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# PROFITABILITY DETERMINANTS OF THE BANKING SECTOR OF THE REPUBLIC OF SERBIA

## Faktori profitabilnosti bankarskog sektora Republike Srbije

## Abstract

The paper analyses the key factors that influenced the profitability of the banking sector of the Republic of Serbia during the period from 2009 to 2023. The focus is on net interest income, credit risk management, operational efficiency, banking market concentration, and the impact of regulation. Through an examination of macroeconomic and microeconomic conditions, the paper examines how various external and internal factors shaped the performance of banks during different phases of economic cycles, including the global financial crisis, the euro area crisis, and the COVID-19 pandemic. Particular attention is devoted to the analysis of the net interest margin, credit losses, and operational efficiency, as well as their relationship with macroeconomic indicators such as GDP and the exchange rate. The findings highlight the complexity of the interaction between external factors and internal management practices, which is critical for maintaining the stability of the banking sector. The general conclusion is that the stabilisation of the country's macroeconomic conditions since 2013, particularly the tackling of inflation and the relatively stable exchange rate of the dinar against the euro, along with employment and wage growth, fully contributed to the expansion and quality improvement of credit activity. Enhancements in risk management processes also had a positive effect on results. Thanks to the stabilisation of macroeconomic conditions, banks were able to significantly reduce credit losses. Although net interest income increased in 2023 amid the fastest and most aggressive tightening of monetary policies, the net interest margin in 2023 remained lower than in the run-up to 2012.

**Keywords:** *bank profitability, net interest margin, credit loss, regulation*

## Sažetak

Ovaj rad analizira ključne faktore koji su uticali na profitabilnost bankarskog sektora Republike Srbije u periodu od 2009. do 2023. godine. U fokusu su neto prihodi od kamata, upravljanje kreditnim rizikom, efikasnost poslovanja, koncentracija bankarskog tržišta, kao i uticaj regulative. Kroz analizu makroekonomskih i mikroekonomskih uslova, u radu se ispituje i kako su različiti spoljašnji i unutrašnji faktori oblikovali rezultate poslovanja banaka u različitim fazama ekonomskih ciklusa, uključujući globalnu finansijsku krizu, krizu evrozone i pandemiju COVID-19. Posebna pažnja posvećena je analizi neto kamatne marže, kreditnih gubitaka i operativne efikasnosti, kao i njihovom odnosu sa makroekonomskim indikatorima kao što su BDP i devizni kurs. Zaključci rada ukazuju na složenost interakcije između eksternih faktora i internih upravljačkih praksi, što je presudno za održavanje stabilnosti i bankarskog sektora. Generalni zaključak je da su se stabilizacija makroekonomskih uslova u zemlji od 2013. godine, posebno rešavanje inflacije i relativno stabilan kurs dinara prema evru, uz rast zaposlenosti i zarada u punom obimu, odrazili na rast obima i kvaliteta kreditne aktivnosti, a pozitivno je na rezultat delovalo i unapređenje procesa upravljanja rizicima. Zahvaljujući stabilizaciji makroekonomskih uslova, banke su uspele da značajno smanje kreditne gubitke. Iako su neto prihodi od kamata povećani u 2023. godini u uslovima nikada bržeg i agresivnijeg zatezanja monetarnih politika, neto kamatna marža je i 2023. godine bila niža u odnosu na period do 2012. godine.

**Ključne reči:** *profitabilnost banaka, neto kamatna marža, kreditni gubitak, regulativa*

## Introduction

The history of Serbia in the first two and a half decades of the 21st century is inextricably tied to significant changes that occurred in the banking sector during that period, reflecting broader social and economic transformations in the country. The Serbian banking sector underwent numerous changes in the early 2000s, beginning with the abrupt delicensing of four major domestic banks. With a single stroke of the pen, these four large banks were eliminated, without any evaluation of the justification or lack thereof for such actions.

Initial assessments by the National Bank of Yugoslavia regarding the general state of the banking sector at the beginning of 2001 indicated the following [19, p. 28]:

1. A high level of contaminated non-performing loans (NPLs) and a low proportion of genuinely interest-bearing assets, directly contributing to low profitability;
2. Inadequate provisioning to cover potential losses;
3. Undercapitalisation in real terms and the inability of capital and reserves to absorb assumed risks;
4. The insolvency of the largest banks, which accounted for more than 57% of the banking sector's total assets;
5. High illiquidity;
6. The absence of, or inadequacies in, internal control and internal audit systems;
7. An inadequate risk management system;
8. Low professionalism among external auditors.

This was followed by a period of regulatory liberalisation, market openness, privatisation of domestic banks, and the entry of foreign banking groups into the domestic market. Through the new banks, globalisation, with its advantages and disadvantages, entered Serbia's banking system. Market liberalisation led to credit activity growth, often excessive, and predominantly in foreign currencies (mainly euros and euro-indexed loans, with a brief episode involving Swiss franc-denominated housing loans). This increased credit and currency risks amid pronounced domestic currency instability. During this period, the National Bank of Serbia (NBS) implemented macroprudential policy measures to curb excessive credit growth in the household sector. Domestic vulnerabilities were compounded by global risks, including the US subprime mortgage crisis, which escalated into a global economic crisis in 2009.

Only with the macroeconomic stabilisation of the country and the adoption of a strategy to resolve the banking sector's legacy of poor-quality assets were conditions created for a healthy banking system. The traditional banking model, which is still prevalent today and focuses on credit and deposit operations, was strengthened. Alongside the growth of the deposit base and the base of quality clients, credit activity also expanded, increasing the banking sector's assets. This business model resulted in banking sector profits being primarily derived from the difference between interest income and interest expenses – i.e. the net interest margin – which serves to cover operating costs and expenses associated with credit risk, as the primary risk in banking operations. These key sources of operating results and sustainability, combined with business decisions and global factors, ultimately determined the financial performance of banks (Figure 1).

Thus, anyone wishing to contribute to the growth and development of the national economy, even by way of a quality analysis, must approach this task responsibly and professionally. This includes analysing financial statements and the performance of all business entities. To draw reliable conclusions about business success and extract lessons for the future, the analysis must be comprehensive and objective, and it is only such analysis that can ensure proper understanding and interpreting of the performance of any industry, including the banking sector.

For this reason, a key part of this paper focuses on analysing the factors driving banking sector profitability. These factors are not only crucial for assessing business performance but also for identifying operational risks in the future. Given the traditional banking model in Serbia and the region, the following key factors influence the banking sector's performance:

- Lending and deposit interest rates and interest margins;
- The volume of credit activity, which reflects the phase of the business and financial cycle;
- The willingness to assume a certain level of risk;
- The level of credit losses, reflecting the effectiveness of risk management;

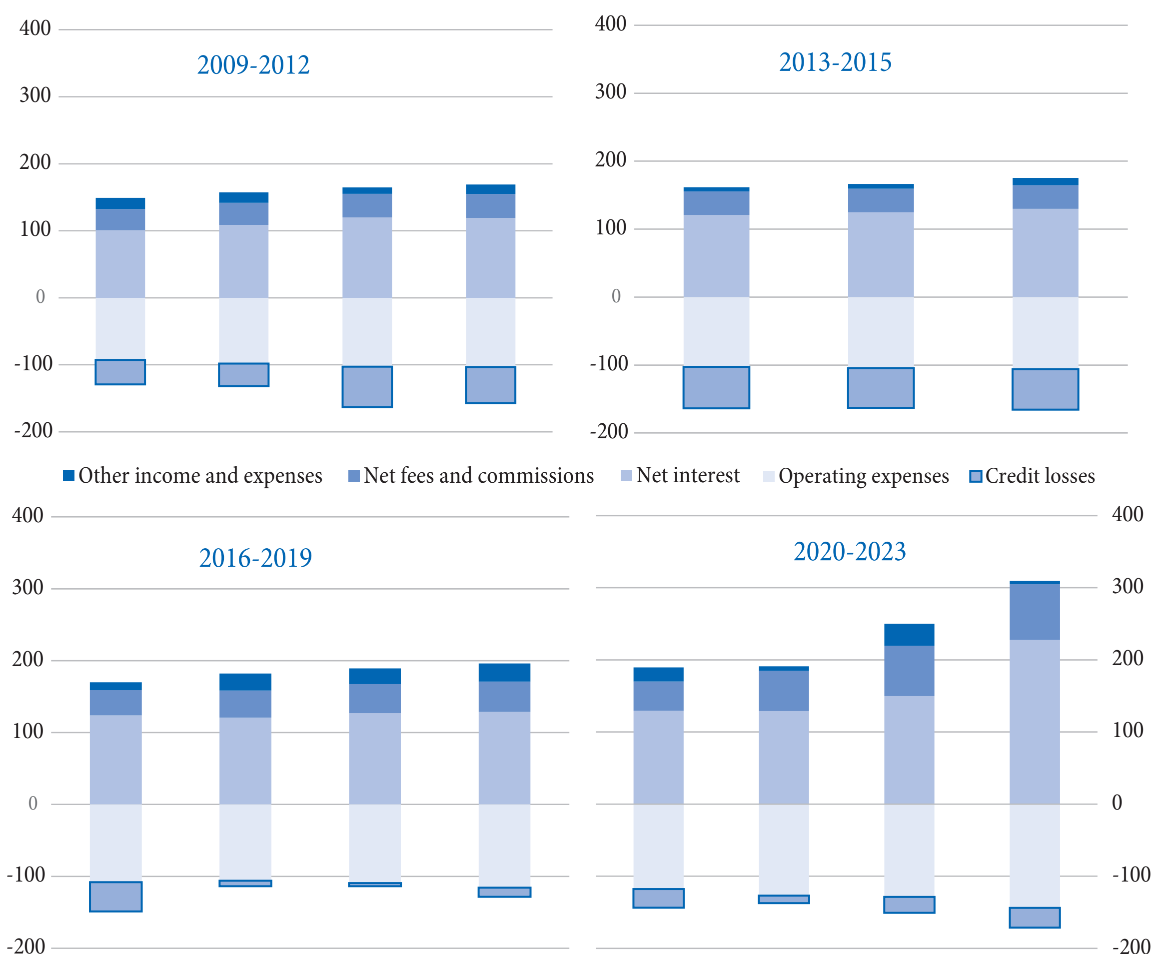
- Sector concentration;
- Banking regulation.

