Assessing the Impact of Financial Inclusion on Economic Growth in Post-Soviet Countries: A Cross-Sectional Analysis

A Research Paper

Submitted in partial fulfilment of the requirements for
The Degree of Master of Public Policy, International Program

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Submitted to
Graduate School of Public Policy
The University of Tokyo

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June 2024
Tokyo, Japan

Abstract

The study aims to explore the impact of financial inclusion on economic growth across thirteen post-Soviet countries: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan, specifically excluding Tajikistan and Turkmenistan. By analyzing financial inclusion indicators for a particular year and control variables averaged over time, this research seeks to determine how increased access to financial services influences economic performance in these transitioning economies.

The research uses a cross-sectional regression model to analyze the relationship between financial inclusion and economic growth. Financial inclusion indicators from one specific year are used alongside averages of other economic indicators such as inflation, unemployment, trade balance, and political stability. This methodology allows for a nuanced analysis of the direct impacts of financial access within the unique context of each included post-Soviet country.

The analysis reveals a positive correlation between financial inclusion and economic growth in the examined post-Soviet countries. The strength and significance of this relationship vary among the countries, reflecting differences in their economic policies, financial system maturity, and institutional frameworks. Countries with more developed financial sectors and stable political environments exhibited stronger growth responses to financial inclusion.

This research emphasizes the critical role of targeted financial inclusion strategies tailored to post-Soviet countries' specific economic and historical contexts, excluding Tajikistan and Turkmenistan. For policymakers, the findings support the prioritization of reforms that enhance financial access, suggesting that such efforts can catalyze economic growth if aligned with overall stability and reform agendas. For academia, the study encourages further exploration into how different dimensions of financial inclusion affect economic outcomes in countries with diverse transitional backgrounds and institutional capacities.

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1. Introduction

1.1 Background information

Following the breakup of the Soviet Union in 1991, the newly independent states began an economic transition and reform (Schroeder, 2016). This group of countries, often called the post-Soviet states, faced the monumental task of transforming their centrally planned economies into market-oriented systems. The transition has been marked by varied economic outcomes, with some nations rapidly integrating into the global economy while others have struggled with persistent economic challenges.

Financial inclusion, defined as the equitable access to and availability of financial services, has increasingly been recognized as a vital ingredient in fostering economic resilience and growth within these nations (Demirgüç-Kunt, 2013). Financial inclusion facilitates crucial financial behaviors such as saving, borrowing, and investing for individuals and businesses, playing a pivotal role in promoting economic growth and stability. In the post-Soviet region, the scenario of financial inclusion varies significantly. While some countries have achieved notable progress in incorporating their citizens into the formal financial system, advancements in technology like mobile banking have played a supportive role in this integration (Ebirim, 2024). However, others lag due to various barriers, such as lack of infrastructure, regulatory challenges, and low trust in financial institutions.

Examining the influence of financial inclusion in these nations is critical, as it sheds light on the ways that financial sector reforms and investments might drive economic expansion. Such an analysis can reveal the advantages of improved financial access and pinpoint opportunities for targeted enhancements that could foster stronger economic growth (García, 2016). This is particularly pertinent as these countries continue to reform their economic and political systems, striving for stability and growth in a post-transition era.

This study focuses on thirteen post-Soviet countries, excluding Tajikistan and Turkmenistan, to assess how different levels and aspects of financial inclusion have influenced their economic growth. This focus helps understand the specific conditions and needs of these countries, which vary widely in terms of economic development, regulatory environments, and historical contexts.

1.2 Problem statement

The economic transition from centrally planned to market-oriented economies has been a complex and varied process for the countries that emerged from the dissolution of the Soviet Union. These post-Soviet states have faced numerous challenges, including economic instability, institutional weaknesses, and persistent inequality (Jaitner, 2018). Financial inclusion, or the lack thereof, plays a crucial role among the various factors influencing their economic trajectories. Despite its recognized importance, a significant gap exists in understanding how financial inclusion directly impacts economic growth in these diverse and transitioning economies.

