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Institutional and Technological Foundations of Economic Integration in Post Soviet Countries via Decentralized Financial Flows

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Abstract

This study examines how decentralized financial flows - including blockchain technologies, cryptocurrencies, fintech platforms, and central bank digital currencies - have influenced economic integration in post-Soviet countries from 2000 to 2025. Framed within the broader processes of digital transformation and institutional change, the research addresses the demand for alternative financial infrastructure in transitional economies. Employing a mixed-methods approach, it combines cross-country analysis with case studies to assess digital infrastructure, regulatory adaptation, financial inclusion, and DeFi adoption. Findings show that while digital connectivity has increased, decentralized finance usage varies based on institutional and socio-economic conditions. Countries facing financial shocks often adopted DeFi from the bottom up, while others pursued top-down regulatory strategies. The study concludes that decentralized finance is already enhancing integration by improving access to payments, savings, and public services.

Keywords: *Decentralized Finance (DeFi), Post-Soviet Economies, Economic Integration, Digital Transformation, Financial Inclusion.*

Introduction

Since the early 2000s, post-Soviet states have undergone rapid digital transformation, fundamentally changing economic interactions. Following the USSR's collapse, these countries sought new forms of integration linking households, businesses, and governments. Here, economic integration means a unified financial-economic space where flows move freely with minimal barriers. In recent decades, such integration has been increasingly enabled by decentralized financial flows – transactions carried out via digital technologies without traditional intermediaries.

This research is timely for several reasons. First, global digitalization has accelerated across all sectors. Post-Soviet governments have implemented e-government services and electronic payment platforms, embedding digital technologies in finance and public administration. For example, growing internet and mobile penetration in countries like Georgia or Kazakhstan has enabled widespread use of online banking and digital payments, mirroring global trends in which digital technologies reshape economies (OECD, 2025). Second, from an institutional economics perspective, these innovations challenge existing "rules of the game" (North, 1990). As Douglass North argued, institutions (formal and informal) shape economic performance and must evolve when technology changes (North, 1990). Cryptocurrencies and blockchain (emerging in the

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2010s) initially tested legal frameworks. Early responses varied: Belarus legalized crypto activity and offered tax breaks (Decree 8 in 2017) (Markets.businessinsider.com, 2017), while others were cautious or restrictive. Over time, most governments recognized the need to integrate and regulate these innovations rather than ban them. Balancing innovation with risk mitigation in the regulatory environment is thus crucial for leveraging DeFi in broader economic integration.

Third, the study employs a post-nonclassical scientific approach, viewing economies as complex, self-developing systems influenced by technological, social, and institutional factors. This interdisciplinary framework draws on economics, technology studies, sociology, and political science to capture the feedback loops between decentralized finance and institutional change. In this perspective, no single paradigm suffices; for instance, market-based views emphasize efficiency gains from DeFi, while developmental economics focuses on inclusion and inequality (Tsarev, 2024). By integrating these lenses, we aim to assess how decentralized finance co-evolves with post-Soviet institutional structures.

The research objectives include reviewing relevant theory on digital transformation, institutions, and financial integration; analysing empirical trends (2000–2025) in digital economies and DeFi indicators; classifying post-Soviet states by their level of digital integration and DeFi development; exploring the links between DeFi growth and integration metrics; and surveying practical use cases in the region. Based on these tasks, we draw conclusions about the prospects of decentralized finance for fostering economic integration and offer policy recommendations for post-Soviet and other emerging economies.

Theoretical Framework

Digital transformation is the reorganization of economic activity through digital technology. It embeds information and communication technologies (ICT) into all sectors – from online banking to e-government. Global organizations note that digital transformation accelerates change across the economy (OECD, 2025). In the post-Soviet context, the early 2000s saw a shift from cash-based, paper-driven finance toward electronic services. Internet access and mobile usage grew rapidly: for example, by 2024 Kazakhstan's internet penetration reached over 90% and 83% of the population owned smartphones (Daryo.uz, 2024). Similar trends occurred in Russia, Ukraine, and other CIS states. This connectivity underpins digital finance: banks and fintech firms launched online banking and mobile wallet services, and governments introduced e-payment portals for taxes and utilities. As a result, cashless transactions surged. In Kazakhstan by 2024, 89% of all retail transactions were non-cash (Satubaldina, 2024, July 25), and in Uzbekistan systems like HUMO and Uzcard enabled about 97% of salaries and pensions to be paid digitally (Santosdiaz, 2024, November 15). Financial inclusion also improved: for instance, bank account ownership in Ukraine rose from 63% in 2017 to 84% in 2021(Demirguc-Kunt, A. et al., 2022). These changes weave households, firms, and governments into a unified digital financial network.

