

FEES & COMMISSIONS IMPACT ON STRUCTURE OF MOLDOVAN BANKS PROFITABILITY IN THE CONTEXT OF DEVELOPMENT OF DIGITALIZATION SERVICES

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Abstract: *In the contemporary landscape of financial intermediation, the structure of bank profitability has undergone a profound transformation. While interest income has historically represented the dominant source of revenue for banking institutions, a notable shift has emerged over the past two decades — the growing role of non-interest income, particularly that derived from fees and commissions. This evolution has been shaped not only by market dynamics and technological advancements but also by a wide array of regulatory developments, both at the national and international levels. In this context, the actuality of the present research consist in the increasing relevance of fees and commissions as a stabilizing and diversifying factor in banks' income structures. Historically, Moldovan banks relied heavily on net interest income, derived from lending activities. However, the growing weight of non-interest income, and particularly the role of F&C, has become increasingly critical in recent years. This shift is not merely a reflection of internal banking strategy but also a response to structural regulatory and technological changes. The purpose of the article is to analyze the structure and dynamics of fees and commissions in bank profitability, with a focus on the evolutionary trends, regulatory impacts, and strategic implications for the Moldovan banking sector. The main objectives of this research are to analyze the trends in the Moldovan banking sector, particularly in terms of digitalization, acquiring network development, card issuance dynamics, and F&C margins. Another objective is to compare and contrast the European and Moldovan experiences, highlighting gaps, challenges, and adaptation opportunities. Against the backdrop of increased digitalization, regulatory harmonization, and rising competition, Moldovan banks are compelled to reassess their income models, cost structures, and strategic direction. The research was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union”, institutional funding.*

Keywords: *fees and commissions, banking sector, bank profitability, interest income, non-interest income, bank digitalization.*

JEL Classification: *G15, G20, G21, G 28, O30.*

1. Introduction

In recent decades, the international banking sector has undergone a broad process of structural transformation, driven by the digitalization of financial services, increased competition from fintech companies, changes in consumer behavior and the harmonization of the regulatory framework at international level. In this context, the traditional profitability model of banks, based predominantly on interest income, has begun to be complemented and, in some cases, gradually replaced by non-interest income, especially those from fees and commissions (Ozili, P.K., 2017).

The importance of fee and commission income has increased considerably against the backdrop of the reduction of net interest margins and the orientation of financial institutions towards diversifying their sources of income. According to the European Central Bank, in recent years European banks have recorded a steady increase in the share of non-interest income in the structure of total profitability, in response to the environment characterized by low interest rates and increased competitive pressures (European Central Bank, 2024).

At the same time, the digitalization of banking services has led to a profound change in the way customers interact with banks. According to OECD (2020), the development of digital services and the emergence of fintech platforms have accelerated the transition to electronic payments and online financial services, contributing to the expansion of fee revenue generation channels and the transformation of banking institutions' commercial strategies. At the same time, the International Monetary Fund highlights that the development of fintech reduces the traditional advantages of commercial banks and determines the reduction of classic financial intermediation margins, forcing banks to identify new models for monetizing digital services (IMF, 2023).

In the Republic of Moldova, these transformations are amplified by the European integration process and the need to align the banking system with European Union standards on digital payments, cybersecurity and electronic financial services.

The implementation of the MIA instant payment system, the expansion of the electronic payment acceptance infrastructure and the rapid increase in the use of mobile banking applications demonstrate the acceleration of the digitalization process of the Moldovan banking sector.

The relevance of the research lies in the need to assess how the development of digital services influences the structure of banking revenues and the increasingly important role of fees and commissions in ensuring the financial sustainability of banking institutions. In this context, the analysis of the experience of the Republic of Moldova becomes relevant both from an academic and practical perspective, given the rapid transformations that the national banking system is undergoing.

The purpose of the research is to analyze the impact of fees and commissions on the profitability structure of banks in the Republic of Moldova in the context of the development of digital services. The objectives are to identify the main trends in the digitalization of the banking sector, analyze the evolution of non-cash operations and the infrastructure for accepting electronic payments, as well as evaluate the strategic implications of the development of fees and commissions on the business model of commercial banks.