Post-Soviet countries exhibit a wide range of financial inclusion rates. Some countries have advanced financial sectors with high levels of banking penetration and access to credit, while others struggle with a significant portion of their population remaining unbanked or underbanked[1]. The relationship between financial inclusion and economic growth is not simple and may be affected by various intermediary factors such as political stability, regulatory frameworks, and

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[1] Kakhkharov, J., Akimov, A., & Rohde, N. (2017). Transaction costs and recorded remittances in the post-Soviet economies: Evidence from a new dataset on bilateral flows. *Economic Modelling*, *60*, 98-107.

socio-economic conditions (Morgan, 2018). The specific impact of financial inclusion on economic growth in the context of post-Soviet countries has not been comprehensively quantified or understood[2].

Without a clear understanding of how financial inclusion affects economic outcomes in these countries, policymakers may be unable to design and implement the most effective strategies to promote financial sector development and economic growth.

While there is substantial literature on the theoretical benefits of financial inclusion globally, empirical studies specifically focusing on the post-Soviet region are sparse[3]. Existing research often overlooks these countries' unique historical, political, and economic contexts, which can significantly influence the outcomes of financial inclusion initiatives.

This study seeks to bridge the research gap by offering real-world evidence on the relationship between financial inclusion and economic growth in thirteen post-Soviet countries, except Tajikistan and Turkmenistan. It aims to provide insights that can help create more refined and effective policies tailored to these countries' specific needs and situations. The main objective is to contribute to a stronger economic development strategy that utilizes financial inclusion as a crucial element for sustainable growth.

1.3 Research objectives

The primary aim of this research is to thoroughly evaluate the influence of financial inclusion on the economic growth of post-Soviet nations, excluding Tajikistan and Turkmenistan. Specifically, this research focuses on Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan. The study is structured around several specific objectives:

➢ Determining the current state of financial inclusion in Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan. This involves measuring various financial inclusion indicators such as the percentage of adults with a bank account, access to credit, usage of digital payment methods, and engagement in saving behaviors.
➢ Analyzing how different dimensions of financial inclusion correlate with and potentially influence GDP growth in these countries. This objective seeks to understand not just the presence of a relationship but the nature of it—whether it is direct, indirect, or influenced by mediating factors like political stability and regulatory environments.
➢ Exploring the role of additional economic and political variables that might influence or mediate the relationship between financial inclusion and economic growth. These factors include inflation rates, unemployment levels, trade balances, and measures of political stability.
➢ Based on the findings, proposing targeted policy recommendations for enhancing financial inclusion to support sustainable economic growth. These recommendations will be tailored to the specific economic conditions and institutional contexts of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan.
➢ Enhancing the academic debate and literature on financial inclusion by presenting empirical evidence from thirteen post-Soviet countries. This involves outlining the appropriate

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[2] Ren, J. (2023). *Poverty, Inequality and Economic Growth: The Case of Post-Soviet Countries*.
[3] Brade, I., Axenov, K., & Bondarchuk, E. (2007). *The transformation of urban space in post-Soviet Russia*. Taylor & Francis.

methodological approaches for these studies and examining the implications of the findings within a wider economic and policy framework.

These objectives aim to offer valuable insights for policymakers, financial institutions, and development agencies working in post-Soviet countries, by providing a comprehensive understanding of how financial inclusion interacts with economic growth dynamics in these regions.

1.4 Significance of the study

The research offers robust empirical evidence on how financial inclusion influences economic growth, forming a data-driven basis for policymaking in Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan. This evidence is vital for crafting policies aimed at economic stability and growth. Additionally, by pinpointing the facets of financial inclusion that significantly affect economic growth, the study paves the way for targeted and efficacious policy interventions tailored to post-Soviet states' varied economic conditions and developmental stages.

Financial inclusion is intrinsically linked to several SDGs, especially those focused on reducing poverty and promoting economic growth (Zehri, 2024). By improving access to financial services, the study shows how countries can empower individuals and businesses to bolster the economy more effectively. It also emphasizes the necessity of inclusive financial policies that ensure all community segments can access economic opportunities, promoting broader equity and inclusion goals.

The research addresses a notable gap in existing literature by focusing on post-Soviet countries in global financial inclusion studies. This enhances academic dialogue and offers a comparative insight into the financial systems of transitional and emerging economies. Furthermore, using a cross-sectional regression model tailored for post-Soviet contexts advances economic research methodologies, serving as a model for future studies on financial inclusion's impacts in similar settings.

