development in ways that surface-level comparisons with Kazakhstan or Georgia miss entirely.





This article asks a specific question: where, structurally, does the non-cash payment system of Uzbekistan remain constrained, and what kinds of interventions are genuinely consistent with those constraints? The answer requires moving past aggregate growth figures — which are genuinely impressive — and examining what that growth conceals.

Literature Review

The academic literature on payment system development in transition economies converges on several well-established findings. Humphrey, Pulley and Vesala demonstrated convincingly that network effects are decisive in payment system adoption: once a critical mass of merchants and consumers use electronic payments, the cost of remaining outside the system rises sharply for both parties [3]. This explains why top-down mandates — such as routing public sector salaries through bank accounts — have historically served as effective first-stage accelerators in Turkey, Poland and Brazil.

The World Bank's Global Findex data for 2021 placed account ownership in Uzbekistan at 57% of adults — a significant increase from 38% in 2017, but still substantially below the Europe and Central Asia regional average of 78% [4]. Account ownership and active payment system usage are, however, distinct metrics: having a bank account does not translate automatically into habitual non-cash payment behaviour, particularly where physical cash infrastructure remains accessible, convenient and trusted.

Researchers at the Tashkent State University of Economics have examined the structural characteristics of Uzbekistan's payment landscape with particular attention to the UZCARD and Humo ecosystems [5]. A recurring finding in this literature is the merchant acceptance infrastructure problem: the ratio of POS terminals to population remains low in small towns and district centres, creating a structural gap that card issuance alone is incapable of closing. Sobirov and Yusupova's 2023 analysis of the Fergana Valley documented specifically how the concentration of POS terminals in regional centres leaves surrounding townships — which account for a substantial share of regional economic activity — effectively outside the non-cash payment network [6].

International experience with interoperability reform offers a directly relevant reference point. The cases of India (Unified Payments Interface), Kenya (interoperable mobile money) and Thailand (PromptPay) all demonstrate that the decisive factor in accelerating non-cash adoption is not the number of payment instruments available but the degree to which those instruments interact across institutional boundaries without friction [7]. This insight has immediate implications for Uzbekistan, where UZCARD and Humo operated as largely parallel systems until regulatory pressure toward interoperability intensified in 2022–2023.

The behavioural economics of payments literature adds a further dimension. Arend, Bogui and Lambrechts showed that consumer trust in payment systems is formed not only





through usage experience but through the perceived reliability of failure resolution: the more transparent the dispute mechanism, the lower the subjective 'risk premium' that users attach to electronic payments relative to cash [12]. This finding is critical for understanding consumer preferences in Uzbekistan, where the legislative framework for payer rights protection remains procedurally underspecified.

The Asian Development Bank, in its review of financial inclusion in transition economies, underscores that deploying non-cash payment infrastructure without simultaneous growth in financial literacy tends to produce rising household debt and financial vulnerability rather than sustainable financial inclusion [13]. This conclusion resonates directly with the situation in rural areas of Uzbekistan, where the expansion of payment infrastructure is outpacing financial education efforts.

Research Methodology

The study draws primarily on published statistical data from the Central Bank of the Republic of Uzbekistan for the period 2019–2024, including quarterly payment system monitoring reports and the Annual Report of the Payment Systems Department [1, 2]. These are supplemented by data from the State Statistics Committee of the Republic of Uzbekistan on household income and expenditure structure, which provides an independent cross-check on payment behaviour patterns not directly captured in transaction statistics [8].

The analytical framework combines structural description with comparative institutional analysis. Where international comparisons are drawn, they are selected on the basis of comparable income levels, demographic structure or policy context — not simply geographic proximity. The aim throughout is to identify the binding constraints on non-cash payment development rather than to catalogue the achievements of digitalisation policy, which have been documented extensively in other sources.