From a methodological point of view, the research is based on the use of several methods of economic and statistical analysis. Comparative analysis, structural and dynamic analysis, as well as descriptive analysis methods were applied to assess the evolution of indicators related to digital banking services and income from fees and commissions in the banking sector of the Republic of Moldova. At the same time, the study uses time series analysis for the period 2015–2024, based on statistical data provided by the National Bank of Moldova and other international institutional sources. In order to highlight the relationship between digitalization and the change in the structure of banking profitability, trends in cashless operations, the infrastructure for accepting electronic payments, the activity of issuing bank cards and the development of digital channels for interaction with customers were analyzed.

2. Literature Review

The specialized literature highlights the fact that the structure of banking income is one of the main determinants of the stability and profitability of financial institutions (Xu, T., et al., 2019). Traditionally, commercial banks have based their activity on interest income resulting from lending and financial intermediation operations. However, the processes of

financial liberalization, digitalization and increased competition have led to a gradual reorientation towards non-interest income sources.

Mishkin and Eakins (2021) argue that interest income remains fundamental for banking activity, but it is strongly influenced by monetary policies, the level of interest rates and macroeconomic conditions. Given the reduction in net interest margins and increased competition in the financial market, banks have been forced to diversify their income sources by developing fee-generating services.

A series of studies have analyzed the impact of non-interest income on the financial stability of banks. DeYoung and Rice (2004) show that income from fees and commissions contributes to the diversification of financial flows and reduces the dependence of banking institutions on traditional income from lending (DeYoung, R., Rice, T., 2004). At the same time, Stiroh (2004) highlights that excessive diversification towards non-traditional activities can generate additional risks associated with the volatility of financial markets and investment activities.

The digital transformation of the banking sector is one of the most analyzed topics in contemporary literature. OECD (2020) emphasizes that the digitalization of financial services has significantly changed the operational models of banks, facilitating the emergence of new sources of income based on digital services, electronic payments and fintech solutions (ECB, 2024).

At the same time, the development of mobile technologies and online platforms has contributed to reducing operational costs and increasing the efficiency of banking services. Competition from fintech companies is another important factor analyzed in the specialized literature. According to the IMF study (2023), the expansion of fintech services affects the traditional profitability of banks by reducing net interest margins and transferring part of the financial services to alternative digital platforms. In response, banking institutions are forced to invest heavily in digital technologies and develop innovative products based on commissions and personalized services.

Regarding consumer behavior, Cyran and Dybka (2023) highlight the fact that banking users are becoming increasingly oriented towards fast, transparent and digitally accessible services. Modern customers prefer mobile financial solutions, instant payments and integrated services, which forces banks to adapt their commercial strategies and pricing models.

In the case of the Republic of Moldova, the literature on the impact of digitalization on the structure of banking revenues remains relatively limited. However, reports of the National Bank of Moldova highlight an accelerated growth in the use of digital banking services, cashless operations and electronic payment acceptance infrastructure. These trends indicate that income from fees and commissions will continue to play an increasingly important role in the profitability model of Moldovan banks (NBM, 2023).

Thus, the specialized literature confirms the existence of a direct relationship between the digitalization of banking services, the diversification of income sources and the increasing importance of fees and commissions in the profitability structure of financial institutions. At the same time, international experience demonstrates that the success of these transformations depends on the ability of banks to combine technological innovation with effective risk management and adaptation to European regulatory requirements.

3. Theoretical framework of the research

The structure of bank income is mainly based on two important categories: interest income and non-interest income. These directly influence the bank's financial performance, the level of exposure to market risks and the institution's ability to maintain profitability in different stages of the economic cycle.

Interest income is the traditional basic element of banking activity. It comes, in particular, from the difference between the interest received on loans granted and the interest paid on resources attracted, such as deposits. This difference, known as the net interest margin, shows how efficiently the bank fulfills its role as a financial intermediary between depositors and borrowers (Mishkin, F., Eakins, S., 2021).

The size of the net interest margin is largely influenced by macroeconomic conditions, in particular the interest rate policy promoted by central banks, inflation expectations and the general demand for loans. In periods of high interest rates, banks can achieve higher margins. Conversely, when interest rates are low or market competition is intense, these margins tend to decrease, affecting the level of profitability (Saunders, A., Cornett, M., 2019). In addition, interest income is also influenced by credit risk, i.e. the possibility that borrowers will not honor their payment obligations. If this risk is not managed effectively, the bank may record loan losses, which directly reduces the earnings obtained from lending activity.