Digital transformation thus set the stage for decentralized financial flows. By the late 2010s, a new layer of finance emerged on top of existing digital infrastructure – including cryptocurrencies (Bitcoin, Ethereum, etc.), blockchain networks, and internet-based crowdfunding. These flows did not replace traditional systems but supplemented them. They offered households alternative payment and saving tools (e.g. crypto wallets and stablecoins), provided businesses new funding avenues (like token sales), and pressured governments to modernize (e.g. by considering central bank digital currencies, CBDCs). In sum, digital

transformation provided the physical and institutional connectivity necessary for DeFi to operate at scale, enabling more direct interactions among economic agents.

From the institutional economics perspective, introducing DeFi requires adapting the "rules of the game" (North, 1990). Initially, most post-Soviet countries had no specific laws for cryptocurrencies or blockchain services, creating regulatory uncertainty. Early adopters operated in grey areas, and some governments responded with bans or restrictions. Over time, nearly all shifted toward regulation. For example, Belarus's 2017 decree explicitly legalized crypto activities (Markets.businessinsider, 2017); Kazakhstan and Armenia introduced licensing for crypto service providers, and many drew on global standards (FATF guidelines, the EU's Markets in Crypto-Assets framework) to govern DeFi. These efforts laid a legal infrastructure for integrating decentralized flows into formal economies.

Financial institutions also adjusted. Banks that once viewed cryptocurrencies as threats began offering related services (custodial accounts, partnerships with fintech's). In Kazakhstan and Armenia, licensing frameworks for crypto exchanges encouraged fintech growth. Favourable regulation in Kazakhstan, for instance, quadrupled the number of fintech startups between 2018 and 2024 (Satubaldina, 2024, December 5). Where regulation lagged, informal crypto markets grew, increasing risks. Social norms and trust further shaped adoption. In countries with low confidence in traditional banks (due to past crises), citizens were quick to embrace DeFi as an alternative. High crypto adoption in Ukraine and Russia - partly driven by IT savvy populations and economic instability - eventually pressured authorities to regulate the sector (Kirichenko, 2024). Conversely, where banking systems remained stable and trusted (as in pre-2020 Kazakhstan and Belarus), crypto use grew more slowly and was often state-guided. These patterns highlight that decentralized finance's impact on integration depends on how institutions evolve. In summary, by the mid-2020s most post-Soviet governments recognized the necessity of regulating rather than prohibiting DeFi, creating a foundation for these new flows to contribute to economic integration.

Methodology

This study uses a mixed-methods comparative case approach consistent with a post-nonclassical perspective. We combine quantitative and qualitative analysis to identify patterns without assuming a single causal model. Our timeframe is 2000–2025, covering the rise of the internet and the emergence of DeFi. All post-Soviet countries are examined to allow cross-country comparison and typology development.

Key data sources include international databases (World Bank Global Findex and Development Indicators, ITU statistics, IMF and BIS reports on payment systems), as well as national publications (central bank reports on payment volumes and CBDC pilots, government digital economy strategies, legislative documents). We also draw on industry reports and media accounts (e.g. The Astana Times, Eurasianet) to capture contextual details and case narratives. Indicators tracked include ICT infrastructure (internet/mobile penetration), digital finance usage (e.g. percentage of cashless payments), DeFi activity (crypto ownership, exchange volumes), integration outcomes (financial inclusion, cross-border remittances), and institutional variables (regulatory changes, trust metrics).

