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Chapter: Economic Dimensions of Sustainable Development

# DEVELOPMENT OF AND ACCESS TO BANKING SERVICES IN POLAND AND GEORGIA

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***Annotation.*** The aim of the study is to determine the level of development of banking services in terms of access to banking service infrastructure in Poland and Georgia. Comparisons of the development of and access to banking service infrastructure were made with a set of indicators using the Mann-Whitney U and Kolmogorov-Smirnov tests and regression analysis. The development of and access to banking services in Poland and Georgia reveals both the similarities and differences. Undoubtedly, the common feature is the reduction of physical bank branches and the development of electronic banking infrastructure. Poland has a more developed POS network. Georgia, on the other hand, has a higher average number of cards per capita and a bigger network of ATMs.

***Keywords:*** banking services, accessibility, development, banking service infrastructure, banking sector.

***JEL classification:*** G150, G210, O530.

## Introduction

The banking systems in Poland and Georgia share many similarities. These stem primarily from political and economic conditions. Both countries have undergone political and economic system transformation, which has significantly influenced the shape and principles of the entire financial system, including the banking system.

The economic development and the increased role of money in everyday life have further contributed to dynamic changes in the banking market. It is difficult to imagine a world without a developed financial system, both in the context of billion-dollar financial operations, conducted by states or corporations, and more modest


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transactions that make it possible to satisfy the daily needs of citizens, including credit, deposit, or transaction needs (Witczak, 2024).

The use of banking services has undergone a major transformation over recent years. Influenced by the pace of life, the need for fast service and continuous access to banking services has forced banks to change their business model towards a multi-channel distribution. In this context, it is worth considering whether and how the banking infrastructure has been developing and changing. Therefore, the purpose of this study is to determine the level of development of banking services in terms of access to banking service infrastructure in Poland and Georgia. This study is the result of a jointly conducted research, and is an attempt to compare the banking infrastructure in the context of multi-channel access to banking services in two countries with a similar history of systemic transformation but different conditions of economic development.

## 1. Literature Review

In order to conduct a comparative analysis of the development of banking services, they must first be defined and their characteristics identified. Following the *Encyclopaedia of Management*, a financial service is an activity that is provided by the financial sector to meet the financial management needs of customers (*Encyclopaedia of Management*). In other words, financial services encompass a wide range of products and transactions aimed at managing the finances of individuals, companies, organisations, and governments (Ozili, 2018, p.331). Financial services entail banking services, which is the object of the discussion undertaken in the article, investment services, insurance services, loan services, financial consulting, wealth management, etc. (Čihak *et al.,* 2012, p.6). Banking services display several features as follows (Nieścior, 2023, p.70; Rosa, 2015, pp.18-19):

- immateriality and abstractness – they have no physical form, which renders them difficult to compare and makes price the primary criterion for assessing their quality;

- inseparability – unity of place, time, and consumption;

- integrity with the service provider – they are closely linked to the provider;

- impermanence – they cannot be produced for stock;

- diversity – they are not possible to standardise;

- lack of ownership – customers cannot acquire ownership rights to the banking service, for they can only use it;

- complexity – banking services are often complex, requiring direct interaction between staff and customers;

- meeting basic needs – in times of economic and technological progress, banking services have become essential for the proper and efficient functioning of both businesses and households.

The specific nature of banking services determines their development, which is understood as creating new services or modifying them, improving service infrastructure, improving customer service, changing the business model, as well as commercialising services (e.g. changes in sales, marketing, and delivery logistics), or increasing the efficiency of services provided (Dec, 2018, p.214). Besides, the changes taking place in the economy as a result of globalisation and new information technologies, including the use of artificial intelligence, machine learning or the Internet of Things, among others, also have an impact on the development of banking services. In addition, the COVID-19 pandemic, which lasted more than two years, accelerated the digital transformation in this sector.

The technological transformation of the banking market does not render traditional service distribution channels and traditional product offerings completely irrelevant. Some customers still search for diversified forms of distribution of banking services, not only in electronic or mobile channels, but also in traditional ones.