As technological developments, regulatory changes and financial market integration continue to drive banks to rely less and less on traditional interest-based products. The emergence of competition from fintech companies and other financial institutions has led banks to adapt their revenue generation strategies. To compensate for the reduction in margins on traditional lending activities, banks have increasingly turned to non-interest income, derived from fees, commissions, financial transactions and services such as asset management, insurance or investment banking (Deyoung, R., Rice, T., 2004). One of the main advantages of non-interest income is that it is less dependent on interest rate fluctuations. Unlike interest income, which can fluctuate significantly during periods of economic instability or changes in monetary policy, non-interest income tends to be more stable. It often comes from services provided to customers and generates more predictable cash flows (Stiroh, K., 2004).

Non-interest income also helps to diversify sources of income, allowing banks to reduce the risks associated with lending. Institutions that operate in multiple financial segments, such as banking, insurance or securities, can better manage fluctuations in income. This is because the performance of different financial activities does not always move in the same direction, so losses in one sector can be offset by positive results in another. However, the strong focus on non-interest income also involves certain risks. Activities such as financial transactions, securitization or investment banking can expose banks to higher market, operational and reputational risks (Laeven, L., Levine, R., 2007). In addition, these activities require more complex infrastructure and advanced governance mechanisms, which leads to increased regulatory requirements and operational complexity.

Modern banking strategies emphasize maintaining a balanced income structure. Excessive reliance on interest income increases vulnerability to rate changes, and too much focus on non-interest income can amplify market and operational risks.

Therefore, a balanced combination of the two income sources supports profit stability, regulatory compliance, and banks' competitiveness in an increasingly digitalized financial environment.

Modern banking strategies emphasize maintaining a balanced income structure. Excessive reliance on interest income increases vulnerability to rate changes, and too much focus on non-interest income can amplify market and operational risks. Therefore, a balanced combination of the two income sources supports profit stability, regulatory compliance, and banks' competitiveness in an increasingly digitalized financial environment (Kaufman, G., Mote, L., 1994). Although the basic functions of banks have remained largely the same, the ways in which they operate have changed significantly, and financial innovations and increasingly intense competition have reduced banks' traditional advantages in attracting resources and granting loans, leading them to seek new, more profitable areas of activity.

It is often considered that income from commissions and other non-interest sources is more stable than interest-based ones, and diversifying banking activities can reduce risks, as income from banking, insurance and securities operations does not always evolve at the same pace. Whereas net interest margins are highly sensitive to fluctuations in interest rates and broader economic conditions, fee-based revenues offer a degree of insulation, contributing to more predictable and stable bank earnings (Smith, R. et al., 2003).

In the context of the transformation of financial intermediation and continuous technological development, banks have diversified their income sources beyond traditional interest-based activities, and non-interest income has become increasingly important, providing banking institutions with a more stable source of income and less dependent on interest rate fluctuations. The main components of non-interest income are:

- a) *Fees and Commissions*- This category includes recurring charges and service-related income obtained through a wide variety of financial products and services. These are often linked to transactional services, advisory activities, or asset-based pricing models. Examples include account related fees, payment service charges, loan origination and servicing fees, brokerage commissions, cash usage, and others, on which we will elaborate further on.
- b) *Trading and Investment Income*- This segment comprises gains (or losses) from the sale or revaluation of trading securities, derivatives, and foreign exchange operations. It is often volatile and closely tied to market dynamics. In countries in which the financial market sector is underdeveloped, such as Moldova, mainly the income comes from foreign exchange operations from customers.
- c) *Asset Management and Custody Services*- These are revenues earned through the management of customer portfolios, mutual funds, pension plans, or securities custody. Banks charge management and performance fees depending on the size and performance of the assets.
- d) *Insurance Services*- Some banks operate bancassurance models, selling insurance policies and earning premiums or commissions on those products. This can also include underwriting income or distribution fees.
- e) *Other Operating Income*- This includes miscellaneous earnings such as rental income from bank-owned properties, proceeds from the sale of fixed assets, penalties and fines imposed on customers, dividends from other stocks that are in banks possession or from subsidiary companies.

Among the components of non-interest income, fees and commissions represent the most stable and constant source of income, especially for universal and retail banks, as they come from services, access to financial products and consulting activities, being less influenced by changes in interest rates and monetary policy.