We develop a typology of countries by levels of digital integration (e.g. high, medium, low) and DeFi development (extensive vs. minimal usage) to highlight contrasting experiences. Quantitative data are analysed using descriptive statistics and trend analysis to illustrate

correlations (for example, between internet access and crypto adoption). We avoid strong causal claims due to confounding factors. Qualitative Comparative Analysis (QCA) is used to identify combinations of conditions (e.g. high internet use, low bank trust, past currency instability) associated with high DeFi adoption. We also conduct process tracing in case studies to explore causal mechanisms (for example, how Ukraine's 2022 crypto law change was influenced by wartime fundraising via blockchain).

The interdisciplinary, post-nonclassical approach underpins our methodology by acknowledging complexity. It justifies combining economic theory with social and technological insights. Interdisciplinarity allows us to interpret economic integration outcomes as arising from the interplay of technology, institutions, and user behaviour. Triangulating diverse data sources enhances validity and reliability. We recognize limitations, such as the difficulty of measuring crypto usage and the evolving nature of DeFi data. Whenever possible, we note alternative explanations and consider counterexamples to avoid bias (for instance, examining why some countries did not see expected DeFi impacts).

Results

Digital Economy Trends in Post-Soviet Countries (2000–2025)

All post-Soviet countries experienced substantial digital upgrades over 2000–2025, though at varying paces. ICT infrastructure improved dramatically: by the 2020s, mobile broadband and 4G/5G covered most urban areas. For example, by 2024 roughly 83% of Kazakhstan's population used smartphones (Daryo.uz, 2024). Governments expanded e-services (online tax filing, licenses, etc.), and citizens became accustomed to digital interactions. Fintech activity proliferated: new payment services (e.g. Yandex.Money in Russia, Portmone in Ukraine) and mobile wallets (e.g. Beeline's O!Dengi in Kyrgyzstan) filled gaps left by traditional banks. In Kazakhstan, favourable policies helped quadruple fintech startups from 2018 to 2024 (Satubaldina, 2024, December 5). These developments wove households and firms more tightly into digital networks.

Alongside infrastructure and services, there was a clear shift in payment behaviour. Cash was dominant in the early 2000s, but non-cash transactions grew rapidly. By 2021, non-cash retail payments exceeded 50% of the total volume in Russia; in Kazakhstan, 89% of transactions were non-cash by 2024 (Satubaldina, 2024, July 25). Even lower-income states saw big jumps: in Uzbekistan, after introducing debit card systems, most salaries were disbursed digitally, leading to an estimated 97% of payments being cashless by 2021 (Santosdiaz, 2024, November 15). These shifts mean that by the 2020s, households, businesses, and the state were far more interconnected through electronic financial flows than ever before. Paying a seller via a mobile app or receiving a pension into an e-wallet had become commonplace, creating the digital substrate necessary for decentralized finance to operate at scale.

Emergence of Decentralized Financial Flows

On top of the established digital finance infrastructure, we observe the rise of decentralized financial flows in three main forms:

1. Cryptocurrencies and blockchain networks: Following the global emergence of Bitcoin (2009) and subsequent cryptocurrencies, adoption in the post-Soviet space began slowly around the early 2010s and accelerated in the late 2010s. Surveys and exchange data suggest that by the late 2010s:

- Ukraine and Russia became global leaders in per-capita cryptocurrency adoption. In 2020, Ukraine ranked #1 and Russia #2 on one global crypto adoption index, reflecting a high volume of peer-to-peer crypto transactions (Chainalysis, 2020). By 2023, Ukraine was still in the top 5 worldwide (Kirichenko, 2024). This "grassroots" adoption was driven by factors like a strong IT sector, currency instabilities, special military operations and desire for alternative investment or remittance channels.

- Central Asian countries like Kazakhstan and Uzbekistan initially lagged but caught up later. Uzbekistan, after legalizing crypto exchanges in 2018–2019, saw a rapid increase in users; by 2023 an estimated 512,000 Uzbeks (1.5% of the population) owned cryptocurrency, the highest rate in Central Asia (Eurasianet, 2024). Uzbekistan's global crypto adoption ranking jumped from 87th in 2021 to 25th in 2023 before settling at 33rd in 2024 (Eurasianet, 2024). This dramatic rise coincided with policy shifts that sanctioned crypto use under oversight, demonstrating latent demand once channels opened.

