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Master Thesis

**The role of demographic factors in the development of the National Payment
System in Russia**

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Introduction

National payment systems are a key element of the modern economy, ensuring the uninterrupted conduct of financial transactions and contributing to the development of trade, investment and economic growth. In the context of digital transformation, they are becoming not only a calculation tool, but also a factor in increasing financial accessibility and inclusivity. The regulation of payment systems carried out by central banks is aimed at ensuring their stability, security and efficiency, which is especially important in the context of growing cyber threats, changes in consumer behavior and global economic trends. National payment systems, as the infrastructural framework of the economy, reflect the level of technological development of the country, the degree of integration of financial services into the daily life of the population and the ability to adapt to the challenges of the times.

In Russia, the development of the national payment system has gained strategic importance in the context of achieving technological sovereignty and ensuring stability of the financial sector. Over the past decade, this system has made significant progress. It started with the creation of the MIR payment card and culminated in the introduction of the Faster Payments System. This system has become a key driver for the transition to a cashless economy in Russia. In 2024, non-cash transactions accounted for more than 85.8%¹ of retail transactions. However, it is important to note that the Russian market continues to exhibit heterogeneity in terms of digital adoption, with varying dynamics across regions, age groups and income levels. This highlights the need for a tailored approach to further development of the national payment system. The regulatory policy of the Central Bank of Russia, including piloting the introduction of the digital ruble and supporting financial technology innovation, aims to reduce these imbalances. Overcoming these imbalances, however, requires taking into consideration fundamental socio-demographic trends.

Russia faces several significant demographic challenges, which pose both

¹<https://www.cbr.ru/PSystem/>

long-term difficulties and opportunities for its financial sector. One of the most significant is the aging population, which is set to continue. By 2030, according to OECD² estimates, the proportion of people aged 60 years and over will reach 25%, and by 2050 it will be 30%. This group has historically been less inclined to use digital payment methods. Only 42% of people 55 or older are actively using online banking, according to NAFI's report from 2024³. Another significant challenge is the decline in the birth rate, which has led to a decrease in the number of young people. These age groups are crucial for credit products and financial services. Additionally, there are disparities between regions due to migration from smaller towns and rural areas. According to the Central Bank of Russia, only 48% of residents in these areas have access to internet banking services in 2024⁴. Additionally, migration – both internally (movement to larger cities) and externally (labour migration) – is changing the composition of the workforce, creating a demand for cross-border transactions and communications in multiple languages.

These trends create conflicting pressures on national payment systems. On the one hand, urbanization and increased digital literacy among young people are driving innovation. This is evidenced by an increase in the share of payments made through QR codes among people aged 18-35 from 12% in 2021 to 27% by 2033⁵. However, on the other hand, ageing populations and regional inequalities are hindering the consolidation of payment infrastructure. This can be seen in regions such as the Far East and North Caucasus, where cash payments continue to account for 45% of transactions (versus 20% in Moscow⁶) due to a larger proportion of older people and a slower adoption of digital payment methods.

The aim of the research is to evaluate the influence of demographic variables on the evolution of the Russian national payment system and to formulate proposals for its adjustment to shifting socio-demographic circumstances.

²<https://mintrud.gov.ru/ministry/programms/12>

³<https://nafi.ru/analytics/dolya-polzovateley-mobilnogo-banka-rastet-no-rossiyane-stanovyatsya-menее-bditelnymi/>

⁴Основные направления повышения доступности финансовых услуг в Российской Федерации на период 2025-2027 годов

⁵<https://www.cbr.ru/press/event/?id=23262>

⁶<https://cbr.ru/press/regevent/?id=28556>

The following tasks were set in the course of the study:

- 1) systematize theoretical approaches to the analysis of the relationship between demographic changes and the evolution of payment systems, including foreign experience in adapting to population aging;
- 2) identify key demographic trends in Russia (aging, urbanization, migration, regional differentiation) and their relationship to the dynamics of payment preferences;
- 3) conduct a quantitative analysis of demographic factors' influence on national payment system metrics (non-cash payment share, digital instrument penetration, loan portfolio volume) through econometric modeling;
- 4) formulate practical recommendations for regulatory bodies and payment industry players to mitigate imbalances stemming from demographic changes.

The object of the study is the national payment system of Russia.

The subject of the study is the influence of demographic factors on the development of the Russian national payment system.

The following research questions have been formulated:

- 1) How do population aging and regional variations impact the pace of digitalization of payment systems and the degree of financial inclusion?
- 2) What regulatory initiatives can assist in enhancing the adaptability of payment services to demographic shifts, considering the diverse payment patterns of various age groups?

The following hypotheses were put forward:

- 1) Hypothesis of the impact of population aging on payment preferences (**H1**): the aging of the population leads to a decrease in the share of active users of digital payment instruments, which slows down the pace of digitalization of the national payment system;
- 2) Hypothesis of regional differences in the development of the payment system (**H2**): Regions with a higher proportion of the elderly population and a low level of urbanization demonstrate lower rates of introduction of digital payment instruments compared to large cities.

The first section of this study explores the operational mechanisms of Russia's

national payment system and the theoretical frameworks that explain the impact of demographic changes on the payment systems.

The second section examines empirical studies and international best practices to understand the intricate relationship between demographic variables and the development of national payment infrastructures, as well as how demographic factors influence the regulation of these systems. In the next part, an econometric model is being developed that analyzes the relationship between demographic trends and the development of national payment systems, which will be characterized by a new generalized index developed during the study.

Drawing on the findings from the empirical analysis, this final section interprets the results of the model and offers methodological recommendations to enhance the resilience and efficiency of national payment systems in light of demographic changes. A comprehensive strategy will be developed for the improvement of the national payment infrastructure, tailored to meet the specific socio-demographic needs.

The structure of the final thesis includes an introduction, 3 chapters, and a conclusion. The total number of pages is 7 pages. The total number of literature sources is 4.

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