Digital transformation has significantly changed the way banks generate fee and commission income, through the development of online banking services, mobile applications, open banking solutions and automated financial services, which have created new revenue collection opportunities (Śliwiński, R., Puślecki, Ł., 2022). In this context, the growth of fee income can be supported through three main directions: the introduction of new fee-based services, the application of dynamic pricing strategies and the improvement of existing services by offering more advantageous costs for customers:

- *New Fee-Based Services*- the advancement in technologies allowed banks to introduce new products such as real time payments, instant transfers, AI-driven investment advices, wallet services by a cross-platform integration (such as Apple Pay and Google Pay). These services that previously were associated with premium banking, nowadays are considered a pure necessity and a day-to-day feature of banking experience overall. These innovations often come with added value to customers and justify the introduction of new types of commissions;

- *Dynamic Pricing Models*- Technology enables banks to personalize pricing based on customer behavior, transaction history, and risk profiles. Machine learning tools can also optimize pricing strategies in real time. This has enabled to offer a scalable model for F&C, which relies on both data collection and individual analysis of the clients.

- *Reduced Transaction Costs and Fees*- Conversely, with a negative direct impact on revenues, automation has reduced costs in many areas (e.g., digital onboarding, self-service payments), leading to lower or eliminated fees for basic services. This forces banks to look for alternative value-added services to sustain revenue, but also streamlines the internal activity and improves cost-savings by using alternative instruments with a higher capacity and lower cost (e.g. getting a credit offer through internet/mobile banking rather than bank's physical branches).

In parallel, the emergence of fintech companies leveraging cloud computing and AI has intensified competition and decreased the costs of offering financial services, pressuring traditional banks to innovate and refine their fee structures (OECD, 2020).

Customer preferences have become an increasingly important factor in the formation of fee and commission revenues, especially against the backdrop of expanded access to information, direct dialogue with the bank and increased demand for transparency. Thus, the modern banking customer is more informed, more familiar with digital technologies and more attentive to costs than in the past (Cyran, K., Dybka, S., 2023).

These changes influence fee-based services in several main directions:

- Transparency and simplicity - customers demand clear fee structures, no hidden costs and real-time notifications of applied fees, which forces banks to simplify their pricing models.
- Orientation towards value-added services - customers are more willing to pay for personalized financial planning, integrated bank-insurance products or investment instruments linked to ESG criteria, rather than for routine banking services.
- Changing transactional behavior - the development of contactless payments, e-commerce and mobile banking has led banks to adjust their fee structure, reducing the emphasis on traditional operations and focusing on digital services, especially for young consumers, who prefer fast, personalized and accessible solutions on demand (Śliwiński, R., Puślecki, Ł., 2022).

Competition is another key factor influencing banks' fee and commission policies and diversifying revenue strategies. The entry of fintech companies, non-banks and large technology platforms has increased the pressure on traditional banks, as these competitors often offer free or low-cost services, using more flexible infrastructures, intuitive applications and more transparent pricing policies (Koont, J., 2024).

The impact of competition on fee and commission revenues can be highlighted in three main directions:

- Pressure on traditional revenues - new financial players offer fee-free accounts, free trading and low-cost international payments, which leads traditional banks to revise their fee levels.
- Differentiation through innovation - to compensate for the reduction in fee revenues, banks develop integrated service packages, combining banking products, insurance and financial advice, including premium options for a fee.
- Regulation-driven competition - open banking frameworks, such as PSD2 in Europe, require banks to share customer data with third-party providers, increasing competition and driving banking institutions to create monetizable services based on data, security and privacy protection (OECD, 2020).

Due to digital innovations, changing consumer behavior and intensifying competition in the financial market, the structure of banking fees and commissions is no longer fixed, and banks must constantly reassess their pricing policies to maintain profitability, customer trust and compliance with regulatory requirements.

4. Analysis of trends in the banking sector in the context of digitalization

As digitalization changes the way financial services are delivered, banks are forced to rethink their revenue streams. The emergence of fintech companies, which use technologies such as cloud computing and artificial intelligence, has reduced the costs of providing services and intensified competition for traditional banks (OECD, 2020).

At the same time, customer expectations have also changed. Wider access to information, frequent use of digital channels and the demand for transparency have made banking users more informed, more price-sensitive and more attentive to the quality of the experience offered by the bank (Cyran, K., Dybka, S., 2023). In this context, income from fees and commissions is gaining increasing importance. While in the past banks relied mainly on interest income, pressure on net interest margins and regulatory constraints have led them to diversify their business model. Digitalization has supported this transition through the development of services such as mobile banking, digital wallets, and online investment platforms, which can generate additional fee income. In the case of banks in Vietnam, for the period 2010–2021, digitalization was associated with improved profitability, reduced cost/income ratio, and increased non-interest income (Nguyen QTT, Nguyen DT., 2023).