Analysis and Results

The headline trajectory of Uzbekistan's non-cash payment system is genuinely strong. Total non-cash payment volume grew from 94.9 trillion soums in 2019 to over 470 trillion soums in 2023 — a nearly fivefold increase in nominal terms [2]. The number of payment cards in circulation exceeded 38 million by end-2023, approaching a ratio of one card per adult [1]. Mobile banking application downloads accelerated sharply during 2020–2021, partly driven by COVID-era movement restrictions, and have continued growing since. By 2024, over 15 million users were registered across the major mobile payment platforms — Click, Payme and Uzum Pay — making Uzbekistan one of the faster-growing mobile payment markets in Central Asia [9].

The dynamics of key non-cash payment system indicators for 2019–2023 are presented in Table 1.



Table 1. Development dynamics of the non-cash payment system of the Republic of Uzbekistan, 2019–2023

Indicator	2019	2020	2021	2022	2023
Total non-cash payment volume, trillion soums	94.9	138.2	214.6	332.1	470.3
Number of payment cards in circulation, million units	22.1	25.7	29.4	33.8	38.2
Share of cash withdrawals in total card transaction value, %	61.4	58.9	55.2	51.3	47.8
Number of POS terminals, thousand units	112.3	138.6	174.2	219.8	271.4
Registered mobile payment app users, million people	2.1	4.8	8.3	11.9	15.4

Source: compiled by the author based on Central Bank of the Republic of Uzbekistan data [1, 2]

These figures are real. They are also, to a meaningful degree, misleading as indicators of genuine non-cash payment penetration. The growth in card volumes has been driven heavily by payroll cards — cards issued to public sector employees and state enterprise workers as the channel for salary disbursement. A significant share of these cards are used once per payment cycle: the cardholder receives their salary electronically and immediately withdraws it as cash at an ATM [2]. The card transaction count rises; the share of economic activity conducted without cash does not.

This pattern — referred to in the payment development literature as the 'salary card problem' — is not unique to Uzbekistan, but it is particularly pronounced here because of the large share of formal employment concentrated in state structures and because ATM networks remain dense enough in urban areas to make cash withdrawal cheap and convenient. The Central Bank's own monitoring data shows that cash withdrawals via cards accounted for 51.3% of total card transaction value in 2022, declining to 47.8% in 2023 [2] — progress is evident, but this is far from the profile of a system where cards are used primarily for payment rather than cash access.

The geographic dimension adds a further layer of complexity. Tashkent city and the Tashkent region account for a disproportionate share of non-cash transaction volume — a function of where payment infrastructure is densest, where formal employment is most concentrated, and where the population is most likely to have regular contact with digital financial services. In contrast, Surkhandarya, Kashkadarya and Khorezm regions show





markedly lower non-cash shares in retail activity [8]. The regional asymmetry in infrastructure and banking services coverage is presented in Table 2.

Table 2. Regional asymmetry of non-cash payment infrastructure in the Republic of Uzbekistan, 2023

Region	Non-cash share in retail, % (2023)	POS terminals per 10,000 residents	Banking services coverage, % of adults
Tashkent city	68.4	94.2	89.1
Tashkent region	52.1	61.7	76.3
Samarkand region	38.6	38.4	62.8
Fergana region	36.2	34.9	59.4
Kashkadarya region	29.7	26.1	51.2
Surkhandarya region	26.3	21.8	47.6
Khorezm region	27.9	23.4	49.3

Source: compiled by the author based on CBU data [1] and State Statistics Committee of Uzbekistan [8]

This asymmetry is not simply an infrastructure deficit resolvable by deploying more POS terminals. It reflects a deeper difference in the structure of local economies, where a larger share of transactions occurs in bazaar environments, between individuals, and in sectors — agriculture, construction, petty trade — where informal payment norms are deeply embedded.