- Blockchain infrastructure: Beyond currency speculation, several indigenous blockchain platforms and projects emerged. For example, FreeTON/Everscale (initially associated with Russian developers) and BSN (Belarusian crypto platform) aimed to provide decentralized services. While none rival global platforms, they indicate local technical engagement with blockchain tech.

Cryptocurrencies enable direct household-to-household (P2P) and household-to-business transfers without bank intermediation. In practical terms, this has allowed, for instance, labour migrants from Central Asia working in Russia to send remittances home using crypto when traditional remittance services were costly or unavailable. It also enabled small investors to fund foreign projects via ICOs (Initial Coin Offerings) in the 2017–2018 boom, effectively linking savers and entrepreneurs across borders in new ways. A notable example: tech startups in Russia, Ukraine, and Kazakhstan collectively raised tens of millions of dollars through ICOs during 2017–2018, tapping a global pool of investors (including their own diaspora) without going through local banks.

2. Crowdfunding, P2P lending, and DeFi platforms: Decentralized finance is not limited to cryptocurrencies. The broader DeFi movement includes platforms for lending, borrowing, and investing that operate on blockchain (like Ethereum-based protocols). While most sophisticated DeFi platforms are global (e.g., MakerDAO, Aave) rather than local, users in post-Soviet countries have participated. By connecting to these platforms, a firm in Kazakhstan could, for instance, obtain a stablecoin loan using crypto collateral, bypassing local banks. Data on DeFi specific usage is sparse, but anecdotal evidence suggests a small yet growing community of users by 2020s in larger countries. Additionally, crowdfunding platforms (both crypto and fiat-based) have been used for fundraising: Ukraine famously utilized crypto crowdfunding to raise donations for its defense and humanitarian needs during 2022, securing over $100 million in various cryptocurrencies (Kirichenko, 2024). This demonstrated the power of decentralized flows to mobilize resources quickly in a crisis, integrating global civil society with Ukraine's domestic needs.

Similarly, P2P lending platforms emerged domestically (for example, Mintos expanded into some Eurasian markets, and local clones appeared), allowing individuals to lend money to others through an online marketplace. Though not blockchain-based, these P2P networks are a form of decentralized finance relative to traditional bank loans. They have begun to integrate small businesses and individuals who might be overlooked by banks into wider credit networks.

3. Central Bank Digital Currencies (CBDCs) and state digital projects: Somewhat paradoxically, even centralized digital currencies like CBDCs contribute to decentralizing the financial architecture by introducing new channels. In recent years, several post-Soviet central banks initiated CBDC pilots:

- Russia's digital ruble: The Central Bank of Russia launched pilot trials of the digital ruble in 2021–2022, aiming for a full rollout by 2024–2025. The digital ruble is intended to facilitate easier payments between citizens, businesses, and government, including offline-capable transactions and automatic smart-contract features for certain payments. If widely adopted, it could reduce dependence on cash and even on bank payment systems (since the central bank provides the infrastructure directly), thus integrating remote regions and unbanked populations via a state-guaranteed digital currency.

- Eastern Partnership countries: The National Bank of Ukraine has researched an e-hryvnia, and Georgia likewise has explored a digital lari. These are in exploratory phases but reflect recognition that digital currencies can streamline integration (e.g., faster government-to-citizen payments, improved traceability).

- Central Asia – alternative approach: In Kyrgyzstan, rather than a traditional CBDC, the government supported a gold-backed stablecoin (USDKG) launched in 2023–2024, to provide a stable digital value (backed by physical gold reserves) for public use (Günen, 2025). This initiative, supported by Kyrgyzstan's Ministry of Finance, aims to encourage financial inclusion and provide a hedge against local currency volatility. The Kyrgyz "digital golden som" can be seen as a decentralized public-private hybrid: it merges state backing (gold reserves) with blockchain-based issuance and private management of the smart contract. It allows citizens to hold a digital asset redeemable for gold, enabling trust through collateral while using decentralized networks for transactions. This innovation shows how even smaller economies are experimenting with tailor-made solutions to integrate their citizens into digital finance when conventional CBDCs might be too resource intensive.