In the context of the development of banking services, the organisation and structure of the banking sector is also important. In Georgia, as in Poland, the banking sector has a two-tier character, which is a result of political and economic transformation. This entails the restructuring of banking institutions and undertaking the activity in the face of globalisation (Kbiltsetskhlashvili, 2008, p.49). The central bank of Georgia is the National Bank of Georgia (NBG), and the National Bank of Poland (NBP) is the central bank of Poland. The tasks of the central banks are similar and follow international standards, including those set by the Basel Committee on Banking Supervision (Gelitashvili *et al.,* 2024; Kovzanadze, 2018). The NBG and the NBP are independent in their actions, supervising the financial sector to ensure the stability and transparency of the financial system and to protect the rights of consumers and investors in the sector (Babych *et al.,* 2018, p.1). However, the two banking sectors differ in size, as can be seen from the data presented in *Table 1*.

**Table 1. Number of Commercial Banks and Bank Branches in Poland and Georgia between 2019 and 2023**

| Country/category | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Number of banks (head offices) | | | | | |
| Poland | 580 | 565 | 558 | 530 | 522 |
| Georgia | 15 | 15 | 14 | 14 | 15 |
| Number of bank branches | | | | | |
| Poland | 12315 | 11421 | 10270 | 9845 | 9493 |
| Georgia | 999 | 940 | 924 | 917 | 922 |

*Source:* Inteliace Research reports on the number of bank branches in Poland in 2019–2023, accessed at https://www.inteliace.com/pl/publikacje_1.php?id=16; KPMG reports of Georgian Banking Sector Overview in 2019–2023, accessed at https://kpmg.com/ge/en/home/insights.html.

The differences in the number of banks and their branches in Poland and Georgia are mainly due to the size of these countries and their population. In addition, they differ in their internal structure. The Polish banking system consists of commercial and cooperative banks, which results in a greater dispersion of the sector. In contrast, the Georgian banking system is characterised by a higher degree of concentration by large commercial banks, whose share in the assets of the financial sector is estimated at 95%. In contrast, the share of microfinance institutions is negligible at around 5% (BSTDB Report, 2020). A common feature of commercial banks in both countries is the universal model of these institutions, i.e. the provision of a wide range of services.

## 2. Methodology of the Study

Based on the concept of financial system development, the measure proposed by the IMF will be used in order to measure the development of banking services. It offers a set of metrics to evaluate the development of the financial system, understood as the development of the financial market and financial institutions in three areas: access, size, and efficiency (NBP, Warsaw 2015, pp.32-35). The following indicators are proposed to determine the level of financial development: depth (size) of financial institutions, access to financial institutions, efficiency of financial institutions, development of financial institutions, depth (size) of financial markets, access to financial markets, efficiency of financial markets, development of financial markets, and an overall indicator of financial development based on all the aspects mentioned above (Khan, 2022, p.3; Nguyen *et al.,* 2020, pp.2-3; Svirydzenka, 2016, pp.6-7; Sayah *et al.,* 2015, p.75). Gospodarchuk and Zeleneva (2022, p.3) point out that increasing the number of primary indicators to measure financial development does not lead to more objective,

reasonable, and reliable study results. Therefore, in practice, researchers use not all, but only some of these indicators.

Due to data availability and comparability, the development of banking services in Poland and Georgia was assessed using characteristics which were divided into two groups, as presented in *Table 2*.

**Table 2. Set of Diagnostic Features Considered in the Analysis of the Development of Banking Services in Poland and Georgia**

| Area of analysis | Variable/feature |
|---|---|
| Accessibility to banking service infrastructure | $x_1$ - number of bank branches per 100,000 inhabitants |
| | $x_2$ - number of ATMs per 100,000 inhabitants |
| | $x_3$ - number of POS per 100,000 inhabitants |
| | $x_4$ - number of payment cards per 100,000 inhabitants |
| Size and efficiency of the banking sector | $x_5$ - Assets in relation to GDP in % (GDP at current prices) |
| | $x_6$ - loan/deposit ratio in % |
| | $x_7$ - ratio of loans to total assets in % |
| | $x_8$ - ratio of deposits to total assets in % |

*Source:* elaborated by the authors.