In parallel, and naturally connected to these factors, this paper also analyses the macroeconomic conditions under which banks in Serbia operated from 2009 to 2023. This period was not only relatively long but also rather turbulent, encompassing the global financial and economic crisis, and the sovereign debt crisis in several euro area member states, whose banks, through local subsidiaries, held significant market shares in Serbia. However, one of the most impactful events on society as a whole, including the banking sector, was the outbreak of the COVID-19 pandemic, which threatened to halt economic and financial flows. Without a coordinated global policy response, this would have been inevitable. Adding to this was the energy crisis amid escalating geopolitical tensions that had simmered for decades, driving global inflation and necessitating responses from monetary policymakers. Such movements in the global goods and capital markets require an analysis of business performance within this period, marked both by significant easing of monetary policies and their synchronised and unprecedently fast tightening, to be conducted in line with the relevant sub-periods. That is where I shall begin.

## Banking Sector Performance in Serbia in 2009-2023

An analysis of the macroeconomic conditions under which banks operated from 2009 to 2023 confirms that banks achieved results under markedly different macroeconomic circumstances, i.e. bank profitability was influenced by numerous domestic and external factors, the characteristics of which led to the identification of four sub-periods (Figures 1, 2, and 3).

**Figure 1: Elements of pre-tax net result for the banking sector in 2009-2023, in RSD bn**




Source: NBS and the author's calculation

1. From 2009 to 2012, the banking sector in Serbia operated in the context of the global economic crisis and the debt crisis in the home countries of some local banks, as well as the pronounced depreciation of the dinar, rising domestic inflation, and consequently increased credit risks. Specifically, in the macroeconomic sphere, this period was marked by significant instability of the local currency, with the dinar losing a third of its value over four and a half years (from 2008 to August 2012), although FX reserves worth almost EUR 6 bn were spent to defend its value. Along with the depreciation of the dinar, and largely as a result of it, the period was also characterised by high and volatile inflation. This combination of macroeconomic pressures, coupled with heightened uncertainty in the global and particularly the domestic market, led to a decline in credit activity and a sharp increase in NPLs, further complicating the operations of banks already facing a deteriorated management system. The unstable and discouraging macroeconomic environment and inadequate risk management by banks meant that the key factors influencing financial results during this period were credit losses. Due to high interest rates on domestic loans as a response to domestic inflationary pressures, net interest margins (the ratio of net interest income to interest-bearing assets) were high. Additionally, the gap between interest rates in the domestic and EU markets reflected a high country risk premium, with Serbia being perceived as unstable during this time.
2. From 2013 to 2015, the macroeconomic stabilisation programme began, which included the necessary fiscal consolidation of the country. In other words, the instability encountered in 2012, manifested through pronounced and unsustainable dual deficits – the internal (budgetary) and external (external goods and services trade), along with an unsustainable structure of economic growth and political instability – required a socially unpopular response, which constrained economic growth in the short run, but was economically necessary and urgent. At the same time, the banking sector was addressing the legacy of irresponsible management and supervision from before 2012, leading to the delicensing of four banks, which also influenced the results during this period. By mid-2015, a comprehensive strategy for resolving NPLs was developed and adopted, with its implementation marking the beginning of efforts to strengthen the country's financial stability in the following period. Successful fiscal consolidation was made possible by the earlier stabilisation of two important cost drivers in Serbia – the exchange rate and inflation. The resolution of the inherited inflation problem allowed for robust monetary policy easing – the NBS key policy rate was reduced by 675 bp (from 11.25% to 4.5%), while movements in the EU led to the easing of the ECB monetary policy by 70 bp (from 0.75% to 0.05%).
3. From 2016 to 2019, the ensured and preserved macroeconomic stability in the country allowed for the start of an investment cycle and stronger economic growth, which, through higher quality credit demand, had a positive effect on both credit activity trends and the quality of bank assets. In other words, aside from a significant reduction in credit losses, the key factor influencing the results was the strong growth of quality credit activity (better creditworthiness of clients) during this period.
4. From 2020 onwards, the global and, consequently, domestic macroeconomic environment was heavily impacted by the crisis caused by COVID-19, followed by the energy crisis and a series of negative geopolitical events that shaped the global economic and political landscape [20]. After a decline in inflation caused by the pandemic-induced drop in demand and subsequent reductions in key policy rates, a sharp rise in both global and domestic inflation began in mid-2021. In response to these developments, monetary tightening occurred more quickly and synchronously than ever before. During this period, as in other economies, key factors influencing the banking sector's performance were interest rates. However, even at these interest rate levels, which were a response to global inflation, net interest margins were lower than in the period before 2013. Furthermore, credit losses were at their

lowest levels, significantly aided by the preservation of the economy despite all the challenges, as well as good risk management.

The data analysed indicate that, for much of the observed period, banks maintained relatively stable net interest income and operating costs until the sudden global tightening of monetary conditions. Changes in net results were primarily influenced by movements in credit losses. Amid such distribution of sources of the business result, credit risk was identified as the key factor affecting the financial result, with an increase in credit risk reducing profitability and adequate credit risk management leading to its growth. Perhaps even more important is the analysis of relative indicators, which shows that net income from credit-deposit transactions was on a declining trend, while operational efficiency improved. In addition to these general conclusions, it remains a fact that a profitability analysis is a complex process requiring deeper consideration of specific circumstances and factors for the country and period under analysis, such as the macroeconomic environment, regulation, degree of market concentration, risk management methods, and business models. This means that interpreting results requires taking all these factors into account and having an excellent understanding of them.

In this context, the paper provides a detailed analysis of the key determinants of banking sector's profitability in the Republic of Serbia:

1. Net interest income and interest rates,
2. Net income from fees and commissions and the digitalisation of banking services,
3. Credit losses and credit risk management,
4. Operating expenses and efficiency,
5. Competition and market concentration,
6. Banking regulations.

## Net Interest Income and Interest Rates

The primary source of net profit in traditional banking is net interest income, i.e. the difference between interest income and interest expenses. This result is derived from core banking activities – collecting deposits and extending loans – and is crucial for evaluating the profitability and financial health of a bank. *Interest income* is earned by banks through loans, investment in debt securities, and other interest-bearing assets, while *interest expenses* represent the costs of obtaining funds required to finance banking activities, such as interest paid on deposits, issued debt securities, financial borrowings, and other interest-bearing obligations. The relative ratio of net interest income to interest-bearing assets is the net interest margin (NIM) and is used as a key indicator of asset and liability management efficiency in a bank.

*The factors that influence the level of net interest income and net interest margin* are numerous and stem from both the business environment and regulatory framework, as well as internal factors specific to each bank. *For the purposes of this paper, the factors are divided into three categories*:

- Macroeconomic factors,
- Factors specific to the bank's operations (business model, structural gaps, banking risks, bargaining power…), and
- Accounting rules and standards.

Understanding the impact of these factors on net interest margin is essential for assessing a bank's ability to generate stable net interest income through different economic cycles.

*Macroeconomic factors* affect the broader economic environment in which banks operate and have a direct impact on the movement of interest rates and the level of credit activity. Economic growth generally increases the volume of banking business, thus boosting sources of interest income, but not necessarily. For example, the outcome will depend on whether the growth is sustainable. As expected, in times of recession, demand for credit decreases, and credit risk rises, which can negatively affect interest income. Banks also become more cautious when making loans, further reducing income and potentially leading to a drop in net interest margins. Simultaneously, depending on the monetary policy regime and the central bank's primary objective, monetary policy has both direct and indirect effects on the level of market interest rates. A rise in the key rate in conditions of persistent inflationary pressures increases interest income, which can positively affect the net interest margin, especially if banks can rely

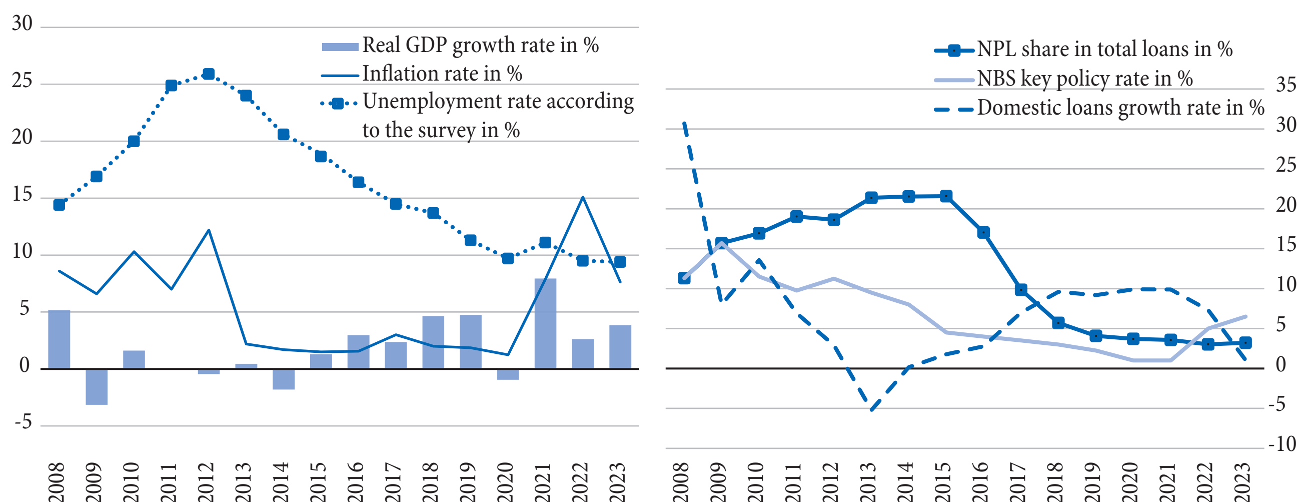
on fixed-rate deposits that do not immediately respond to changes in the key rate. On the other hand, during periods of expansionary monetary policy, which is associated with low inflationary pressures and weak economic growth, a reduction in the key rate reduces interest income, while interest expenses on deposits may remain stable, especially if interest rates are already at exceptionally low levels. However, the final effects on the net interest margin are realised both through the level of interest rates and through credit demand (via impacts on economic activity and the local currency exchange rate).