The introduction of CBDCs or state-sanctioned stablecoins means governments directly partake in the digital financial ecosystem used by households and businesses. For example, if a government uses a CBDC to distribute welfare payments, those households become part of a digital loop where they can seamlessly transact with merchants or pay bills digitally. This strengthens the triangle of integration between households, firms, and the state through instantaneous, low-cost financial flows.

Impact on Integration

Overall, these decentralized financial instruments and platforms have begun to improve the interaction among households, business, and government in tangible ways. For households, crypto and stablecoins offer payment and savings tools when banks are inaccessible or distrusted. For example, Uzbek and Tajik migrant workers use cryptocurrency to remit earnings home (bypassing costly intermediaries), and recipients sometimes hold value in dollar-pegged stablecoins to hedge local inflation. In periods of high inflation (e.g. Belarus 2020), families stored savings in Bitcoin or Tether as a safeguard, effectively integrating them into global financial networks. For businesses, DeFi provides new funding and market access. Some Kazakh and Russian real estate developers experimented with token sales to raise capital internationally; Ukrainian IT startups have used global crypto fundraising platforms. Merchants have begun accepting crypto payments to reach foreign customers or pay suppliers when traditional channels

were limited. Freelancers across the CIS increasingly invoice in USD-denominated stablecoins (like USDT) to receive payments faster than by wire transfer, directly linking local labour to global capital flows. Governments, too, are leveraging decentralized technology. Blockchain-based registries have been trialed for land and business records in Georgia and Ukraine to enhance transparency. CBDC pilots indicate interest in using digital currencies for social payments; for instance, during the COVID-19 crisis Kazakhstan disbursed relief funds electronically, foreshadowing how a future digital som could streamline such transfers. These examples suggest that DeFi tools are already addressing practical integration challenges: bringing unbanked people into transactions, connecting local firms to global finance, and improving government service efficiency.

Cross-Country Comparison and Typologies

Analysis of the data and cases allows us to identify a typology of how post-Soviet countries are integrating via decentralized finance:

- Leaders in digital integration and DeFi adoption: These are countries with advanced digital infrastructure and high utilization of decentralized finance. Ukraine and Russia exemplify this category. Both have high internet penetration and digital payment usage, alongside significant crypto adoption by their populations. The drivers in these cases include a strong IT sector (producing awareness and tools for DeFi), economic pressures (currency volatility, sanctions in Russia's case) creating objective need for alternative channels, and large diaspora networks engaging in cross-border transactions. These countries demonstrate the "integration from below" model: citizens and businesses eagerly adopted DeFi for practical needs (remittances, capital flight, or donation campaigns), forcing the state to respond. Ukraine's legalization of crypto in 2022 and Russia's accelerated digital ruble timeline in 2023–24 was in part reactions to an already active crypto ecosystem that the authorities could no longer ignore (Kirichenko, 2024). Thus, in these countries, decentralized finance started grassroots and is now being woven into the formal system.

- Institutionally proactive adopters: This group includes Belarus and Kazakhstan, which had relatively strong central institutions and banking systems, and where the state took a guiding role in innovation. Belarus's government-led approach (legislating early and creating the Minsk High-Tech Park framework) meant integration was "top-down" – the state directed how DeFi would be used (mostly to create a tech-friendly image and drive investment). As a result, Belarus has many registered crypto companies and services, but actual grassroots crypto use by the general population grew more gradually (since trust in the banking system was higher until political turmoil in 2020). Kazakhstan, with its modernizing financial sector, also followed a top-down path: it invited collaboration via the AIFC and started a CBDC to carefully introduce digital currency from the official side. In these countries, innovation is state-sanctioned and somewhat contained: the advantage is clearer rules and potentially safer adoption, but the pace of bottom-up integration (e.g., everyday use by citizens) is moderate. Interestingly, Kazakhstan's stable financial system meant fewer citizens needed crypto for trust reasons, and indeed survey data show crypto ownership in Kazakhstan (around 6-8% of adults by 2022) was lower than in Ukraine or Russia, aligning with the notion that where traditional finance works, DeFi grows "more gradually" (Eurasianet, 2024).