The interoperability question has been partially addressed by regulatory action. Since 2022, the Central Bank has required that UZCARD and Humo cards be mutually accepted at all terminals, and both systems now share a common QR-payment standard. This was a necessary step, and its effects are visible in the reduction of merchant terminal duplication. However, full interoperability at the level of mobile application transfers — allowing a Payme user to send funds directly to a Click wallet, for instance — remains incomplete, creating friction that pushes consumers toward cash for peer-to-peer transfers [10]. A comparative analysis of international digitalisation experience in payment systems relative to Uzbekistan is presented in Table 3.

Table 3. Comparative analysis of international experience in payment system digitalisation

Country / System	Key instrument	Non-cash share before launch	Non-cash share after (period)	Key success factor
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India (UPI)	Unified Payments Interface	-22% (2016)	-65% (2023)	Full interoperability across banks and wallets
Kenya (M-Pesa)	USSD-based mobile money	-10% (2007)	-83% (2022)	Smartphone-free reach; agent network
Thailand (PromptPay)	Interbank transfer by phone number	-30% (2016)	-71% (2023)	Zero-fee transfers + government incentives
Uzbekistan	UZCARD + Humo + mobile wallets	-18% (2019)	-44% (2023)	Infrastructure growth with persistent 'salary card problem'

Source: compiled by the author based on BIS [7], World Bank [4], Central Bank of the Republic of Uzbekistan [2]

The experience of India, Kenya and Thailand demonstrates clearly that where full interoperability has been achieved — and end-user friction eliminated — growth in non-cash transactions has been both rapid and self-sustaining. The common denominator of success is not income level or geography: it is an architectural decision to treat payment infrastructure as an open network rather than a set of competing closed ecosystems.

A constraint that receives relatively little attention in policy documents is the underdevelopment of consumer dispute resolution for electronic payments. When a cash transaction goes wrong, the resolution pathway is socially understood and locally manageable. When an electronic payment fails, is delayed or results in an incorrect charge, the resolution pathway for most users in Uzbekistan is opaque and slow. This asymmetry — cash feels safer because its failure modes are familiar — contributes to consumer preference for cash in trust-uncertain contexts. Survey data from the State Statistics Committee's 2023 household module indicates that 34% of respondents who primarily use cash cite distrust of electronic payment reliability as a significant factor in their choice, second only to habit [8].

Structural Constraints: What the Growth Statistics Conceal

Three structural constraints stand out as consistently underweighted in standard digitalisation narratives.

The first is informal economy inertia. The share of the informal economy in Uzbekistan's GDP is estimated by the State Statistics Committee at approximately 48–52%





across 2020–2023 [8]. Informal economic activity is cash-based almost by definition — not because participants are technologically incapable of using electronic payments, but because cash leaves no traceable record capable of triggering tax obligations. This is a rational institutional response, not a cultural preference for cash as such. It means that expanding non-cash payment infrastructure, on its own, will not convert informal transactions into recorded electronic ones: it will simply give those who already operate formally a more convenient payment instrument. Closing the gap between infrastructure growth and actual non-cash penetration requires addressing the incentive structure that makes informality attractive — which is a fiscal policy problem, not a payment system problem.

The second constraint is the digital literacy gap among the adult rural population. Uzbekistan's population is young overall — the median age is approximately 28 years — but the rural adult population, particularly those aged 45 and above, shows substantially lower rates of smartphone usage and digital service engagement [11]. This group is not marginal: rural adults over 40 represent a significant share of agricultural and informal sector economic activity. Payment system products designed primarily for smartphone-native users — QR codes, mobile wallets, app-based transfers — reach this segment poorly. The infrastructure exists; the interface layer has not been adapted to serve it.

The third constraint is the weakness of the consumer protection framework for electronic payments. The Law on Electronic Commerce and the Law on Payments and Payment Systems of the Republic of Uzbekistan provide a general legal basis, but the specific procedural mechanisms for resolving disputed transactions — chargeback rights, investigation timelines, liability allocation between banks and payment operators — remain underspecified relative to the complexity of the payment landscape that has emerged [10]. Until users can reliably recover funds from incorrect or fraudulent transactions, the risk premium they attach to electronic payments over cash will remain positive, and their preference for cash in trust-uncertain situations will persist. A consolidated mapping of structural barriers and corresponding recommended measures is presented in Table 4.