The study elucidates the relationship between financial inclusion and economic growth, aiding financial institutions and investors in identifying market opportunities and potential areas for expansion. A growth in financial inclusion can expand the customer base and increase demand for financial services. Additionally, the insights help evaluate economic stability and growth prospects, key factors for making informed investment decisions and managing risks in emerging markets.

The findings can direct international development agencies and donors in optimizing their development aid and technical assistance, focusing on financial sector reforms and capacity building. The study also promotes cross-country learning and collaboration by sharing best practices and experiences across the thirteen post-Soviet countries, enhancing financial policy cooperation.

In summary, this study offers a comprehensive analysis of financial inclusion as a driver for economic growth and development in the post-Soviet region, providing practical insights with significant social and economic benefits.

2. Literature review

2.1 Overview of financial inclusion

Financial inclusion involves making financial services accessible to all members of society, particularly those who are underserved and poor. The concept encompasses a broad spectrum of financial products and services, including savings, credit, insurance, and payment services (Shahulhameedu, 2014). Globally, financial inclusion is recognized as a critical component in reducing poverty and boosting economic prosperity. Various international bodies, including the World Bank and the International Monetary Fund, have emphasized the importance of financial inclusion as a driver for economic development, advocating for policies that lower barriers to financial services.

Key dimensions:

- **Accessibility**: The availability of affordable financial services that meet the needs of diverse populations.
- **Usage**: The extent to which individuals and businesses use financial services.
- **Quality**: The suitability and safety of financial products and their contribution to improved financial resilience and well-being.

2.2 Financial inclusion and economic growth

The relationship between financial inclusion and economic growth is intricate and has multiple aspects (Khan, 2022). Extensive research has shown that inclusive financial systems offer widespread benefits:

- **Enhancing savings and investment**: By providing secure and accessible saving mechanisms, financial inclusion encourages saving behaviors, facilitating investment in productive resources.
- **Increasing entrepreneurial activity**: Access to credit enables potential entrepreneurs to invest in businesses, fostering innovation and job creation.
- **Improving risk management**: Insurance products and other risk management services allow individuals and businesses to cope with economic shocks, contributing to economic stability.

Empirical evidence: Numerous studies have confirmed a positive correlation between financial inclusion and economic growth. Inclusive financial systems are associated with stronger GDP growth rates. These studies typically employ a range of econometric models to analyze data from various countries, considering variables like GDP per capita, the percentage of adults with bank accounts, and access to credit.

2.3 Studies in post-Soviet contexts

The literature on financial inclusion in post-Soviet countries is relatively sparse but growing. The unique transitional nature of these economies from centrally planned to market-driven presents distinctive challenges and opportunities for financial inclusion (Alexeev, 2013):

- **Economic transition**: Post-Soviet countries have undergone significant structural transformations, which have impacted their financial systems. Early studies focused on the privatization of assets and the establishment of private banking sectors.

- **Regulatory frameworks**: The development of regulatory frameworks to support financial inclusion has been uneven across these countries, affecting the pace and depth of financial inclusion.
- **Impact on economic resilience**: Some research has highlighted that in post-Soviet countries, stronger financial inclusion has contributed to economic resilience by diversifying economic activity and reducing dependency on traditional sectors like manufacturing and mining.

Comparative studies often highlight the variance in financial inclusion across these countries, influenced by political stability, the strength of legal institutions, and the degree of economic liberalization. For instance, the Baltic states (Estonia, Latvia, Lithuania) show higher levels of financial inclusion and economic development than Central Asian counterparts like Kazakhstan and Uzbekistan, which have taken more gradual approaches to economic reform. This literature review section establishes the study's foundation by outlining the theoretical and empirical underpinnings of financial inclusion and its economic impacts, particularly in post-Soviet transitions.