The selection of variables was determined by the availability of statistical data and was based on a substantive criterion, taking into account the purpose and obbject of the study and the time periods for which the study was conducted. It is important to note that for the analysis, diagnostic variables were adopted that were characterised by reliability, accuracy, comparability, relevance, and completeness (Młodak, 2006, p.55). The first group of features includes variables describing accessibility to banking infrastructure for the population of a country, while the second group includes features representing the size and efficiency of the banking sector.

The next step was to determine the mean values for each indicator from the two study areas for the years 2019–2023 and to compare them using the Mann-Whitney *U* test and the Kolmogorov-Smirnov test. The Mann-Whitney *U* test is used to determine differences between two independent groups. This non-parametric test is used when the comparison involves a dependent variable expressed on an ordinal scale or when the assumptions required for the Student's t-test are not met. If the result obtained is statistically significant (usually $p < 0.05$), this suggests the presence of a difference between the compared groups in terms of the severity of the dependent variable (Wiktorowska *et al.,* 2020, p.85). The Kolmogorov-Smirnov test, on the other hand, is used to assess the conformity of the distribution of the analysed variables to a normal distribution. A statistically significant result for this test indicates a lack of conformity with the normal distribution (Turczak, Zwiech, 2016, p.150).

The relationships between indicators of banking sector size and efficiency and indicators of accessibility to banking service infrastructure were then analysed. The analyses were conducted separately for the data for Poland and Georgia. For this purpose, regression analysis was used, which is used to analyse relationships between explanatory and explained variables and allows the strength of the analysed relationships to be determined using standardised regression coefficients. Due to the small number of observations, covering five consecutive years, each successive pair of indicators from the two areas was analysed in a separate regression analysis model (Syska, 2014).

## 3. Results

One of the criteria for assessing the development of banking services is access to banking service infrastructure. The analysis considered data for the time period of 2019–2023 in Poland and Georgia. These included the

following indicators: the number of bank branches per 100,000 inhabitants, the number of ATMs per 100,000 inhabitants, the number of devices accepting electronic payment instruments (POS) per 100,000 inhabitants, and the number of payment cards issued per capita, which are presented in *Table 3*.

**Table 3. Data on Accessibility to Banking Service Infrastructure in 2019–2023 in Poland and Georgia**

| Country/category | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Number of banking institutions per 100,000 inhabitants | | | | | |
| Poland | 32.44 | 31.01 | 27.21 | 26.73 | 25.22 |
| Georgia | 26.83 | 25.29 | 24.78 | 24.86 | 24.67 |
| Number of ATMs per 100,000 inhabitants | | | | | |
| Poland | 59.81 | 57.61 | 56.69 | 57.87 | 58.70 |
| Georgia | 68.14 | 71.45 | 75.67 | 78.68 | no data |
| Number of POS per 100,000 inhabitants | | | | | |
| Poland | 2,389.36 | 2,710.48 | 2,975.62 | 3,316.12 | 3,530.04 |
| Georgia | 1,421.0 | 1,652.45 | 1,980.77 | 2,345.31 | no data |
| Number of payment cards per capita | | | | | |
| Poland | 1.13 | 1.15 | 1.15 | 1.21 | 1.20 |
| Georgia | 1.8 | 1.85 | 1.84 | 2.12 | 2.35 |

*Source:* own compilation based on: National Statistics Office of Georgia in 2019–2023; Annual Report of National Bank of Georgia in 2019–2023; Reports KPMG Georgian Banking Sector Overview in 2019–2023; Statistical Yearbooks of the Central Statistical Office in 2019–2023; Reports NBP Information on Payment Cards in 2019–2023.