At the same time, fintech competition has accelerated this orientation towards alternative income. New financial players often offer faster, cheaper, and easier-to-use services, which puts pressure on traditional banks. Some research shows that a 1% increase in fintech transaction volume can reduce traditional banks' net interest margin by 0.03 percentage points (Naceur, S.B., et al., 2023). Therefore, investments in digital technologies and the development of fee-based services are becoming an important direction for maintaining banking competitiveness and profitability.

To remain competitive, banks are increasingly investing in digitalization, focusing resources on online platforms, cybersecurity, artificial intelligence, and blockchain technologies. It is estimated that global investments in digital transformation by banks have increased from USD 1.1 trillion in 2023 to USD 1.3 trillion in 2024 (Burnett, S., 2026). These investments allow for the personalization of services, the automation of processes, and the launch of new fee-generating products.

At the same time, digital banks are diversifying their revenue streams. In 2023, institutions such as Revolut and Monzo reduced their reliance on interchange fees, moving toward premium services, subscriptions, and additional paid features (Statista, 2024).

Digitalization is also changing the relationship with the customer: mobile applications, internet banking and data analysis allow banks to better understand user behavior and offer tariff services better adapted to their needs. At the same time, automation reduces operational costs and supports the expansion of commissionable services. Currently, most major banks have already entered this digital competition, continuously developing mobile and internet banking solutions.

Several leading banks have already taken significant steps in this direction. For instance, MAIB (Moldova Agroindbank) and Moldindconbank have fully operational mobile banking apps that allow users to perform a wide range of transactions - from bill payments to credit applications - without visiting a physical branch. These efforts are supported by continuous upgrades to user interface design, security protocols (e.g., two-factor authentication), and real-time payment capabilities. Similarly, Victoriabank, in partnership with Banca Transilvania from Romania, has adopted Romanian fintech practices and expanded its digital product suite to enhance cross-border operability.

The benefits of such digital investments are multi-fold: they lower operational costs per transaction, improve customer experience and loyalty, and reduce the reliance on physical infrastructure, which is particularly important in less populated regions. Moreover, digital platforms facilitate the automation of compliance processes (e.g., KYC - Know Your Customer), helping banks reduce regulatory costs related to EU-aligned directives such as PSD2 and Anti-Money Laundering Directive.

European trends also suggest a shift toward open banking, allowing customers to securely share their financial data with third-party providers. This trend, backed by PSD2 in the EU, creates a competitive environment where innovation thrives, and pricing structures—particularly for fees and commissions—are under downward pressure. Moldovan banks that adopt such frameworks early will be better positioned to partner with fintech companies or develop APIs for third-party integration, increasing service diversity and customer retention.

According to the National Bank of Moldova, the share of individuals using internet banking grew from 9.8% in 2018 to over 20% in 2023, while mobile banking usage exceeded 30% among active clients (BNM, 2024). This upward trend shows strong demand and trust in digital solutions, emphasizing the importance of continued innovation in this area.

By reinforcing their digital infrastructures, Moldovan banks not only improve their operational efficiency but also meet the expectations of a younger, tech-savvy customer base and prepare for the integration into the Single Euro Payments Area (SEPA), where real-time and low-cost digital transactions are the norm.

Regarding fees and commission revenues, there are a couple of main activities that serve as the drivers for this type of revenues, specifically:

- Cash withdrawal operations;

- Activities implying debit and credit cards, it being transfers and payments;
- Number of clients that have one or more accounts oppened in a bank;
- Number of POS, E-Commerce and ATM terminals.

Following in article will be analyzed trends of the Moldovan banking system regarding cash withdrawal operations (see figure 1).

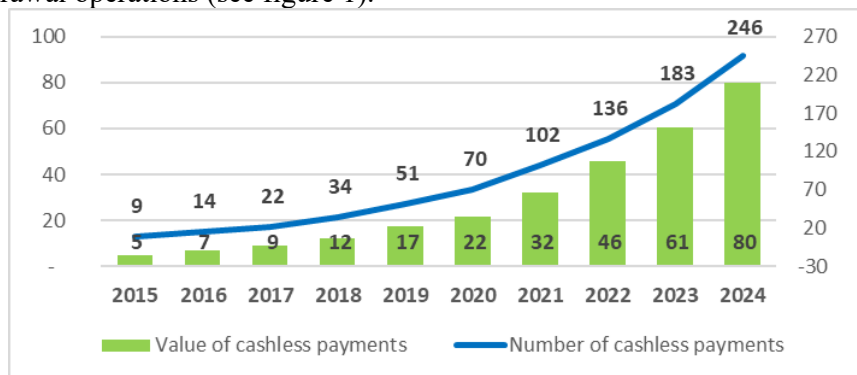


Figure 1. Evolution of cashless operations with cards by volume and by number in the Republic of Moldova, 2015-2024, Billion MDL & Million transactions.