*Factors specific to a bank's operations* concern how banks organise their business, including decisions regarding balance sheet structure and banking risks. Banks with a higher share of *variable-rate* loans respond more quickly to interest rate changes, while those with *fixed rates* have more stable interest income. Additionally, banks that *rely more on deposits* as their primary funding source typically incur lower asset collection costs, which positively impacts net interest income. Banks that maintain high liquidity levels, *invest in low-risk assets (e.g. government* securities with a strong credit rating), or keep higher deposit reserves, reduce the potential for earning interest income in favour of business stability. Investment in *riskier loans*, such as unsecured loans, can yield higher interest income but comes with higher credit risk and potentially lower interest-bearing assets in subsequent periods. These are just some examples of factors specific to a bank's operations.

*Accounting rules and standards*, such as the IFRS and IAS, *affect how interest income is calculated and how bank assets are valued*. Interest income on impaired assets is calculated using the effective interest rate on the net exposure [13, paragraph 5.4.1.b)], while for unimpaired financial assets, interest income is calculated using the effective interest rate on the gross value of the loan. This rule becomes relevant during periods of significant deterioration in a bank's loan portfolio, when a decline in value leads to a reduction in the base for interest calculation. Another important aspect is the application of the effective interest rate method for calculating interest income and expenses. *The nominal interest rate* is the rate expressed as a fixed or variable percentage applied annually to the amount of credit drawn [17, Article 2, paragraph 1, item 20]. *The effective interest rate*, in addition to the cost of credit expressed through the nominal rate, includes the client's additional net fees related to the approval and repayment of the loan (e.g. application processing fees, servicing costs, etc.). *From an interest income perspective, this topic is important because income calculated at the nominal rate is always classified as interest income, while income calculated at the effective interest rate is not entirely the same.* IFRS 9 Financial Instruments defines which fees are and which are not part of the effective interest rate. According to the effective interest rate method in accordance with IFRS 9, application processing fees and other so-called upfront fees are recognised as interest income over the repayment period, while loan servicing costs are not recognised as interest income [13, paragraphs B 5.4.2 and B 5.4.3]. In other words, a bank's interest income also depends on its policy on fees and commissions related to loan approval. If upfront fees are higher than other fees and commissions, interest income will also be higher.

In the case of Serbia, the period from 2009 to 2023 provides an insight into the dynamic changes of numerous factors that shaped the structure of interest income and expenses of banks in various macroeconomic and microeconomic environments. During this period, there were significant changes in interest rates – banks operated under conditions of extremely low interest rates, which posed a challenge to maintaining net interest income, all the way to a period of sharp and unprecedentedly fast global interest rate hikes in the battle against rising inflation, which favoured an increase in net interest margin. Generally speaking, the period before 2013 was marked by an unstable exchange rate of the dinar against the euro, which experienced significant depreciation, contributing to high domestic inflation and a rise in NPLs. Interest rates in the domestic market were significantly higher compared to rates in the region due to negative domestic macroeconomic factors. The second period, from 2013 onwards, was marked by policies focused on macroeconomic stabilisation of the country, including the curbing of domestic inflation within one year, after which a cycle of sharp interest rate cuts began. Strategic resolution of the inherited NPLs was initiated and implemented, with the relative stability of the dinar exchange rate against the

**Figure 2: Macroeconomic environment and financial sector trends in 2009-2023**



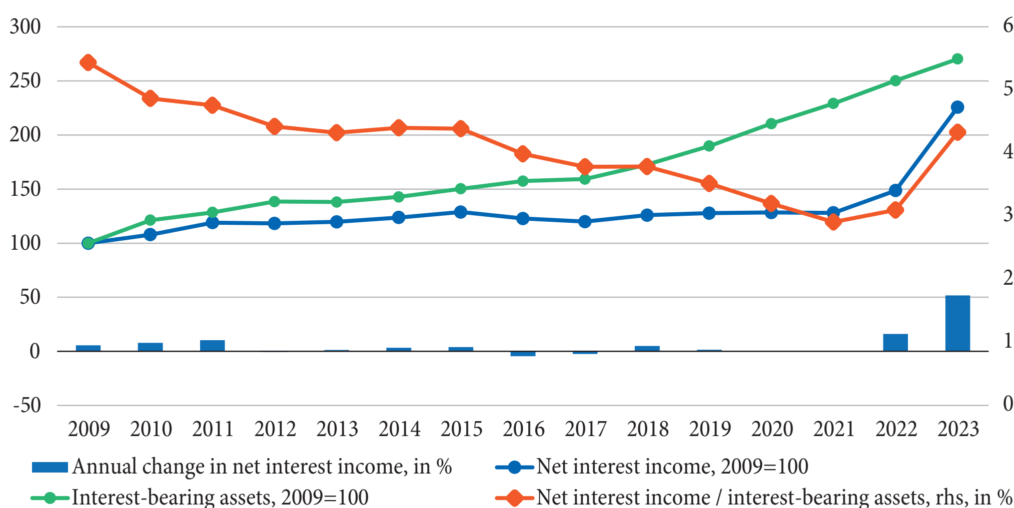

Source: NBS, SORS and the author's calculation

euro contributing significantly. After the implementation of necessary fiscal consolidation, economic growth accelerated strongly until the onset of the pandemic and a series of global macroeconomic shocks (Figure 2).

The main feature of the Serbian banking sector throughout the observed period, which is also typical of banking operations in general, is that long-term loans, as well as loans with variable interest rates, were more prevalent in the banks' assets. In contrast, deposits, as the dominant source of financing, were predominantly short-term and with a fixed interest rate. This asymmetry in the maturity and type of interest rates affected the movement of the net interest margin in different operating conditions.

When we correlate inflation movements with the key policy rate, we can see that until 2013, the key policy rate experienced more pronounced fluctuations in both directions, which created significant uncertainty for operations. After resolving the issue of domestic inflation, and especially since 2015, the NBS key policy rate was significantly reduced, which impacted net interest income despite the continuous increase in business volume. In the analysed period, interest-bearing assets recorded constant growth, accounting for 90% of total assets. In nominal terms, interest-bearing assets in 2023 were 2.7 times higher compared to 2009, and the share of loans in interest-bearing assets ranged from 60% to 65%. During the same

**Figure 3: Dynamics of net interest margin (net interest income / interest-bearing assets)**




Source: NBS and the author's calculation

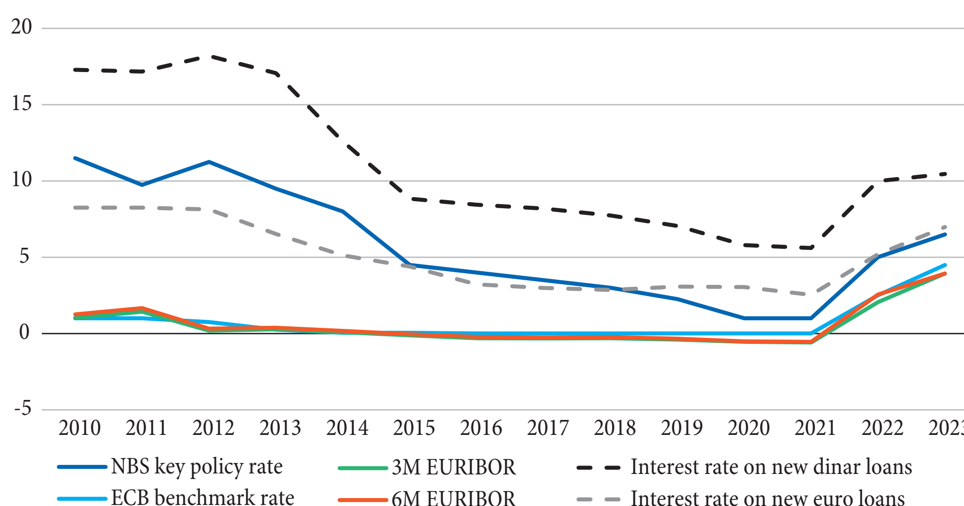
period, the share of deposits in interest-bearing liabilities increased to 90%, and the ratio of deposits to loans grew from 80% to 130%. In such conditions, characterised by a sharp decrease in the NBS key policy rate (a reduction in the rate from 17.75% to 1% during 2009–2021, a decrease of 16.75 pp), as well as the rates of the ECB, whose policy is highly important given the euroisation of loans (down from 2.5% to 0% during the same period), despite the growth in interest-bearing assets, the net credit margin followed a downward trajectory. During this period, banks impacted net interest income by adjusting their financing structure, fostering credit growth, and altering the product mix by directing funds to higher-risk products with higher yields. This trend continued until 2022, when the global battle with inflation began, and in this context, a cycle of unprecedentedly rapid tightening of monetary policies was initiated, given the strength of the shock (Figure 3).

When analysing results by periods, we see that in the first three years of the overall observed period (2009–2023), due to the faster increase in interest income compared to interest expenses, net interest income grew at the rates of approximately 6%, 8%, and 10% (2009, 2010, 2011). Part of the growth in interest income was driven by increased credit activity, but also by the fact that this was a period characterised by exceptionally high interest rates in the domestic market under conditions of elevated domestic inflation.