The development of a country's banking system is measured not only by the total number of banks and their branches, which is determined by population and area, but also by the availability of banking service infrastructure, described by the number of branches, ATMs, and POS per 100,000 inhabitants, and the number of cards per capita. Between 2019 and 2023, both Poland and Georgia saw a decline in the number of branches, which was a result of technological progress towards virtualisation of customer service and expansion of services in the electronic distribution channel. However, it should be noted that Poland saw a faster pace of decline in the number of branches. A similar trend can be seen in the case of ATMs, the number of which decreased slightly in Poland and increased in Georgia. In contrast, the number of payment cards and POS increased in both countries.

The second group of indicators presented in *Table 4* describes the size and efficiency of the banking system in Poland and Georgia.

The asset-to-GDP ratio was characterised by strong fluctuations in Poland and Georgia, undoubtedly due to the COVID-19 pandemic in the period 2020–2021. Significantly higher values of this parameter were recorded in Georgia, which is not necessarily beneficial for the financial stability and development of the banking sector. Arguably, this is due to the strong concentration of the sector around a few large financial institutions, which can generate a much higher level of risk to the financial system. In Poland, the internal structure of the banking system is more fragmented, leading to the lower share of assets in GDP.

**Table 4. Size and Efficiency Data for the Banking Sector in Poland and Georgia for 2019–2023**

| Country/category | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Assets in relation to GDP in % (GDP at current prices) | | | | | |
| Poland | 87.1 | 100.5 | 97.4 | 88.5 | 88.7 |
| Georgia | 95.79 | 115.43 | 100.9 | 96.55 | 93.00 |
| Loans/deposits ratio in % | | | | | |
| Poland | 84.58 | 76.93 | 74.1 | 69.54 | 63.5 |
| Georgia | 121.79 | 110.40 | 115.72 | 101.98 | 96.28 |
| Share of loans in total assets in % | | | | | |
| Poland | 63.16 | 57.79 | 57.3 | 53.89 | 49.17 |
| Georgia | 67.73 | 67.22 | 71.15 | 64.20 | 65.75 |
| Share of deposits in total assets in % | | | | | |
| Poland | 74.69 | 75.11 | 77.32 | 77.5 | 77.43 |
| Georgia | 55.61 | 60.88 | 61.48 | 62.96 | 68.29 |

*Source:* own compilation based on: National Statistics Office of Georgia in 2019–2023; Annual Report of National Bank of Georgia in 2019–2023; Reports KPMG Georgian Banking Sector Overview in 2019–2023; Statistical Yearbooks of CSO in 2019–2023; Reports KNF Information on the situation of the banking sector in Poland in 2019–2023.

An important factor for the development of banking services is the efficiency of banks in the financial intermediation function, measured by the loan-to-deposit ratio and its share in total assets. In terms of the loan-to-deposit ratio, it should be noted that the ratio was higher in Georgia than in Poland. Such a distribution of results shows that banks finance lending with their own financial resources, and do not report the need for external financing, which may carry a higher risk. This interpretation is confirmed by the values of the following indicators: share of loans and deposits in total assets. Higher values of the indicator for the share of loans in total assets were recorded in Georgia; and for the share of deposits in total assets, in Poland. Thus, it can be observed that Poland has an over-liquid banking sector.

The comparison of the average values of accessibility indicators to banking service infrastructure in Poland and Georgia is presented in *Table 5*.

It was found that the average number of bank branches per 100,000 inhabitants was statistically significantly higher in Poland, and the average number of ATMs per 100,000 inhabitants was higher in Georgia. It can be concluded that access to bank branches is easier in Poland; whereas access to ATMs, in Georgia (the Mann-Whitney *U* test).

The average number of POS per 100,000 inhabitants was higher in Poland, and the average number of payment cards per capita was higher in Georgia (the Kolmogorov-Smirnov test).