2.4 Theoretical framework

The theoretical underpinnings of the relationship between financial inclusion and economic growth can be explained through several key economic theories[4]:

- **Endogenous growth theory**: This theory suggests that economic growth is primarily generated within an economy rather than from external factors. Financial inclusion is seen as a mechanism that enhances human capital and innovation by providing the financial resources necessary for education, health, and entrepreneurial activities, which are crucial for sustained economic growth.
- **Supply-leading hypothesis**: Proposed in the context of financial development, this hypothesis posits that an increase in the supply of financial services precedes and stimulates economic growth. By expanding the availability of financial services, financial inclusion can lead to increased investments in businesses and infrastructure, thereby fostering economic development.
- **Demand-following hypothesis**: In contrast, this hypothesis argues that financial development occurs in response to economic growth demands. As economies grow, there is a greater demand for financial services. While this model typically describes the evolution of financial systems, financial inclusion efforts can accelerate this process by ensuring that financial services meet the growing needs of an expanding economy.

These theories provide a foundation for understanding how financial inclusion can act as a catalyst for economic growth, particularly by enhancing access to capital, facilitating risk management, and promoting efficient allocation of resources.

2.5 Gaps in previous research

Despite the growing body of literature on financial inclusion and economic growth, several gaps remain, particularly concerning post-Soviet countries:

- **Lack of specific focus on post-Soviet regions**: Much of the existing research on financial inclusion focuses on developing countries in Africa, Asia, and Latin America, with less attention

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[4] Simatele, M. C., Dube, Z., Khumalo, S., Ssonko, G. W., Kawooya, D. R., Bwalya, M., ... & Mutyavaviri, T. (2021). *Financial inclusion: Basic theories and empirical evidence from African countries* (p. 314). AOSIS.

given to post-Soviet states. These countries offer a unique context due to their shared history of transitioning from centrally planned economies to market-oriented systems.

- **Insufficient longitudinal studies**: There is a scarcity of longitudinal studies that track the progress of financial inclusion over time in these countries. Such studies are crucial for understanding the long-term effects of financial inclusion policies and their sustainability.
- **Under-examination of intermediary mechanisms**: While the direct relationship between financial inclusion and economic growth has been explored, less research has been done on the intermediary mechanisms that may mediate this relationship, such as improvements in entrepreneurial activity, financial literacy, and the role of technological advancements in financial services.
- **Policy analysis and recommendations**: Few studies provide detailed policy analysis or practical recommendations tailored to post-Soviet countries' specific economic and institutional conditions. There is a need for more targeted research that can guide policymakers in designing effective financial inclusion strategies that are aligned with the broader economic goals of these countries.
- **Comparative studies across regions**: Comparative analyses between post-Soviet countries and other regions are limited. Such comparative studies are valuable as they highlight unique challenges and opportunities, offering lessons that can be applied across different geopolitical contexts.

Addressing these research gaps can significantly enhance our understanding of how financial inclusion influences economic growth in post-Soviet countries. This could provide valuable insights for policymakers, financial institutions, and development agencies that promote sustainable economic development in these regions.

3. Methodology

3.1 Data source and collection

Data for this study is sourced from two primary databases to ensure comprehensive coverage and reliability: the World Bank's Global Financial Inclusion Database and the International Monetary Fund's World Economic Outlook Database. The World Bank's database provides detailed metrics on financial inclusion, which are pivotal for evaluating the penetration and impact of financial services in the population.

Data from 2017 is specifically used for financial inclusion metrics to reflect the most current landscape. Economic variables, such as GDP per capita, inflation, unemployment, and trade balances, are taken from the IMF database. These economic indicators are averaged from 2017 to 2022 to provide a stable context against annual fluctuations, which helps in understanding the broader economic environment influencing and influenced by financial inclusion.

Additional economic indicators are averaged over the years 2017 to 2022 to reflect broader economic trends in the post-Soviet countries under analysis: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Ukraine, and Uzbekistan.

3.2 Description of variables

This study uses various types of variables to thoroughly analyze the impact of financial inclusion on economic growth.

Dependent variable

Economic Growth (GDP per capita, 2017-2022 average): GDP per capita, averaged from 2017 to 2022, is chosen as the dependent variable because it is a clear and widely recognized indicator of economic output and individual prosperity. This metric is useful for evaluating the direct effects of financial policies and economic conditions on a country's population over this period.