Source: Elaborated by authors based on the NBM consolidated banking data.

In 2024, cashless transactions with cards issued by local banks reached about MDL 80 billion and 246 million payments, up 31.9% in value and 34.4% in number compared to the previous year. This development confirms the acceleration of the digitalization of banking services in an emerging economy. Over the past decade, the trend has been steadily upward, with the highest annual pace recorded in 2021, when the volume of payments increased by 48.1% compared to 2020, against the backdrop of the relaunch of economic activity after the pandemic and the reduced comparison base from the previous year.

Although the evolution of cashless operations indicates a reduction in the average value of a transaction, determined by the faster growth of the number of payments compared to their volume, this phenomenon does not have a negative effect. On the contrary, it reflects the expansion of the use of electronic payments and the increasing access of small and medium-sized merchants to the digital payment infrastructure. Thus, the decrease in the average value of the transaction from 512 MDL in 2015 to 325 MDL in 2024 highlights the process of modernization and digitalization of the market. In parallel, the gradual reduction of the costs related to taxes and commissions for merchants has facilitated the adoption of these services and the integration of a larger number of entrepreneurs into the digital economy.

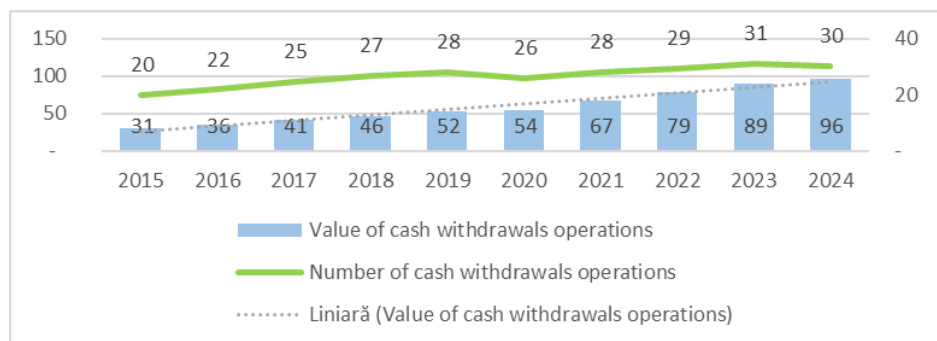


Figure 2. Evolution of cash withdrawals with cards by volume and by number in the Republic of Moldova, 2015-2024, Billion MDL & Million transactions.

Source: Elaborated by authors based on the NBM consolidated banking data.

On the other hand, the development of cashless operations occurs simultaneously with the maintenance of cash transactions, even if banks aim to reduce them due to the high operational costs associated with cash management, including cash supply, ATM and branch maintenance, as well as compliance and security requirements.

Over the past 10 years, cash withdrawals in the Republic of Moldova have continued to grow, but at a much slower pace compared to cashless payments. In 2024, the annual growth of cash withdrawals was 7.8%, almost four times lower than the pace recorded for cashless operations. This evolution indicates an accelerated transition to digital payments. However, in absolute values, cash withdrawals still remain superior to cashless payments, although current trends could change this situation in the coming years.

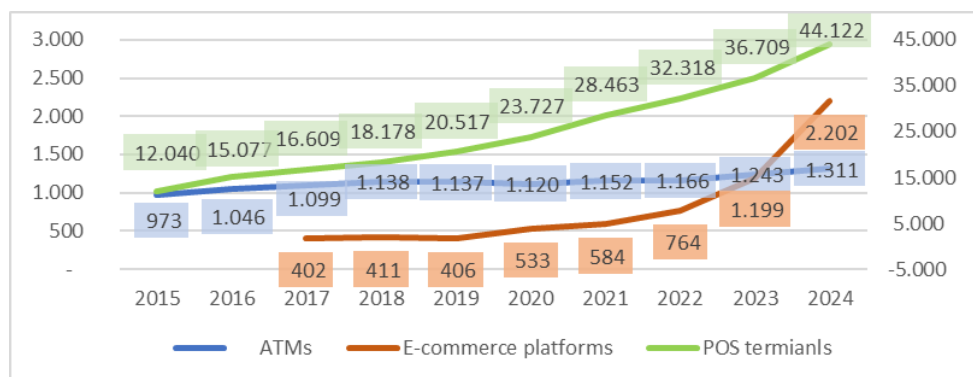


Figure 3. Development of Digital Payment Infrastructure in the Republic of Moldova, 2015-2024

Source: Elaborated by authors based on the NBM consolidated banking data.