**Table 5. Average Values of Accessibility Indicators to Banking Service Infrastructure in Poland and Georgia in 2019–2023**

| Specification | Poland | | Georgia | | | |
|---|---|---|---|---|---|---|
| **Mann-Whitney *U* test** | | | | | | |
| Accessibility to banking service infrastructure | *M* | *SD* | *M* | *SD* | *Z* | *p* |
| Number of bank branches per 100,000 inhabitants | **28.52** | 3.06 | **25.29** | 0.89 | -1.98 | **0.047** |
| Number of ATMs per 100,000 inhabitants | **58.14** | 1.18 | **73.49** | 4.64 | -2.45 | **0.014** |
| Number of POS per 100,000 inhabitants | 2984.32 | 457.42 | 1849.88 | 402.29 | -2.45 | 0.014 |
| Number of payment cards per capita | 1.17 | 0.03 | 1.99 | 0.24 | -2.62 | 0.009 |
| **Kolmogorov-Smirnov test** | | | | | | |
| Accessibility to banking service infrastructure | *M* | *SD* | *M* | *SD* | *Z* | *p* |
| Number of bank branches per 100,000 inhabitants | 28.52 | 3.06 | 25.29 | 0.89 | 0.95 | 0.329 |
| Number of ATMs per 100,000 inhabitants | 58.14 | 1.18 | **73.49** | 4.64 | 1.49 | **0.023** |
| Number of POS per 100,000 inhabitants | **2984.32** | 457.42 | 1849.88 | 402.29 | 1.49 | **0.023** |
| Number of payment cards per capita | 1.17 | 0.03 | **1.99** | 0.24 | 1.58 | **0.013** |

*Note:* M – mean value, *SD* – standard deviation, *Z* – standardised Mann-Whitney *U* test/ Kolmogorov-Smirnov test, *p* – statistical significance.

*Source:* own elaboration.

The comparison of the average values of size and efficiency indicators of the banking sector in Poland and Georgia is presented in *Table 6*. Values from 2019–2023 have been averaged.

**Table 6. Average Values of Size and Efficiency Indicators of the Banking Sector in Poland and Georgia in 2019–2023**

| Specification | Poland | | Georgia | | | |
|---|---|---|---|---|---|---|
| **Mann-Whitney *U* test** | | | | | | |
| **Size and efficiency of the banking sector** | *M* | *SD* | *M* | *SD* | *Z* | *p* |
| Assets in relation to GDP in % (GDP at current prices) | 92.44 | 6.07 | 100.33 | 8.90 | -1.36 | 0.175 |
| Loans/deposits ratio in % | 73.73 | 7.91 | 109.23 | 10.27 | -2.61 | **0.009** |
| Share of loans in total assets in % | 56.26 | 5.17 | 67.21 | 2.60 | -2.61 | **0.009** |
| Share of deposits in total assets in % | 76.41 | 1.39 | 61.84 | 4.55 | -2.61 | **0.009** |
| **Kolmogorov-Smirnov test** | | | | | | |
| **Size and efficiency of the banking sector** | *M* | *SD* | *M* | *SD* | *Z* | *p* |
| Assets in relation to GDP in % (GDP at current prices) | 92.44 | 6.07 | 100.33 | 8.90 | 0.95 | 0.329 |
| Loans/deposits ratio in % | 73.73 | 7.91 | 109.23 | 10.27 | 1.58 | **0.013** |
| Share of loans in total assets in % | 56.26 | 5.17 | 67.21 | 2.60 | 1.58 | **0.013** |
| Share of deposits in total assets in % | 76.41 | 1.39 | 61.84 | 4.55 | 1.58 | **0.013** |

*Note: M* – mean value, *SD* – standard deviation, *Z* – standardised Mann-Whitney *U* test/ Kolmogorov-Smirnov test, *p* – statistical significance.

*Source:* own elaboration.

It was found that the values of the loans/deposits ratio and the ratio of the share of loans in total assets were statistically significantly higher in Georgia, while the ratio of the share of deposits in assets was higher in Poland (the Mann-Whitney *U* test). These relationships were also confirmed by the Kolmogorov-Smirnov test.

This was followed by a regression analysis in which indicators describing the size and efficiency of the banking sector were predictors of indicators of accessibility to banking service infrastructure (see *Table 7*).