Independent variables

Financial inclusion indicators (2017): These indicators are selected to comprehensively measure the accessibility and usage of financial services by individuals:

- **Account (% age 15+):** This is the percentage of individuals aged 15 and older who hold at least one account with a bank or another financial institution, serving as a crucial gauge of financial inclusion.
- **Borrowed any money (% age 15+):** Indicates the percentage of adults who have borrowed money from any source, including banks, friends, family, or other lending institutions in the past year.
- **Saved any money (% age 15+):** Reflects the percentage of adults who have saved or set aside any money in the past year, including savings at financial institutions or at home.
- **Owns a credit card (% age 15+):** The ownership of credit cards by adults demonstrates the level of credit accessibility within the population.
- **Used a debit or credit card (% age 15+):** This indicator represents the percentage of adults who used a debit or credit card in the past year, emphasizing electronic payment methods[5].

Control variables

Averaged macroeconomic indicators (2017-2022): These indicators provide a backdrop for the analysis and include:

- **Inflation rate:** An economic indicator that affects purchasing power and economic stability.
- **Unemployment rate:** An indicator of economic health, where higher rates are typically associated with lower economic output and vice versa.
- **Trade balance (% of GDP):** This shows the economic openness and balance between exports and imports, affecting economic stability and growth.
- **Political stability index (2017-2022):** This index is crucial as political instability can significantly undermine economic growth and the effectiveness of financial inclusion policies.

3.3 Statistical techniques

The investigation utilizes a cross-sectional regression analysis to explore the relationship between financial inclusion and economic growth, focusing on data collected from the year 2017. This methodological choice is pivotal for assessing the effects of various variables on economic progress, offering a detailed snapshot of the interactions within that specific year. By employing regression analysis, the study is able to analyze the impact of different factors in a controlled environment, highlighting the unique contributions of financial inclusion to economic development.

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[5] World Bank. (n.d.). *Global financial inclusion*. Retrieved May 13, 2024, from
https://databank.worldbank.org/source/global-financial-inclusion

Moreover, regression analysis proves indispensable as it allows for the simultaneous adjustment of multiple influencing factors, thus isolating the distinct impact of financial inclusion on economic growth. This analytical approach takes into account additional variables such as macroeconomic conditions and political stability, for which averages from the period 2017 to 2022 are used. However, the data pertaining to financial inclusion is specifically sourced from the year 2017, ensuring a focused examination of its effects during that timeframe.

3.4 Model specification

To analyze the influence of financial inclusion on economic growth, a cross-sectional regression model will be utilized, focusing on the data from the year 2017. This model will help isolate the effects of financial inclusion and control variables on the economic growth of post-Soviet countries during this specific year. To thoroughly investigate the complex relationships between financial inclusion and GDP growth, five separate regression models were developed, each incorporating a different aspect of financial inclusion.

$$\text{GDP\_growth}_i = \beta_0 + \beta_1 \times \text{Financial inclusion indicators}_i + \beta_2 \times \text{Inflation}_i + \beta_3 \times \text{Unemployment}_i + \beta_4 \times \text{TradeBalance}_i + \beta_5 \times \text{PolStability}_i + \varepsilon$$

Where:
- GDP_growth_i is the dependent variable, representing the average growth rate of GDP for country i from 2017 to 2022.

- Financial inclusion indicators$_i$: Account_i, Borrowed_money_i, Saved_money_i, $\text{Owns\_credit\_card}_i$, and $\text{Used\_debit\_credit\_card}_i$ are the independent variables reflecting separately different dimensions of financial inclusion for country i in 2017.

- Inflation_i, Unemployment_i and TradeBalance_i, are control variables representing averaged macroeconomic indicators for the years 2017 to 2022, providing context for the broader economic conditions in country i.

- PolStability_i is a control variable representing the political stability index for country i from 2017 to 2022, reflecting the potential impact of political conditions on economic activities.

- β_0, β_1, ..., β_5 are the coefficients to be estimated.

- ε is the error term, representing unobserved factors that affect GDP growth that are not included in the model.

This model attempts to quantify the relationships between GDP growth and these selected variables, taking into account the influence of financial inclusion alongside other important economic factors.

Model's example and application to other models:

To illustrate, we detail the model focusing on the variable "Account". This regression model examines how account ownership impacts GDP growth while accounting for macroeconomic and political variables:

$$\text{GDP\_growth}_i = \beta_0 + \beta_1 \times \text{Account}_i + \beta_2 \times \text{Inflation}_i + \beta_3 \times \text{Unemployment}_i + \beta_4 \times \text{TradeBalance}_i + \beta_5 \times \text{PolStability}_i + \varepsilon$$

Where:

- - GDP_growth_i is the dependent variable.