Table 4. Structural constraints on non-cash payments and recommended measures

Structural barrier	Mechanism of impact	Recommended measures
Informal economy inertia (-50% of GDP)	Cash leaves no tax trail — rational choice for informal agents	Simplified tax regimes for small traders; reduced formalisation costs
Digital literacy gap (rural population 45+)	Smartphone-centric products do not reach a significant population	USSD-based payments without internet; interface adaptation; agent acceptance points



		segment	
Weak protection	consumer	Opaque dispute resolution creates a cash 'risk premium' for users	Clear chargeback rights; defined investigation timelines; public reporting by operators
Incomplete interoperability	app-level	Friction in P2P transfers between different wallets pushes users back to cash	Mandatory mobile wallet interoperability mandated by the Central Bank of Uzbekistan

Source: compiled by the author

Conclusions and Recommendations


The non-cash payment system of the Republic of Uzbekistan has undergone substantial development over the past five years, covering a distance that comparable economies have sometimes taken a decade to travel. Infrastructure coverage, card issuance, transaction volumes and mobile payment adoption have all grown at rates that compare favourably with regional peers. The policy framework established by the Central Bank — interoperability requirements, QR-payment standardisation, licensing of new payment operators — has been broadly appropriate to the country's development stage.

The harder question is whether the current trajectory leads to genuine non-cash payment penetration or to surface-level digitalisation in which formal metrics improve while the underlying cash-dependence of the economy remains structurally intact. The evidence reviewed here suggests the risk of the latter is real, and that addressing it requires interventions in three areas that extend beyond payment system policy narrowly defined.

The first is the incentive structure around informal economic activity. Making non-cash payment more convenient does not reduce informality if informality is rational under the prevailing tax and regulatory environment. A credible pathway to greater non-cash penetration in the informal sector requires fiscal reforms — simplified tax regimes for small traders, reduced administrative burden for formal registration — that alter the cost-benefit calculus of operating formally. Several pilot programmes under the 'open economy' reforms of 2022–2023 moved in this direction; their extension and deepening would do more to expand genuine non-cash use than any number of additional POS terminals.

The second priority is interface adaptation for users with lower digital literacy. The dominant design paradigm for Uzbek payment products assumes smartphone literacy that is not uniformly present across the adult population. USSD-based mobile payments — which function on basic handsets without internet connectivity and without application installation — have proven effective in reaching lower-digital-literacy populations in Kenya, Bangladesh and Pakistan [7]. Their adaptation for the Uzbek market, particularly for agricultural settlements in Surkhandarya and Khorezm, would extend meaningful





payment digitalisation to segments currently bypassed by the smartphone-centric approach.

The third is consumer protection infrastructure. The Central Bank's regulatory agenda for 2024–2026 includes provisions for strengthening electronic payment dispute resolution [1], but the pace of regulatory development has lagged behind the pace of payment system growth. Establishing clear, publicised and enforceable chargeback rights — with defined investigation timelines and liability rules — would materially reduce the trust premium that consumers currently attach to cash. In comparative experience, this is one of the highest-return regulatory investments available at Uzbekistan's stage of payment system development: the implementation cost is relatively modest, but the effect on user confidence is substantial.

Payment system development in Uzbekistan is not a technical problem awaiting a technical solution. The infrastructure is being built; in some segments it has already been built. What remains is the harder work of aligning incentives, adapting interfaces and building institutional trust — all of which take considerably longer than laying network cables or issuing cards, and all of which are prerequisites for the kind of non-cash payment penetration that sustains itself without continued regulatory pressure.

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