**Table 7. Indicators of Banking Sector Size and Efficiency as Predictors of Indicators of Accessibility to Banking Service Infrastructure**

| | | | Poland | | | Georgia | | |
|---|---|---|---|---|---|---|---|---|
| | Explained variable | Predictor | *Beta* | *t* | *p* | *Beta* | *t* | *p* |
| 1 | Number of bank branches per 100,000 inhabitants | Assets in relation to GDP in % | 0.16 | 0.28 | 0.795 | -0.26 | -0.38 | 0.741 |
| | | Loans/deposits ratio in % | 0.94 | 4.94 | **0.016** | 0.72 | 1.45 | 0.284 |
| | | Share of loans in total assets in % | 0.90 | 3.66 | **0.035** | -0.02 | -0.02 | 0.984 |
| | | Share of deposits in total assets in % | -0.97 | -7.12 | **0.006** | -0.97 | -6.14 | **0.026** |
| 2 | Number of ATMs per 100,000 inhabitants | Assets in relation to GDP in % | -0.75 | -1.95 | 0.146 | -0.20 | -0.28 | 0.804 |
| | | Loans/deposits ratio in % | 0.30 | 0.55 | 0.621 | -0.80 | -1.86 | 0.204 |
| | | Share of loans in total assets in % | 0.24 | 0.43 | 0.696 | -0.25 | -0.36 | 0.752 |
| | | Share of deposits in total assets in % | -0.49 | -0.98 | 0.399 | 0.90 | 3.00 | 0.096 |
| 3 | Number of POS per 100,000 inhabitants | Assets in relation to GDP in % | -0.22 | -0.39 | 0.725 | -0.26 | -0.38 | 0.743 |
| | | Loans/deposits ratio in % | -0.99 | -11.33 | **0.001** | -0.83 | -2.06 | 0.175 |
| | | Share of loans in total assets in % | -0.97 | -7.08 | **0.006** | -0.35 | -0.53 | 0.651 |
| | | Share of deposits in total assets in % | 0.90 | 3.61 | **0.036** | 0.87 | 2.51 | 0.128 |
| 4 | Number of payment cards per inhabitant | Assets in relation to GDP in % | -0.37 | -0.70 | 0.536 | -0.30 | -0.44 | 0.705 |
| | | Loans/deposits ratio in % | -0.89 | -3.32 | **0.045** | -0.90 | -2.95 | 0.098 |
| | | Share of loans in total assets in % | -0.88 | -3.19 | **0.050** | -0.76 | -1.67 | 0.238 |
| | | Share of deposits in total assets in % | 0.78 | 2.14 | 0.122 | 0.68 | 1.30 | 0.322 |

*Note: Beta* – standardised regression coefficient, *t* – value of the statistical significance test of the predictor, *p* – statistical significance.

*Source:* own elaboration.

The following conclusions can be drawn from the results of the regression analysis:

1. A statistically significant positive relationship was found between the loans/deposits ratio and the number of bank branches per 100,000 inhabitants in Poland. In subsequent years, the loans/deposits ratio in

Poland was increasingly lower and accompanied by a decreasing number of bank branches per 100,000 inhabitants.

2. There was also observed a statistically significant positive relationship between the share of loans in total assets and the number of bank branches per 100,000 inhabitants in Poland. In subsequent years, the share of loans in total assets in Poland was increasingly smaller and was also accompanied by a decreasing number of bank branches per 100,000 inhabitants.

3. The relationship between the share of deposits in total assets and the number of branches of banking institutions per 100,000 inhabitants in Poland was negative. In subsequent years, the share of deposits in total assets in Poland was increasingly higher and was also accompanied by a decreasing number of banking institutions' branches per 100,000 inhabitants.

4. A statistically significant negative relationship was found between the loans/deposits ratio and the number of POS per 100,000 inhabitants in Poland. In subsequent years, the loans/deposits ratio in Poland was increasingly smaller and was accompanied by an increasing number of POS.

5. A statistically significant negative relationship was also found between the share of loans in total assets and the number of POS per 100,000 inhabitants in Poland. In subsequent years in Poland, the share of loans in total assets was increasingly smaller and was accompanied by an increasing number of POS.