- Cautious late movers: Some countries were initially restrictive but later reversed course. Uzbekistan and Kyrgyzstan can be placed here. Uzbekistan banned crypto trading for individuals in 2018, only to create a regulated exchange platform by 2020 and actively promote crypto hubs

by 2023 (Eurasianet, 2024). Kyrgyzstan at one point outlawed crypto transactions but is now hiring global experts (even inviting Binance's CEO as an advisor) and endorsing stablecoins (Günen, 2025). These policy turnarounds indicate that even reluctant governments realized that outright bans were ineffective or counter-productive (crypto activity went underground, or opportunities for fintech investment were lost). Once frameworks were opened, adoption surged (as seen in Uzbekistan's jump in rankings). These countries are now trying to catch up by learning from the early adopters and leveraging their own strengths (e.g., Kyrgyzstan's hydroelectric power for crypto mining, Uzbekistan's large remittance inflows that could be channelled via crypto). Their integration path might be accelerated since they can implement tested solutions and because pent-up demand among the population quickly materializes when given a legal outlet.

- Low integration, early stage: A few post-Soviet economies remain at a nascent stage both in digital uptake and DeFi. For example, Turkmenistan and Tajikistan still have low internet penetration, underdeveloped banking sectors, and minimal official engagement with decentralized finance. In these cases, economic integration through any digital means is limited by infrastructure and authoritarian controls. A very small community of tech-savvy users may exist (an underground crypto scene), but these countries largely sit outside the trends observed elsewhere. They may eventually leapfrog if cheap technology arrives, but as of 2025 they lag in our typology.

This typology underscores that the relationship between decentralized finance development and economic integration is not strictly linear – it depends on context. High DeFi usage correlates with integration improvements, but the causality can run both ways (integrated digital economies foster more DeFi, and needing DeFi can also push an economy to integrate digitally).

Discussion

The results of this study illustrate the transformative yet complex role of decentralized financial flows in post-Soviet economic integration. Several themes merit further discussion:

Interplay of Technology and Institutions: A core insight is the dialectic between technological possibilities and institutional response. Consistent with institutional economic theory, technology alone (DeFi, blockchain) does not determine outcomes; it is the co-evolution with institutions that matters. In environments where institutions adapted constructively (providing legal clarity, investor protection, and integration with existing systems), technology's benefits were more fully realized (e.g., Belarus attracting IT investment, Kazakhstan scaling up digital payments). Where institutions were initially hostile or sluggish, technology either forced change (as in Ukraine/Russia) or remained underutilized (as in slower adopters). This underscores the importance of governance in technological adoption. It also reflects a post-nonclassical understanding: the economic system's trajectory depended on a feedback loop – citizen adoption of tech influenced institutional change, and institutional change influenced further adoption.

Integration from Below vs. Above: The distinction between bottom-up and top-down integration pathways is a contribution of this analysis. In bottom-up cases, we see a form of what might be called "shadow integration" occurring before official sanction – citizens and businesses integrate themselves via unofficial channels (cryptocurrency networks, informal digital marketplaces). This can yield considerable de-facto integration (e.g., a significant portion of GDP moving through decentralized channels), but it exists in tension with formal structures until reconciled. Top-down integration ensures alignment with formal policies from the start but may proceed

more slowly if popular demand is lacking. Ultimately, both pathways aim for the same end-state: a cohesive financial ecosystem that includes decentralized methods. Policymakers can glean that supporting a controlled version of bottom-up innovations (sandboxes, pilot programs) might harness the energy of grassroots adoption while mitigating risks.

Economic Shocks as Catalysts: The analysis indicates that external or internal shocks (financial crises, conflict, sanctions) played a notable role in accelerating DeFi uptake in several countries. When conventional systems faltered – bank runs, currency controls, or international sanctions limiting transactions – people sought alternatives. This was seen in Ukraine (banking freeze in 2014, war in 2022), Russia (sanctions post-2022 prompting crypto use), and even in smaller economies facing high inflation. Thus, decentralized finance often acted as a "pressure valve" in times of crisis, keeping financial flows going when traditional channels were blocked. While beneficial for resilience, this dynamic also implies that in stable times, motivation for DeFi might diminish unless other advantages (like efficiency or new services) drive it. It also raises a policy point: building robust formal systems that incorporate decentralized options could make economies more resilient to shocks. For example, if central banks hold some reserves in digital currencies or have swap lines using blockchain with allies, they might better withstand sanctions or global financial disruptions.