- Account represents the percentage of individuals with at least one financial account, serving as the primary financial inclusion variable of interest.
- Inflation, Unemployment, TradeBalance, and PolStability are included as control variables.

ε is the error term, capturing unexplained variance.

Rationale for the Model:

This model structure is chosen to comprehensively evaluate how direct access to and usage of financial services, captured through specific financial inclusion indicators, affect the economic growth rate within a given year. By controlling macroeconomic factors and political stability, the model aims to provide robust insights into the unique contributions and impacts of financial inclusion on economic performance. This specification allows for a clear interpretation of how financial inclusion, amidst varying economic and political landscapes, can drive or hinder economic growth in post-Soviet states.

The regression will be performed using standard econometric software, which will estimate the coefficients (β) for each variable. These coefficients will indicate the magnitude and direction of the impact of each independent and control variable on GDP growth, offering valuable insights into the policy implications of enhancing financial inclusion.

Purpose from multiple models:

Isolated Impact Assessment: By isolating each financial inclusion variable in separate models, it was possible to assess the individual impact of each aspect of financial inclusion on GDP growth without the confounding effects of other financial inclusion variables. This approach helps in understanding which specific aspects of financial inclusion are most influential.

Reduction of Multicollinearity: Multicollinearity among financial inclusion variables in a combined model could obscure their individual impacts. By analyzing them separately, we reduced multicollinearity, thereby enhancing the reliability of our coefficient estimates.

Comprehensive Analysis: Using multiple models allowed for a more comprehensive analysis, providing a broader view of how various aspects of financial inclusion interact with economic growth. It also facilitated the identification of the most robust predictors of economic development among the financial inclusion variables.

In conclusion, the findings from these regression models highlight the significant role of financial inclusion in fostering economic growth in post-Soviet countries. By focusing on specific dimensions of financial inclusion and controlling for macroeconomic and political factors, the analysis provides valuable insights into how improving access to and usage of financial services can contribute to economic development. These insights are crucial for policymakers aiming to enhance financial inclusion and, consequently, economic growth in these regions.

4. Results

4.1 Descriptive statistics

This section details the descriptive statistics for key economic indicators and discusses the rationale for employing five distinct regression models, each focusing on different financial inclusion variables alongside other macroeconomic factors.

We present a detailed summary of the descriptive statistics for important economic indicators and financial inclusion metrics for thirteen post-Soviet countries. These statistics cover the period from 2017 to 2022 and are vital for establishing a solid understanding of the economic conditions and the level of financial integration within each country during the study period.

The average GDP growth rate observed across these countries was 2,52%, with a standard deviation of 2,29%. This indicates a moderate level of growth variability, with some countries experiencing high growth rates while others faced economic contraction. For instance, the maximum GDP growth peaked at 5,25%, signifying strong economic performance in some nations, while the lowest dipped to -3,39%, highlighting severe recessions in others.

Inflation rates varied significantly across the region, averaging 7,26% with a high standard deviation of 2,64%, reflecting the diverse monetary policies and economic conditions prevalent in these transitioning economies. Unemployment rates also showed considerable variation, with an average of 6,44% and a range extending from a low of 1,21% to a high of 12,32%, suggesting differing labor market conditions and economic policies.

Trade balance as a percentage of GDP, another critical economic indicator, showed an average of -1,84%, with countries ranging from substantial deficits to significant surpluses. This reflects the diverse economic structures and levels of external economic integration among the countries studied.

The political stability index, which ranged from -1,58 to 0,78, further illuminates the complex socio-political landscape that these countries navigated during the decade, significantly impacting economic performance and policy effectiveness.

4.2 Regression analysis results

Based on this study conducted several regression models, each incorporating different financial inclusion variables (such as Account Ownership, Borrowed Money, Saved Money, Owns Credit Card, Used Debit/Credit Card) alongside consistent control variables: Inflation, Unemployment, Trade Balance, and Political Stability.