Subsequently, from 2012 to 2016, we addressed the inherited issues, including the revocation of operating licences for four banks, which was done in order to protect the interests of depositors and restore confidence in the shaken system (mismanagement and supervisory failures in these banks prior to 2012 cost the state approximately EUR 800 mn). Efforts to resolve the inherited problem of NPLs commenced with the adoption of a strategy for their resolution. Considering the developments in home markets during this period, such as the sovereign debt crisis in several euro area member states, banks operated with heightened risk aversion and a focus on strengthening liquidity positions. Specifically, the share of investment in lower-risk but also lower-yielding securities within interest-bearing assets increased from 7% at end-2011 to over 23% at end-2016. In an environment of a significant decline in interest rates in the domestic market, enabled by the curbing of inflation, the absolute amount of interest income decreased, as did interest expenses. This was driven by banks' increased reliance on short-term domestic funding sources and a reduction in credit sources from affiliated entities abroad.

From 2016 until the escalation of global inflation, the banking sector operated under conditions of further interest rate reductions and negative EURIBOR values, leading to a continued decline in net interest margins (Figure 4), despite growth in credit activity. The macroeconomic environment during this period was characterised by constant economic growth, low inflation, declining unemployment, and relative exchange rate stability. A stable macroeconomic environment, supported by measures of the NBS and the Serbian Government,

**Figure 4: The dynamics of benchmark interest rates, end-of-year values, in %**




Source: NBS and ECB

facilitated the successful resolution of the inherited NPLs, significantly improving the quality of the banking sector's loan portfolio. Low interest rates created conditions for accelerated credit growth. The household sector was the driving force behind this credit expansion, particularly in cash loans, which recorded annual growth rates of 30%, increasing their share in interest-bearing assets from below 9% in 2016 to 13% by the end of 2021. Parallel to growth in cash loans in that period, their contribution to interest income rose from 20% to 33%, having a predominantly positive influence on interest income trends year after year. Maintaining interest income, despite the lowest loan interest rates on record (Figure 4), was also supported by double-digit growth in corporate credit activity, particularly in the areas of construction and real estate, supporting infrastructure projects and a new economic cycle. Conversely, provisions related to legal disputes over loan processing fees negatively impacted the net financial result of banks during this period. Some banks ceased charging such fees, which, under IFRS 9, form part of the effective interest rate. Consequently, their share in interest income declined from over 6% in 2016 to 4% in 2021 and then dropped below 2% in 2023. Furthermore, based on an NBS decision from 2015, banks refunded approximately RSD 6 bn to clients for interest charged through unilateral changes to interest rates before 2012.

The monetary policy tightening, which began at end-2021 and intensified in the spring of 2022 amid strong global inflationary pressures, led to the fastest-ever rise in policy rates of central banks, and consequently, a rise in market interest rates. Between April 2022 and July 2023, the NBS increased its key policy rate by 5.5 pp, while the ECB raised its rate by 4.5 pp. Such sharp rise in policy rates translated across markets into a marked increase in both interest income and interest expenses for banks. Specifically, annual growth in interest income amounted to 22% in 2022 and 72% in 2023. However, a significant portion of this growth was attributable to income from repo operations with the central bank, which serve as an instrument for sterilising excess liquidity that could generate inflationary pressures. Unlike previous years when such operations had a negative impact on interest income trends, in 2022 transactions with the NBS accounted for 10% of interest income growth, while nearly one-fifth of the increase in interest income in 2023 was driven by repo operations and other funds held with the NBS.

The general conclusion is that the stabilisation of macroeconomic conditions, particularly the curbing of inflation and the relatively stable dinar-to-euro exchange rate, coupled with employment and wage growth, positively impacted the expansion and quality of credit activity. Enhancements in risk management processes also contributed positively to outcomes. While net interest income increased in 2023 amid the fastest and most aggressive monetary tightening, the net interest margin in 2023 remained below the levels recorded before 2012.

## Net Fee and Commission Income and Modernisation of Banking Services

Net fee and commission income is generated by banks through activities and services that are not part of their core credit-deposit operations, such as managing current accounts, executing payment transactions, issuing and processing payment cards, FX trading, guarantees, factoring, brokerage and dealer operations, or, for example, advisory services. For providing these services, banks charge fees and commissions, while the costs incurred in delivering these services constitute fee and commission expenses.

The key factors determining the level of this net income are the volume of business activities and the number and types of services offered by banks, which are also influenced by macroeconomic trends, supportive regulations, and the digitalisation of financial services. For instance, accelerated technological development contributes to the emergence of new forms of commerce (e-commerce), payment methods (online and mobile payments), and improved customer experiences (application-based solutions), thereby increasing the availability of these banking services.

When observing the share of net fee and commission income in net operating results, its relative stability is evident over a longer period, both in Serbia (Figure 5) and in the EU, with the share in Serbia remaining below the EU level [11, p. 17]. The growth in this share in 2021, in the case of Serbia, was primarily driven by net income

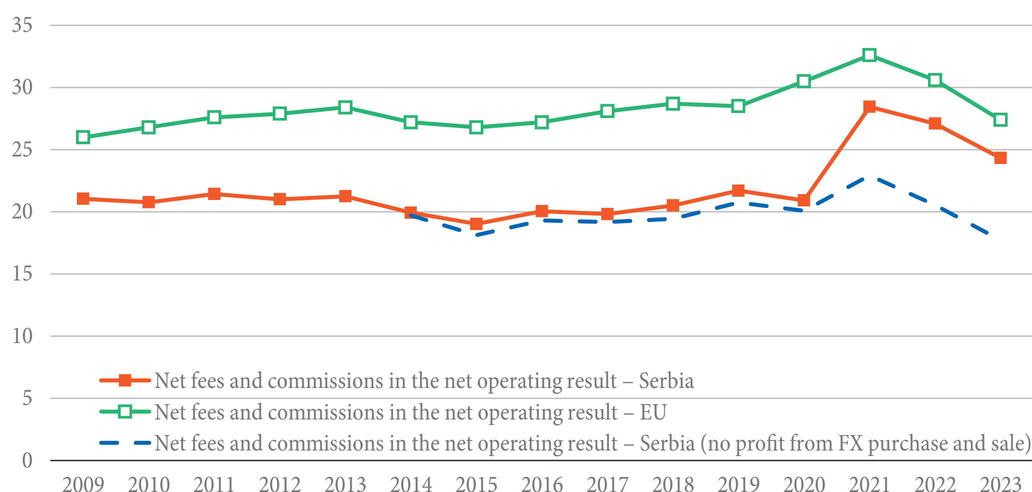
from FX trading, which most banks previously presented under net income/expense from exchange rate differences and the effects of contracted currency clauses. From 2021 onwards, completeness and comparability of net fee and commission income related to FX trading were achieved. This accounting change was the dominant driver of the increase in net fee and commission income for that year and the following two years. Additionally, there was growth in the number and volume of FX transactions, linked to the accelerated growth of foreign trade (28% growth in 2021 and 33% in 2022), as well as an increasing number of foreign nationals generating significant FX inflows, in conditions where Serbia has become a popular tourist destination. There was also an increase in net fee and commission income from payment operations, current account services, and payment card operations, particularly after the COVID-19 pandemic, which accelerated online transactions and modern payment methods. The growth of net fee and commission income was also influenced by adjustments in the pricing of banking services. In the summer of 2022, the NBS reached an agreement with banks to reduce fees and commissions by 30% for the following year. Simultaneously, through a special decision on payment accounts, the NBS required banks to offer customers the use of a package of the payment account with basic features for RSD 150 per month [9, Section 3]. The effects of these measures became visible as early as 2023.

The general conclusion is that the net income from fees and commissions was a relatively stable source of bank business results throughout the observed period. The growth that followed from 2021 is the result of an increase in the volume of services involving commissions on FX purchase and sale in conditions when Serbia becomes a popular tourist destination, as well as of strong growth in the number and type of payment services, especially after the COVID-19 pandemic, when online transactions and modern forms of payment recorded a robust rise.

## Credit Losses and Credit Risk Management

Credit losses represent a key challenge for the banking sector, as they directly affect the results and stability of banks. From 1 January 2018, credit losses have been calculated in accordance with IFRS 9, which replaced the previously applicable International Accounting Standard (IAS) 39. The key innovation of this standard in the area of impairment is the transition from an incurred loss model to an expected credit loss model. This change was a result of the global financial crisis of 2008, which highlighted serious shortcomings in how banks and other financial institutions recognised and managed credit risk. The primary shortcoming is best described by the phrase "too little, too late," that is to say, IAS 39 relied on recognising losses only when clear evidence showed that a loan had become non-performing, i.e. when the borrower was unable to meet his

**Figure 5: Dynamics of net fee and commission income share in net operating results in Serbia and the EU[1]**




Source: NBS, EBA, and the author's calculations

[1] Data on types of operations through which banks generate net fee and commission income, including FX trading, have been available since 2014, though the completeness was not achieved until 2021.

obligations. This meant that banks were late in recognising credit losses, which led to an accumulation of credit risk and unpreparedness for crisis situations. Under the expected credit loss model, banks must make timely provisions, even before there is clear evidence of non-payment. This model allows for more proactive risk management.

Applying these standards, banks in Serbia recorded total net credit losses of RSD 515.0 bn during the observed period (2009-2023), or RSD 34.3 bn annually on average. To illustrate the significance of this amount, the registered share capital of the banking sector at end-2023 was RSD 381.7 bn. The dynamics of recognising such losses were not constant and varied over periods under the impact of different factors (Figure 6).