6. The relationship between the share of deposits in total assets and the number of POS per 100,000 inhabitants in Poland was positive. In subsequent years in Poland, the share of deposits in total assets was increasingly higher and was accompanied by an increasing number of POS.

7. A statistically significant negative relationship was found between the loans/deposits ratio and the number of payment cards per capita in Poland. In subsequent years, the loans/deposits ratio in Poland was increasingly smaller and was accompanied by an increasing number of payment cards.

8. A statistically significant negative relationship was also found between the share of loans in total assets and the number of payment cards per capita in Poland. In successive years in Poland, the share of loans in total assets was increasingly smaller and was accompanied by an increasing number of payment cards.

9. In Georgia, a statistically significant negative relationship was found between the share of deposits in total assets and the number of banking institution branches per 100,000 inhabitants. In subsequent years in Georgia, the share of deposits in total assets was increasingly higher and was also accompanied by a decreasing number of banking institution branches per 100,000 inhabitants.

## Conclusions

The results of the study show that traditional banking infrastructure in the form of branches has been shrinking in both countries, with the average number of branches per 100,000 inhabitants higher in Poland. This may be due to the structure of the banking system in Poland, which includes not only commercial banks but also cooperative banks, for they make up a huge share of the market of banking branches. In Georgia, on the other hand, the banking sector consists of a few large commercial banks, and the share of other types of institutions is negligible.

In contrast, the number of ATMs per 100,000 inhabitants and the number of payment cards per capita is higher in Georgia, while the trend has been decreasing in Poland. Perhaps Georgian banks, in response to customer

needs, prefer this distribution channel at the expense of fewer bank branches. In contrast, the number of POS per 100,000 inhabitants is higher in Poland, which may be due to a more developed retail and service network.

Some interesting conclusions can be drawn from an analysis of the impact of the indicators of the banking sector size and efficiency on accessibility to banking service infrastructure. The results of this analysis suggest that, in the case of Poland, changes in the number of branches, POS terminals and payment cards were determined by sector efficiency indicators, i.e. in the first two cases: the loans/deposits ratio and the ratios of the share of loans and deposits in total assets, and in the last case: the ratios of loans/deposits and the share of loans in total assets. In the case of Georgia, only one statistically significant relationship was obtained; the number of bank branches is determined by the ratio of the share of deposits in total assets.

It is worth noting that due to the lack of standardised data on access to the mobile distribution channel for banking services, the study did not include them. Undoubtedly, such information could deepen the scope of analysis and provide a number of intriguing conclusions.

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## BANKININKYSTĖS PASLAUGŲ PLĖTRA IR GALIMYBĖ JOMIS NAUDOTIS LENKIJOJE IR GRUZIJOJE

**Anna Nowacka, Mariola Szewczyk-Jarocka, Tamar Kbiladze, Rimantas Dapkus**

***Santrauka.*** Straipsnio tikslas – nustatyti bankinių paslaugų išsivystymo lygį atsižvelgiant į galimybę naudotis bankinių paslaugų infrastruktūra Lenkijoje ir Gruzijoje. Paslaugų infrastruktūros išvystymo ir prieinamumo lygis palygintas pasitelkus rodiklių rinkinį ir pritaikius Mann-Whitney ir Kolmogorovo-Smirnovo testus bei regresinę analizę. Nustatyta, kad bankinių paslaugų infrastruktūros plėtra ir prieinamumas Lenkijoje ir Gruzijoje atskleidžia ir daug panašumų, ir skirtumų. Neabejotinai bendras bruožas yra fizinių bankų skyrių skaičiaus mažinimas ir elektroninės bankininkystės infrastruktūros plėtra. Viena vertus, Lenkijoje labiau išplėtotas prekybos vietų tinklas. Kita vertus, Gruzijoje vidutiniškai vienam gyventojui tenka daugiau mokėjimo kortelių ir yra platesnis bankomatų tinklas.

*Reikšminiai žodžiai:* bankininkystės paslaugos; prieinamumas; plėtra; bankininkystės paslaugų infrastruktūra; bankų sektorius.