Implications for Regional Cooperation: Many post-Soviet states share common challenges and could benefit from collective approaches to DeFi and integration. The findings about regional platforms and the EAEU hint at a potential future where regional integration is enhanced by digital finance. A practical step could be the development of an EAEU-wide blockchain network for interbank payments that reduces reliance on SWIFT and other external networks – such an initiative has been discussed in Eurasian forums. Our results suggest that if trust and technical hurdles are overcome, this could significantly lower transaction costs for trade and remittances within the region. Furthermore, harmonizing regulations (for example, mutual recognition of each other's licensed crypto exchanges) could expand markets for fintech startups, making the post-Soviet space more attractive as a collective market of 200+ million people. This ties into the earlier point on international cooperation: a coordinated regional stance could also increase bargaining power in global standard-setting for digital finance.

Risks and Ethical Considerations: While largely beyond the scope of this study's empirical focus, it is worth mentioning the risks flagged by the rise of decentralized finance in these contexts. These include financial stability risks, illicit finance, digital divide, sovereignty issues.

Outlook: Looking ahead, if positive trends prevail over negative ones (trust, cooperation, innovation outpacing risks, fragmentation, institutional lag), the post-Soviet region could fully leverage decentralized financial flows for development. This might manifest in ubiquitous cross-border payments (possibly a regional stablecoin or linked CBDCs), thriving tech hubs contributing significantly to GDP, and more inclusive growth as rural and marginalized groups gain financial access. On the other hand, if mismanaged, there could be setbacks—financial crises amplified by crypto bubbles or a public backlash if a poorly executed CBDC invades privacy or malfunctions. The interdisciplinary approach of this study suggests continuing the monitoring of not just economic metrics but also social and governance dimensions as this story evolves.

In conclusion, the discussion reinforces that decentralized finance is a double-edged sword for economic integration: powerful in its ability to connect and include yet requiring wise governance and informed usage to avoid pitfalls. The post-Soviet countries, with their diverse

experiences and lessons over 2000–2025, offer valuable insights for other emerging economies navigating similar transformations.

Conclusion

In summary, post-Soviet countries have entered a new era where decentralized financial flows have become an integral part of the economic landscape. These countries have already felt the effects on how citizens, firms, and governments interact financially, and this impact is poised to grow soon. By applying concepts from digital transformation, institutional economics, and a post-nonclassical methodology, we have shown that the fate of these processes depends on a complex mix of technological, social, and institutional factors.

The evidence from 2000–2025 demonstrates that when positive trends – such as rising trust, constructive collaboration, and continuous innovation – outweigh the negative trends (risks, fragmentation, institutional inertia), the promising opportunities for economic integration can be realized fully, in the interest of the region's sustainable development. Policymakers and stakeholders should strive to strengthen the conditions (education, cooperation, stability) under which decentralized finance can flourish as a force for inclusion and integration. Conversely, they must remain vigilant about and address the risks and unintended consequences that accompany these novel financial paradigms.

This research contributes to a growing understanding of how digital and decentralized technologies intersect with economic development and integration, particularly in transitional economies. It highlights that technology alone is not destiny; rather, human institutions and decisions shape how technology is harnessed for good. For the post-Soviet countries, the journey is ongoing. Future studies could expand on this work by examining individual country outcomes in more detail (as more data becomes available on CBDC usage, for instance), or by exploring the social-cultural factors that influence public adoption of decentralized finance (such as generational differences in trust towards digital tools).

In conclusion, the institutional and technological foundations laid in the past two decades have opened unprecedented channels for economic integration in post-Soviet states. Decentralized financial flows — once a futuristic concept — are now a practical reality linking households, businesses, and governments in new ways. By continuing to adapt institutions, share knowledge, and prioritize inclusive innovation, these countries can fully integrate into the evolving global digital economy while fostering greater prosperity and stability at home.

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Data Availability Statement

The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials.

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