Figure 3 highlights the evolution of the acquiring network of banks in the Republic of Moldova, an important factor in generating revenue from fees and commissions. This network includes POS terminals installed at merchants, ATMs and e-commerce platforms that allow the processing of digital payments and card transactions.

In the context of the modernization of the financial system, the acquiring infrastructure has become an important source of revenue for banks. The increase in the use of electronic payments determines the increase in the number of transactions processed through these channels, and each operation generates commissions charged to merchants, known as merchant fees. Revenues are even higher when the same bank acts as both the card issuer and the bank accepting the payment.

At the same time, the development of an extensive acquiring network contributes to strengthening the competitiveness of banks in the payments market and to strengthening relationships with both individual customers and merchants. In the Republic of Moldova, the increase in the use of card payments has led banks to actively invest in expanding the POS network, developing e-commerce solutions and modernizing ATMs, as highlighted in Figure 3.

Thus, over the past 10 years, the annual growth rate of the POS network has varied between 9.4% in 2018 and 25% in 2016, with an average of approximately 15.6%. This evolution reflects the rapid development of the payment infrastructure and supports constant income streams for banks through commissions charged to merchants, but also by attracting new corporate customers and opening current accounts.

The ATM network has had a relatively stable evolution, with moderate growth during the analyzed period. This confirms the gradual transition of consumers in the Republic of Moldova from physical to digital operations, in line with the long-term strategy of the NBM and European trends. A much more pronounced dynamics is observed in the case of e-commerce platforms.

In 2024 alone, their number almost doubled, which reflects the rapid digital advancement of the market. For banks, these platforms are attractive because they involve lower costs than the installation and maintenance of physical POS terminals, even if the level of commissions charged to merchants is usually lower. At the same time, e-commerce solutions are simpler from a logistical point of view, both for banks and merchants, and the upward trend is expected to continue in the coming years.

In the context of the Republic of Moldova's alignment with European standards, including PSD2 principles, investments in secure and interoperable acquiring infrastructure are becoming important not only for the development of digital payments, but also for compliance with the requirements for secure authentication and open banking.

This direction can facilitate, in the long term, regional integration and closer connection to European financial systems. Thus, the acquiring network is not just a technical infrastructure, but a strategic element of the modern banking model, with a direct impact on income from fees and commissions. However, the main determinants of these incomes remain the bank's customer base and the number of cards issued, as they directly influence the volume of transactions and the level of commissions generated.

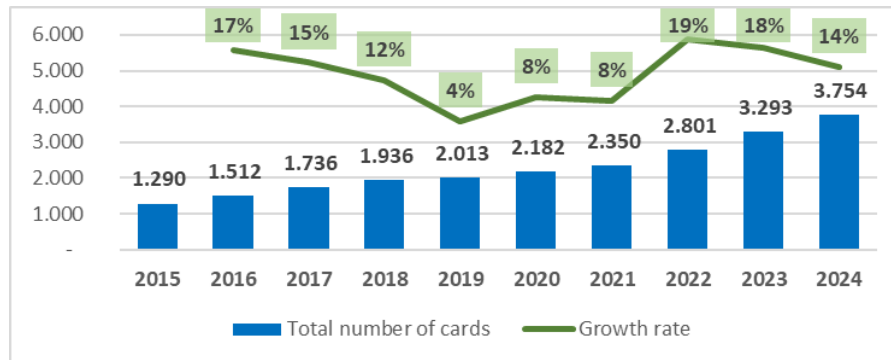


Figure 4. Dynamics of Bank Cards Issued in the Republic of Moldova, 2015-2024,
k units; %

Source: Elaborated by authors based on the NBM consolidated banking data.

The Figure 4 presents a detailed overview of the dynamics in the number of cards issued by Moldovan banks over a ten-year period, alongside the annual growth rate in percentage terms. This figure is central to understanding the evolution of one of the key operational domains influencing fees and commission (F&C) revenues and expenditures in the Moldovan banking sector.