The most intense recognition of credit losses occurred between 2011 and 2016, when the net assets of banks were annually reduced by an average of RSD 55.8 bn due to these losses. This was a period marked by the materialisation of credit risk and a consequent sharp increase in NPLs. To address this issue, special diagnostic studies (Asset Quality Review – AQR) were conducted in 2015. These reviews were a key process in analysing the quality of bank portfolios and served as a foundation for improving regulatory and supervisory measures. The reviews were carried out under an arrangement with the IMF and included the 14 largest banks, covering 88% of total banking assets, using a unified and conservative methodology. The process was managed by the NBS, with the involvement of four audit firms and six valuation agencies. One of the primary objectives of the reviews was to promote the conservative application of the IFRS, which *inter alia* highlighted the need for additional impairment, particularly for non-performing receivables. In just one segment – credit file analyses – special diagnostic studies identified a need to increase IFRS impairments for the analysed clients, mostly legal entities, by 44%, or EUR 349 mn [18, p. 12].

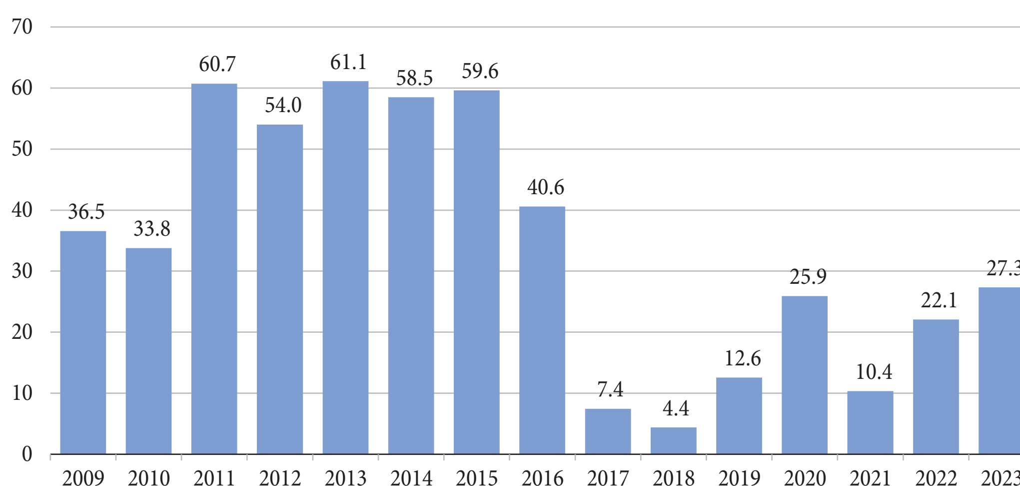
From 2017 onwards, credit losses slowed significantly, averaging RSD 15.7 bn annually up to 2023. Although extraordinary events such as the COVID-19 pandemic and measures to mitigate the adverse effects of rising interest rates on housing loans contributed to an increase in credit losses, they remained far below previous levels.

The intensity of the decline in credit losses is even more visible if it is put in relation to the loan amount (Figure 7). While at the peak of the recognition of credit losses, almost 4% of the value of loans was devalued annually, in the period after 2017 that indicator dropped to below 1%.

Assuming that the relative level of credit losses remained at the average level for the period from 2009 to 2016, the banking sector would practically operate at the verge of profitability until 2022 (Figure 8), and in two years it would have a negative result, which would greatly limit its capacities for credit activity growth and support for the real sector.

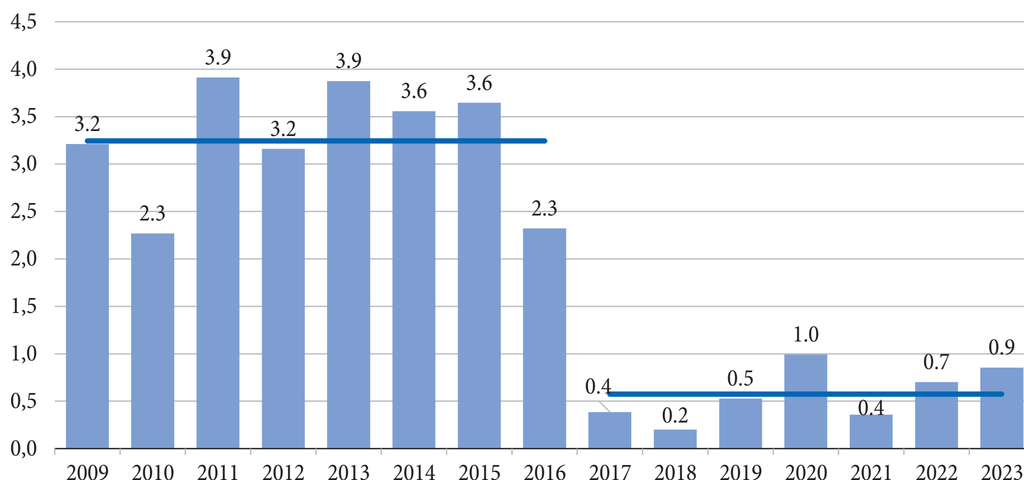
As for the factors that determine the amount of credit losses, the macroeconomic environment and the specifics of the bank itself stand out as two key ones. The macroeconomic environment in Serbia in the first

**Figure 6: Credit losses (in RSD bn)**




Source: NBS and the author's calculations

**Figure 7: Loan loss rate (in %)**



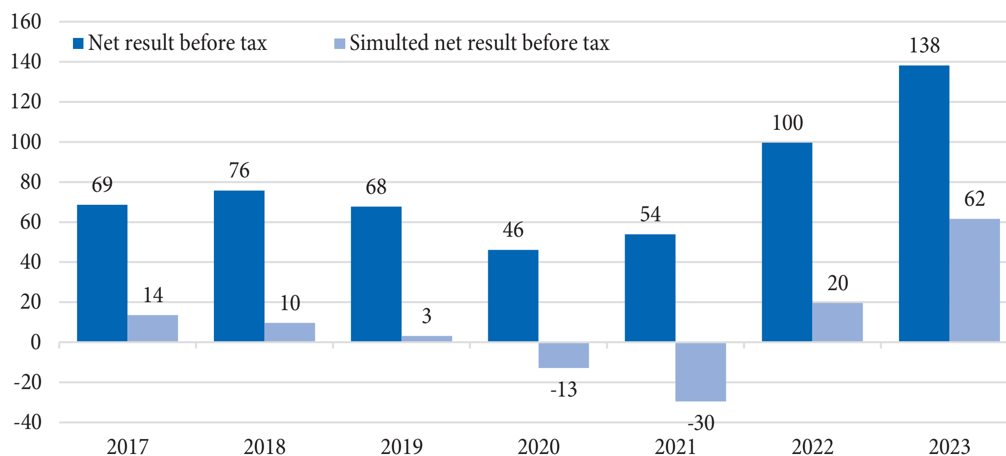

Source: NBS and the author's calculations

part of the observed period was characterised by major challenges such as the depreciation of the dinar exchange rate and high and volatile inflation accompanied by high interest rates (until 2013), which was followed by a period of necessary fiscal consolidation and macroeconomic stabilisation of the country, while from 2020 onward we were all affected by the subsequent global shocks (COVID-19, the decline in demand and economic activity followed by expansionary fiscal policies, the disruption of global value chains, the energy crisis, global inflation growth followed by a strong tightening of monetary policies). Nevertheless, even in such conditions, the Serbian economy has shown admirable resistance to global challenges. In general, the business cycle, i.e. the movement of the GDP and the exchange rate, were identified as the most significant determinants of credit risk.

Observed by sub-periods, in the first years of the observed period, due to weak economic activity, banks were faced with a higher degree of credit risk due to the lower creditworthiness of households and corporates, which resulted in an increase in allowances for impairment and the creation of significant loan loss provisions.

In the period since 2014, progress has been made at the macroeconomic level, including the launching of the investment cycle, which led to a decline in allowances for impairment. Namely, increased liquidity and solvency of economic entities, along with the strong growth in profitability, to which the relatively stable exchange rate of the dinar and the sharp drop-in interest rates significantly contributed, also meant better creditworthiness of clients, therefore the banking sector recorded a smaller volume of bad loans, which directly dampened the need for

**Figure 8: Simulation of the movement of the banking sector's results, in RSD bn**




Source: NBS and the author's calculation

allowances for impairment. Better economic activity has had a positive impact on the creditworthiness of households and businesses, allowing banks to revise their estimates of credit losses.

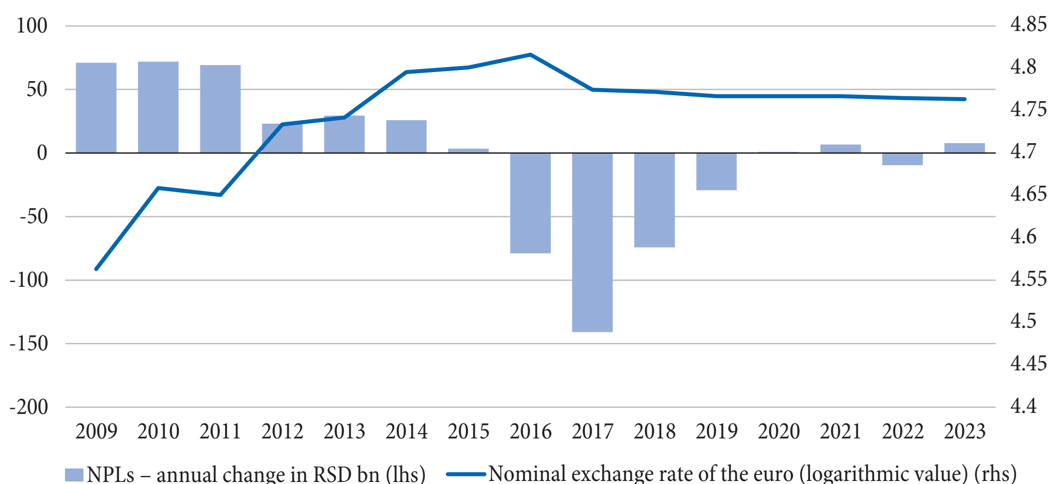
During the period of high GDP growth, especially from 2017 to 2019, the need to create allowances for impairment was reduced, continuing in the period after the pandemic year, thus helping to further reduce credit losses.