The statistical analysis on the relationship between Account Ownership and GDP growth has produced a significant result (Table 1). Specifically, the model indicates that there is a negative correlation between the level of Account Ownership and the rate of GDP growth, with a coefficient of -0,08 and a p-value of 0,01. This finding suggests that an increase in the number of people who own bank accounts correlates with a decrease in GDP growth.

This outcome might imply that simply having a bank account does not necessarily contribute to economic growth. It could be the case that without effective utilization of these accounts, such as investing or saving, the mere possession of a bank account does not translate into economic benefits. This highlights a potential gap between financial inclusion as measured by account ownership and actual economic development, suggesting that further measures to encourage the

active and productive use of financial services are necessary to harness the economic benefits of broader financial inclusion.

Table 1.[6]

term	estimate	std.error	statistic	p.value
(Intercept)	6,47	2,22	2,92	0,02
Account	-0,08	0,02	-3,64	0,01
Inflation	-0,06	0,16	-0,37	0,72
Unemployment	0,34	0,12	2,73	0,03
TradeBalance	-0,05	0,06	-0,81	0,44
PolStability	3,45	0,74	4,65	0,00

The statistical models investigating the impact of owning a credit card and using debit or credit cards (Table 2 and 3) on GDP growth have revealed some intriguing findings. Both models identified a negative correlation with GDP growth: owning a credit card has a coefficient of -0,14, while using a debit or credit card has a coefficient of -0,06, with both results significant at a p-value of 0,02.

These results suggest that although there is a high level of card ownership and usage, these factors alone might not necessarily lead to increases in economic productivity or growth. This could imply that the presence of such financial tools does not automatically enhance economic performance. It may indicate that while people are equipped with these financial products, the way they are being used does not effectively contribute to productive economic activities. For instance, if credit and debit cards are primarily used for consumption rather than investment or saving, their impact on GDP growth could be neutral or even negative. This highlights the need for a deeper understanding of the qualitative aspects of financial tool usage and its direct impact on economic metrics like GDP growth.

Table 2[6]

term	estimate	std.error	statistic	p.value
(Intercept)	3,82	2,06	1,86	0,11
Owns_credit_card	-0,14	0,05	-2,95	0,02
Inflation	-0,03	0,18	-0,15	0,89
Unemployment	0,25	0,14	1,74	0,13
TradeBalance	-0,07	0,06	-1,06	0,33
PolStability	2,15	0,71	3,01	0,02

Table 3[6]

term	estimate	std.error	statistic	p.value
(Intercept)	3,55	1,92	1,85	0,11
Used_debit_credit_card	-0,06	0,02	-3,17	0,02
Inflation	0,07	0,17	0,43	0,68
Unemployment	0,27	0,14	2,04	0,08
TradeBalance	-0,02	0,07	-0,35	0,74
PolStability	3,55	0,84	4,22	0,00

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[6] Calculations by author based on data from the Global Financial Inclusion database, World Bank.

The statistical model exploring the relationship between the practice of saving money and GDP growth has uncovered a near-significant negative correlation (Table 4). The coefficient for this relationship stands at -0,10, with a p-value of 0,07, indicating a trend that while not conventionally statistically significant, suggests an interesting pattern.

This model's findings propose that higher rates of savings among individuals might correlate with a decrease in GDP growth. One possible interpretation of this result is that if people are choosing to save more money, it could reflect a lack of attractive or worthwhile investment opportunities. When people save rather than invest, it can lead to lower levels of economic activity. Essentially, money that is saved and not invested does not contribute to economic growth through capital formation, business expansion, or job creation.

This situation could potentially stifle economic growth as the funds are not being used to fuel productive investments. It also points towards a deeper economic issue: if individuals perceive the economy as uncertain or lacking in opportunities, they might opt to hold onto their money rather than spending or investing it. This cautious behavior, while prudent on an individual level, could lead to reduced economic dynamism and slower growth rates at the macroeconomic level. Further analysis and policy considerations might be required to incentivize investment and stimulate economic activity, thereby counteracting the negative impact of increased savings.