The total number of cards issued has demonstrated a steady upward trajectory, increasing from 1.29 million in 2015 to 3.75 million by 2024. While this growth is overall positive, it is marked by two distinct phases:

- 2015–2019: The growth in card issuance slows progressively, with the annual growth rate dropping from 17% in 2015 to a low of 4% in 2019. This stagnation may reflect a period of market saturation in urban areas, slower onboarding of rural customers, or limited digital financial services outreach.
- 2020–2024: A notable recovery occurs from 2020 onward, with growth accelerating to 19% in 2022 and remaining robust through 2024. This resurgence coincides with broader financial inclusion initiatives, acceleration of digital banking channels, and the societal shift toward cashless transactions, especially post-COVID-19.

The upward trend in card issuance correlates directly with an expansion of the customer base using digital payment instruments, which contributes significantly to fees and commission revenues. Each active card generates income through a variety of commission-based services such as:

- Interchange fees from card payments;
- ATM withdrawal fees (particularly from out-of-network or cross-bank usage);
- Annual maintenance and card issuance fees;
- Merchant service charges on transactions at POS terminals and e-commerce platforms.

As more consumers use cashless payments, transaction volumes and, consequently, the fee income generated by each card increase. The faster pace since 2020 suggests that banks are benefiting from the expansion of card usage not only for cash withdrawals, but also for online shopping, bill payments and recurring services.

However, issuing more cards also entails additional costs, such as card production and personalization, related systems management, fraud monitoring, transaction security and customer support. Even so, the net impact remains positive, as revenues from electronic and

card-based services typically grow faster than costs, mainly due to economies of scale and digital efficiency.

Thus, the expansion of card issuance activity reflects the transition of the banking sector in the Republic of Moldova towards digital financial services, broader financial inclusion and approximation to European standards on transparency, competition and consumer access to modern payments.

5. Conclusions

In recent years, the banking sector in the Republic of Moldova has entered a phase of accelerated transformation, influenced by digitalization, increased competition, changing consumer behavior and gradual convergence with European Union standards. In this context, banks are forced to adapt their business models, streamline their activities and develop more customer-oriented financial services.

One of the main challenges concerns the structure of banking revenues. Although Moldovan banks have traditionally relied on interest income, the decline in profitability related to fees and commissions highlights the need for a more diversified and balanced income model. The reduction in the net margin of fees and commissions income, from 75% in 2015 to 44% in 2023, reflects both regulatory pressures and increasing competition from digital financial service providers. In these conditions, banks need to develop alternative sources of income, such as investment advisory services, bancassurance products and digital financial solutions adapted to new customer requirements.

Digitalization also offers important opportunities for cost optimization and increased operational efficiency. The use of mobile applications, digital onboarding, automation, data analysis and artificial intelligence can contribute to reducing operational costs, improving credit risk assessment, preventing fraud and personalizing financial services. However, this process requires continued investment in cybersecurity, data protection and internal compliance mechanisms.

Alignment with European regulatory standards, including CRD IV/V, MiFID II and GDPR, is an essential element for strengthening the resilience and transparency of the banking system in the Republic of Moldova. Although these requirements imply additional compliance costs, they also create opportunities for the development of safer digital services, increased consumer protection and closer integration with European financial markets.

Overall, the future competitiveness of Moldovan banks will depend on their ability to combine alignment with European standards with technological innovation and customer focus. A sustainable banking model must be based not only on traditional sources of income, but also on digital, transparent and diversified services, capable of supporting the long-term development and integration of the Republic of Moldova into the European financial space.

In order to strengthen the competitiveness of the banking sector in the Republic of Moldova and adapt to European digital and regulatory transformations, it is recommended to:

- continue investing in digital infrastructure, especially in mobile banking services, electronic payments and e-commerce solutions;
- diversify revenue sources by developing fee-based services and value-added financial products; strengthen cybersecurity and data protection measures, in the context of the expansion of digital services;

- promote financial and digital education to increase the use of modern banking services; stimulate collaboration between banks and fintech companies to develop innovative and competitive financial services;
- continue harmonizing the regulatory framework with European Union standards to facilitate regional financial integration.

The implementation of these directions can contribute to the development of a more resilient, competitive and innovation-oriented banking sector, capable of meeting both the demands of the modern market and the European integration objectives of the Republic of Moldova.

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