When it comes to the impact of the exchange rate on the amount of impairment, it is indirect, through the credit risk, that is, the currency clause instrument. The currency clause, as a regulatory instrument, was introduced into the domestic legal system in 1993 in order to protect creditors from the devaluation of dinar claims in hyperinflation conditions. Originally, the 1978 law did not allow foreign currency payments in the country. However, with the deterioration of economic conditions in the late 1980s and early 1990s, the legislator had to adapt the legal framework. Amendments from 1993 made it possible for monetary obligations in foreign currency to be paid out in local currency according to the exchange rate valid at the time of the fulfilment of the obligation. The currency clause then became a key instrument in preserving the value of dinar obligations in conditions of high inflationary pressures. Although a law passed in 1995 prohibited FX payments between domestic persons, this prohibition was removed in 2000, which made it possible to contract obligations in dinars with a currency clause. The new Law on Foreign Exchange Operations from 2002 explicitly permitted the use of the currency clause, provided that payments are made in dinars [19, pp. 54–56]. This legal change significantly contributed to the growth of credit activity in the Serbian banking sector, especially in the period from 2004 to 2008, when loans with currency clauses became dominant. The main reason for the expansion of these loans was the lower interest rate compared to dinar loans, but also inadequate financial education about the risks of foreign currency loans. Due to lower interest rates, households and corporates are exposed to the FX risk, which was especially pronounced in periods of crisis and strong depreciation of the dinar exchange rate against the euro, when, under the influence of the change in the dinar exchange rate, the growth of dinar loan instalments was extremely high. The strongest hikes in NPLs were recorded in the years with a high depreciation of the domestic currency, which was the period leading up to 2012 (Figure 9).

Then, as of 2016, the macroeconomic stabilisation of the country, which gained significant support from the ensured relative stability of the RSD/EUR exchange rate, was followed by a rise in employment and wages in the private sector and a fall in unemployment (Figure 2). Along with the adoption and implementation of the NPL Resolution Strategy, this resulted in a sharp decline in NPLs.

Moreover, the factor that determines the amount of credit losses, which is often not highlighted, are the

**Figure 9: Growth in NPLs and movements in the dinar exchange rate**




Source: NBS and the author's calculation

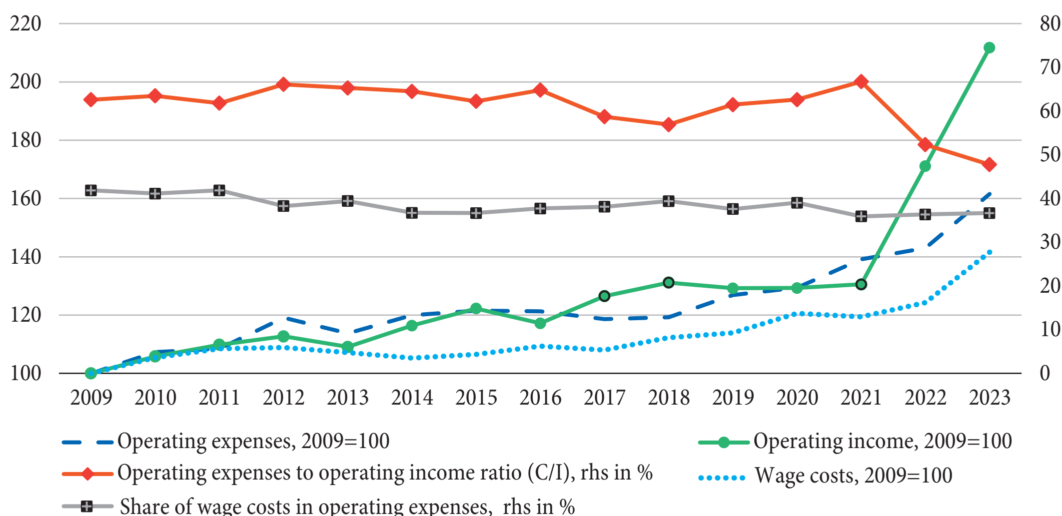
specifics of the bank itself, such as its business strategy, system and culture of risk management, as well as the managerial skills of the bank's management. Banks with clear management structures and precise accountability systems tend to better manage their loan portfolios, recognise early signs of customer issues, and take appropriate measures to mitigate potential losses. On the other hand, weaknesses in management, as well as insufficient expertise in risk analysis, can lead to bad decisions, which in turn increases the bank's exposure to credit risk, among other. The role of supervisory institutions is particularly important here. By continuously monitoring banks' operations and assessing their compliance with current regulations and best global practices, they put pressure on banks to constantly improve their risk management. The example of Serbia shows that a significantly better risk management, coupled with adequate and proactive supervision especially in the period since 2015, played a major role in the improvement of the quality of banking sector assets.

## Operating Expenses and Operational Efficiency

Operational efficiency represents another important factor in the net result and profitability of banks. It is usually measured by the ratio of operating expenses to operating income (Cost to Income ratio – C/I). Lower values of this ratio suggest better operating efficiency and a greater ability of the bank to cover credit risk costs. *Operating expenses* include all costs and expenses arising from the bank's operational activities, such as employee salary expenses, production service costs, depreciation expenses, intangible costs, and others, as well as provisions for liabilities. Cost management allows banks to achieve a stable net result even in the face of volatile market conditions. *Operating income* represents a bank's total net income generated from all banking operations. It includes net interest income, net income from fees and commissions, and other net operating income.

In the period up to 2022, the operational efficiency of banks in Serbia, measured by the ratio of operating expenses to operating income (C/I), was at a level of around 62%, ±5 pp. Looking at the structure of operating expenses, we can see that the share of wage costs in operating expenses also displayed stable movement, ranging between 35% and 41% throughout the period observed, while the global inflation bout led to their increase. Additionally, after 2018, there was a rise in provisioning and intangible costs. For example, legal disputes relating to the legitimacy of charging fees for processing loan applications led to the formation and recognition of significant provisioning expenses. Specifically, these costs increased the C/I ratio by 5 pp in 2021 and were the main cause of the rise in operating expenses in that year. Furthermore, the increase in intangible costs, which also include deposit insurance premium costs, was partly a result of the increase in the insured deposit base, which grew by about 70% during that period. The change in the methodology for the calculation

**Figure 10: Dynamics of wage costs, operating expenses and operating income**




Source: NBS and the author's calculation

of deposit insurance premium since the beginning of 2020 worked in the opposite direction, i.e. toward reducing the costs of deposit insurance premiums. Since then, the premium is calculated on the insured deposit amount up to EUR 50,000, rather than on the total amount of insured deposits [15, Articles 5 and 6].

A comparison with EU countries shows that after 2013, the efficiency of domestic banks was higher than that of EU countries [10, p. 15] [11, p. 15]. Observing the revenue side, we also see relative stability until 2022. At that point, as in other countries, in the context of rising interest rates in response to strong global inflation, there was an increase in operating income, which led to an improvement in banks' operational efficiency, as measured by the C/I ratio values (Figure 10).

The assessment of banks' operational efficiency should also be placed in the context of consolidation and dynamic modernisation of the Serbian banking sector in the period observed. These processes led to a reduction in the number of employees by a third and halving of the number of organisational units. On the other hand, additional costs arose on account of the integration of operations in cases of status change such as mergers, investments in digitalisation, IT infrastructure, and employee training. In the medium and long term, digitalisation enables higher-quality services that save time and money, benefiting both clients and banks.

Improved operational efficiency confirms banks' ability to balance between generating revenue and managing costs. Banks that successfully optimise their workforce, resources, and processes through digitalisation and automation can achieve significant cost savings in an increasingly challenging banking environment.

## Competition and Concentration in the Banking Market

The correlation between the degree of concentration and the profitability of the banking sector has been probed by numerous studies, but the results are not conclusive. Research points to different conclusions depending on specific market conditions and other variables, which makes it difficult to draw a universal conclusion about the correlation. Although the starting hypothesis is that banks' profitability increases with rising concentration, some studies have even found an inverse relationship, meaning that profitability goes down as concentration increases [3, p. 48]. The literature does not even support a unified stance on the correlation between competitiveness and operational efficiency [2, p. 16]. Additionally, in the context of operating in an environment of extremely low interest rates, which drag net interest margins down and have a negative impact on profitability, the relationship between accommodative monetary policies and increased concentration was also studied. The results show that the trimming of the ECB's reference interest rate mostly explains the rise in concentration in the euro area, but also that the ECB had a greater impact on the growth of concentration in banks outside the euro area than the monetary policies of those countries.

The widely accepted measure of market concentration is the Herfindahl-Hirschman Index (HHI), which is calculated as the sum of the squares of each bank's market share in the observed category (e.g. assets, interest income…). An index value up to 1,000 indicates low concentration (high competition), between 1,000 and 1,800 indicates moderate concentration, while values above 1,800 indicate high concentration (low competition).

In the past decade and a half, the number of banks operating in Serbia decreased from 34 in 2009 to 20 by

**Table 1: Dynamics of banking sector concentration measured by HHI**

| Year | Number of banks | HHI of the balance sheet sum |
|---|---|---|
| 2009 | 34 | 636 |
| 2010 | 33 | 629 |
| 2011 | 33 | 660 |
| 2012 | 32 | 678 |
| 2013 | 30 | 741 |
| 2014 | 29 | 794 |
| 2015 | 30 | 796 |
| 2016 | 30 | 813 |
| 2017 | 29 | 813 |
| 2018 | 27 | 779 |
| 2019 | 26 | 800 |
| 2020 | 26 | 786 |
| 2021 | 23 | 867 |
| 2022 | 21 | 936 |
| 2023 | 20 | 986 |

Source: NBS and the author's calculation

the end of 2023 (Table 1). In the first part of the period observed, the number of banks went down as a consequence of delicensing due to unsustainable operations in that period (four banks were delicensed due to mismanagement and supervisory deficiencies before 2012). However, the main reason for the reduction in the number of banks in the following years was the consolidation of the banking sector through mergers and acquisitions. The decisions of the owners, primarily of Greek banks, to exit the regional markets due to the reorganisation of operations following the financial crisis in Greece, influenced mergers by acquisition, leading to significant changes in the ownership structure and consolidation of the banking sector. The net results of banks during the period observed were also affected by status changes, as acquiring banks recognised gains from a bargain purchase in accordance with IFRS 3 *Business Combinations* [12, paragraph 34].