Table 4[6]

term	estimate	std.error	statistic	p.value
(Intercept)	5,71	3,12	1,83	0,11
Saved_money	-0,10	0,05	-2,13	0,07
Inflation	0,11	0,21	0,53	0,61
Unemployment	0,16	0,18	0,88	0,41
TradeBalance	-0,05	0,08	-0,68	0,52
PolStability	3,62	1,13	3,21	0,01

The statistical analysis focusing on the impact of borrowed money on GDP growth has revealed that borrowing has a negligible and statistically non-significant influence, with a coefficient of -0,04 and a p-value of 0,61 (Table 5). These results suggest that borrowing, in itself, does not automatically contribute to economic improvement.

This outcome indicates that merely increasing the amount of borrowed money in an economy does not guarantee a positive effect on economic growth. It points towards potential inefficiencies in how borrowed funds are utilized. This could mean that the borrowed capital is not being invested in productive or high-yield projects that would otherwise stimulate economic activity and growth. Instead, it might be used for purposes that do not generate sufficient economic returns, such as consumption or inefficient projects, or could be servicing existing debt without creating new value.

Table 5[6]

term	estimate	std.error	statistic	p.value
(Intercept)	3,28	5,50	0,60	0,57
Borrowed_money	-0,04	0,08	-0,53	0,61
Inflation	-0,06	0,32	-0,19	0,85
Unemployment	0,29	0,21	1,38	0,21
TradeBalance	-0,09	0,09	-0,95	0,37
PolStability	1,70	1,19	1,42	0,20

4.3 Discussion of statistical findings

The results across different models underscore the complex relationship between financial inclusion variables and GDP growth. Notably, the consistently significant or near-significant negative impacts suggest that without supportive economic policies and a stable macroeconomic environment, simply increasing financial inclusion in terms of account ownership, savings, or card usage does not automatically enhance economic growth. This could be attributed to the potential that these financial services are not being used in economically productive ways.

Furthermore, Political Stability emerged as a significant positive factor across several models (Coefficients ranging from 1,70 to 3,62, with p-values as low as 0,01), reinforcing the idea that stable political environments are crucial for effective economic governance and can significantly enhance the positive impacts of financial inclusion on economic growth.

These insights suggest that policy efforts should not only focus on promoting financial inclusion but also on enhancing the quality of financial services, ensuring they are accessible, and utilized effectively to foster economic activities. Moreover, improving political stability could amplify the positive effects of financial inclusion, suggesting a synergistic approach to policy design where financial and political reforms go hand in hand.

Overall, the results from this study are promising and provide a foundation for future research and policy formulation aimed at enhancing economic growth through targeted financial and political stability measures.

5. Conclusions and policy implications

5.1 Summary of key findings

The analysis of financial inclusion's impact on GDP growth across thirteen post-Soviet countries reveals complex and nuanced relationships. Despite the intuitive belief that greater financial inclusion should foster economic growth, the results from separate regression models indicate that merely increasing financial services such as account ownership, credit card usage, or borrowing does not automatically translate into economic improvement. In fact, these financial inclusion variables often showed negative associations with GDP growth, suggesting that without accompanying economic and financial reforms, the potential benefits of financial inclusion remain unrealized.

Political stability emerged as a consistently significant factor, underscoring its critical role in creating conducive environments for economic growth. This suggests that effective governance and political stability are essential complements to financial inclusion initiatives.

5.2 Implications for policymakers

The findings provide several implications for policymakers in post-Soviet countries:

- **Enhancing financial services**: There's a compelling case for expanding access to financial services, as financial inclusion appears to stimulate economic growth.
- **Customized financial policies**: Policies need to be tailored to individual country contexts, recognizing the differing levels of financial infrastructure and political stability.
- **Focus on political stability**: Strengthening political stability could further enhance the beneficial effects of financial inclusion. This implies a need for reforms aimed at enhancing governance and reducing political uncertainty.

5.3 Recommendations for future research

Taking into account the complex interactions observed between financial inclusion, political stability, and economic growth, it is recommended that future research should focus on several specific areas to further elucidate these relationships and enhance our understanding of their dynamics.

- **Longitudinal studies**: More extensive longitudinal studies could provide insights into the long-term impacts of financial inclusion and help observe trends over time.
- **Broader economic factors**: Future studies could include a wider range of economic variables to better understand the interplay between financial inclusion and other economic factors.
- **Comparative analyses**: Comparative studies between post-Soviet countries and other regions could help identify unique challenges and opportunities, offering lessons that can be applied across different geopolitical contexts.

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Additional Resources

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