These events affected the concentration of the Serbian banking sector as measured by the Herfindahl-Hirschman Index (HHI) but kept it within the zone of high competition (the HHI index for the balance sheet total category in 2023 is 986).

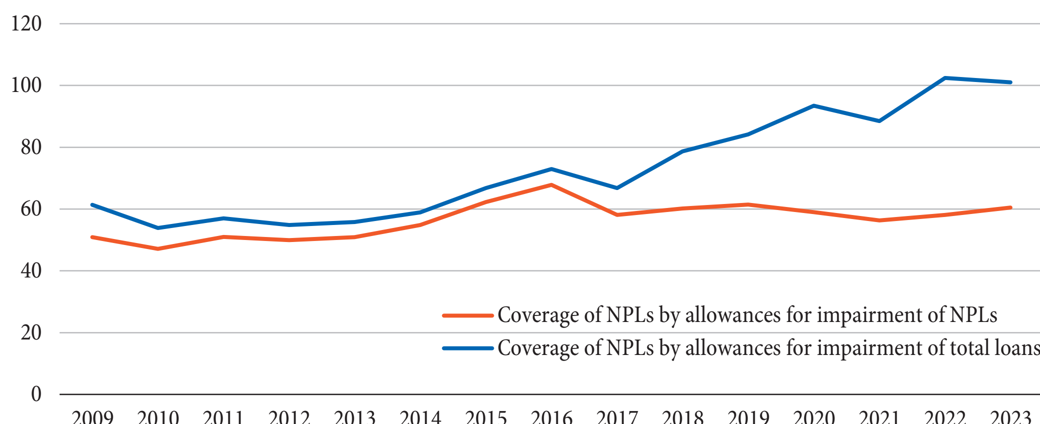
## Banking Regulations

In order to safeguard the stability of the financial system and protect depositors, the banking sector is subject to strict regulation. The core package of banking regulations consists of the Basel standards, which have been implemented in the EU through the CRR (Capital Requirements Regulation) and CRD (Capital Requirements Directive). This package is part of the reforms introduced after the financial crisis to improve the resilience of banks to risks and to strengthen financial stability. The CRR establishes uniform rules for minimum capital requirements and liquidity in the EU, while the CRD regulates the supervision and control of capital, including corporate governance and risk management. In Serbia, the Basel standards have been implemented by aligning domestic regulations with those of the EU.

*The impact of these standards* on the overall banking operations, including their profitability, is clear. In simple terms, the prescribed requirements affect the lending capacity of banks, which is an important source of the banks' business result. The intensity of this impact depends on the banks' performance in terms of capital adequacy, risk management, and business organisation prior to the implementation of the new standards. The Serbian banking sector has been adequately capitalised and liquid throughout the entire period observed, with indicators above the prescribed minimum requirements, so the introduction of these standards has not significantly affected the performance of domestic banks.

In addition to exclusively banking regulations, the *application of accounting standards* also impacts banks' operations. In Serbia, IFRS have been applied throughout the entire period observed, and their application affects banks' operations as they define how banks value their assets, liabilities, and recognise credit losses and revenues. Since 2015, IFRS have been applied from the date determined by the relevant international body as the start date for their implementation [14, Article 21]. As a result, IFRS 9 began to be implemented at the beginning of 2018, just like in the EU and other advanced economies. This standard introduces the concept of expected credit losses as the basis for recognising allowances for impairment, replacing the previous concept of incurred credit losses from IAS 39. This increases caution and reduces volatility in banks' financial statements but may lower profitability due to higher allowances for impairment of financial assets. The standard also impacts reporting transparency, fostering greater investor confidence, but generates increased operating costs due to more complex accounting processes. Additionally, the concept of expected credit losses implies the gradual recognition of credit losses. Upon the initial recognition of a financial asset (such as granting a loan or investing in securities), credit losses are recognised at a certain percentage (impairment stage 1). Later, if there is a significant increase in credit risk (30 days or more past due), additional credit losses are recognised (impairment stage 2), so that if the financial asset becomes impaired (impairment stage 3), the immediate negative effect on profitability is reduced. According to data of the Serbian banking sector, the average allowances for impairment of financial assets classified in impairment stage 1 amount to 0.5%, at stage 2 to 5.6%, and in stage 3 (corresponding to the status of NPL) to 59%, which is

**Figure 11: NPL coverage by allowances for impairment of NPLs and allowances for impairment of total loans**



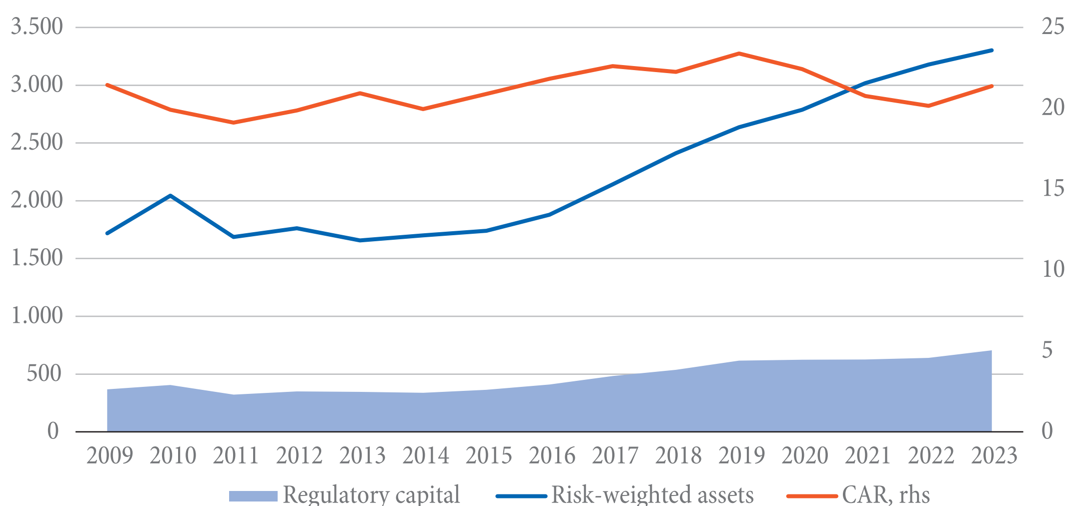

Source: NBS and the author's calculation

close to the values at the end of 2023. The impact of IFRS 9 on credit losses, or classification by impairment stages, is most clearly visible from the ratio of coverage of NPLs by allowances for impairment of total loans before and after the beginning of implementation (Figure 11). *In the current circumstances of low credit losses and a good quality credit portfolio, this effect cumulatively over five years amounts to approximately RSD 25 bn.*

In addition to the negative impact of regulations on bank profitability, a regulatory measure that was one of the factors behind the accelerated credit growth in the context of declining interest margins was the removal of the requirement for banks to include required reserve for estimated losses in the calculation of capital adequacy after 2018 [5, Article 460]. This was preceded by a measure in 2016 that introduced the gradual exclusion of required reserve for estimated losses from the calculation of capital adequacy [4, Section 2] as a measure to encourage the reduction of NPLs. In this way, banks were given more room to finance the economic cycle, which led to an increase in risk-weighted assets (credit activity) while maintaining a relatively stable capital adequacy ratio (Figure 12).

In contrast, regulatory and other government measures related to the conversion of CHF-indexed loans with a partial write-off [16], the introduction of several moratoriums on loan repayment during the COVID-19 pandemic [6], [8], as well as temporary caps on interest rates for housing loans [7], had a one-off negative impact on bank results in 2019, 2020, and 2023, measured in billions of dinars. In the first case, this was due to the cessation of the recognition of financial assets, while in the other two cases, it was due to the modification of the value of financial assets in accordance with IFRS 9. All of these measures were implemented with the aim of preserving

**Figure 12: Dynamics of risk-weighted assets, in RSD bn**




Source: NBS

the stability of the financial system in the face of strong external shocks.

In the coming period, the profitability of banks is expected to be influenced by the increasingly prevalent concept of Environmental, Social, and Governance (ESG) standards. Although these standards are not yet mandatory, they have become widely accepted, and some banks have already begun integrating them into their operations. The application of ESG standards to bank profitability can have both positive and negative effects. On the one hand, adapting to ESG requirements will lead to changes in the structure of the credit portfolio, including pulling back from profitable but environmentally risky sectors, as well as increasing operating costs. On the other hand, adhering to ESG principles can reduce business risks in the long run, improve reputation, and open up opportunities for new products, such as financing green projects, which can positively impact profitability and competitiveness.

## Comparing Operating Results of the Corporate and Banking Sector

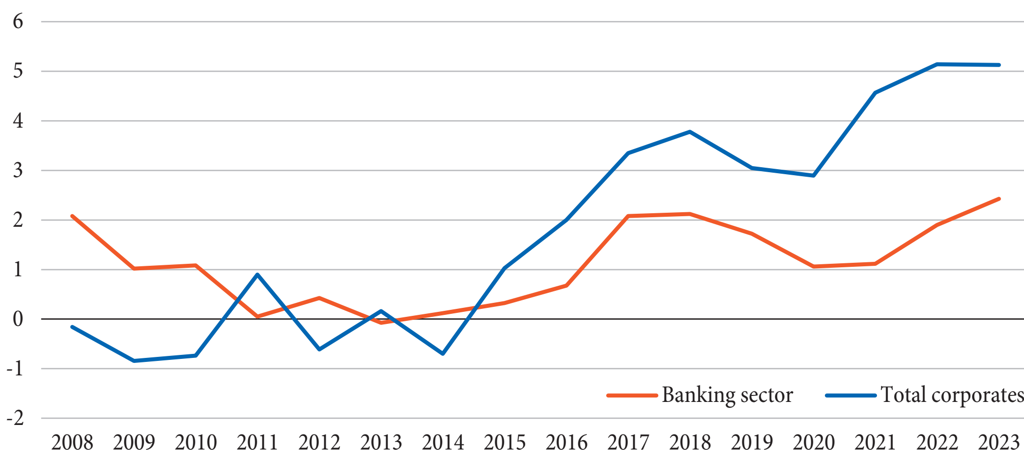
The analysis of the banking sector's performance cannot be fully understood without a broader economic background and comparison with the results of other economic entities. Banks are key financial intermediaries that provide liquidity and support investments in almost all sectors, but with a strong synergistic effect, as their profitability is closely tied to macroeconomic conditions and economic cycles. The state of the economy affects the level of credit activity, credit losses, and other key factors that shape the results of the banking sector. In favourable economic conditions, when the economy is growing, there is an increased demand for loans, a reduction in credit losses, and greater opportunities emerge for a positive business result. Conversely, during periods of recession or macroeconomic shocks, rising unemployment, dented consumption, and reduced economic activity can fuel an increase in NPLs, which negatively impacts banks' profitability.

Given such interdependence, the comparison of the results of the banking sector with those of the corporate sector yields a better understanding of the extent to which banks have managed to adapt to volatile conditions and to which their business outcomes are a result of external macroeconomic factors versus internal management factors. The most desirable outcome occurs when their results move in the same direction, meaning they contribute to each other's success.

For the purposes of comparing the banking and the corporate sector, relative indicators such as Return on Assets (ROA) and Return on Equity (ROE) were used. These indicators allow for a more objective assessment of business performance, eliminating the impact of absolute differences between the banking sector and other industries of the economy. Since the banking sector and the overall corporate sector have different structures and numbers of entities, using absolute values, such as total profit or loss, would not provide useful information for the analysis.

The data presented in Figure 13 indicate that, for most of the period observed, the corporate sector generated

**Figure 13: Return on assets of corporates and banks in 2009-2023**

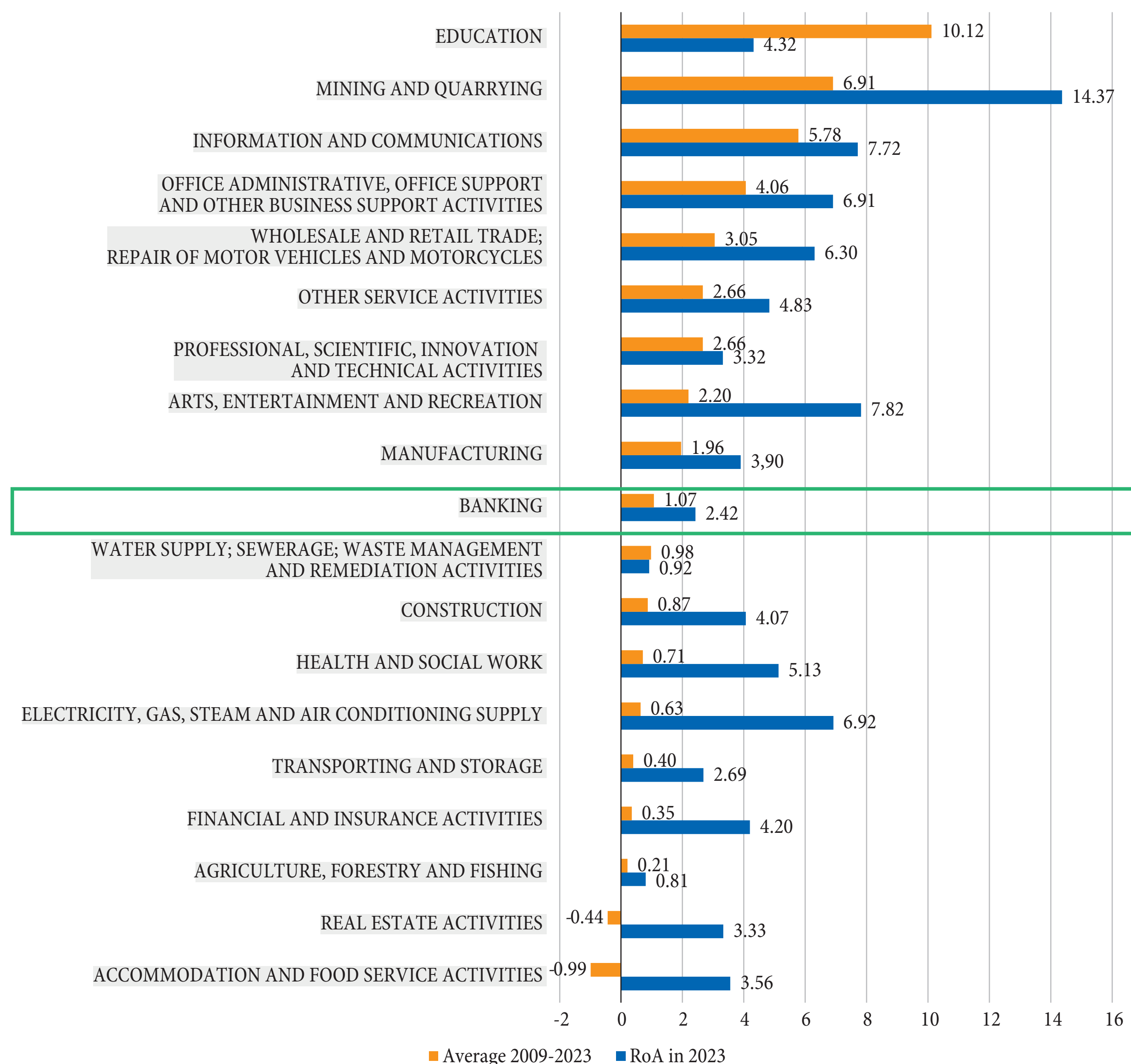



Source: NBS, SBRA and the author's calculation

higher rates of return on assets compared to banks. This is also reflected in the average value of this indicator, which was nearly doubled for the corporates compared to banks: 1.94% versus 1.07%. This result was achieved despite the fact that, at the beginning of the period observed, specifically from 2009 to 2014, the return on assets for the corporates was negative, while from 2015 onwards, the profitability of the corporate sector consistently trended higher. The same holds true even in years like 2022 and 2023, when, in the context of strong interest rate hikes in the fight against inflation, banks achieved a return on assets close to that of 2008.

This suggests that the corporate sector benefits more from a stable macroeconomic environment than the financial sector, meaning that in times of growth, the corporate sector is capable of generating more value per unit of resources engaged than banks [21]. Of course, following the global economic crisis of 2008, a policy of very cheap money was pursued for a long time to stimulate economic growth, which typically leads to a decline in bank profitability [1, p. 17]. However, this was not the case in Serbia, where inflation, due to domestic factors, remained high and volatile until 2013, causing interest rates to stay elevated.

**Figure 14: Return on assets, by industry, in %**




Source: NBS, SBRA and the author's calculation

In addition to the aggregate data for the banking sector and the economy, the assessment can be further deepened by analysing the structure of ROA across industries, considering that the corporate sector encompasses a wide range of different sectors and industries, each varying in structure, dynamics, and economic outcomes. This heterogeneity means that while some industries experience significant growth and contribute to overall economic expansion, others may face pressures from various factors such as changes in demand, production costs, regulatory changes, and other influences. Due to this diversity, comparing the business results of banks with individual sectors of the economy provides a more comprehensive insight into how macroeconomic conditions impact different sectors and industries within them.

By comparing the performance results of banks with the results of different sectors of the economy (Figure 14), both in the last year and as averages for the observed period, a clearer understanding of the banking sector's performance relative to the broader economic environment can be gained. While interest rates and credit activity are important factors influencing bank results, different industries may have different growth and profitability drivers. This comparison also reveals which sectors of the economy outperform the average, which may point to specific sources of growth but also potential vulnerabilities.

When considering performance measured by the average return on assets over the period from 2009 to 2023, the banking sector ranks in the middle, while certain industries, such as mining and information technologies (IT), show significantly higher figures. When focusing solely on the last year, which was a record year for the banking sector, only two industries performed worse in terms of return: water supply and agriculture. This confirms the previously stated claim that the corporate sector benefits greatly from macroeconomic stability and favourable business conditions.

## Final Considerations

The profitability of the Serbian banking sector in the period 2009-2023 was strongly influenced by macroeconomic conditions, as well as specific characteristics of the banking system. The analysis showed that the key determinants of profitability during this period included interest rates changes, credit risk management, and the ability of banks to adjust their business strategies to volatile economic conditions.

One of the principal conclusions is that net interest income and interest margins remained the dominant source of profitability for the banking sector throughout the entire observed period. Banks managed the structure of assets and liabilities in a way that preserved the stability of net interest income, despite global and local challenges such as low interest rates. This indicates the resilience of the sector and its ability to adapt to economic policies, particularly the monetary policies of the NBS and ECB.

Relatively stable net income from fees and commissions represented a sort of a profitability buffer, which banks successfully maintained and strengthened through the modernisation of operations in response to technological competition.

However, a significant challenge for the banking sector came in the form of credit losses, especially in times of crisis. The movement of credit losses was largely dependent on macroeconomic factors such as GDP growth and exchange rate. The greatest pressures on bank profitability were seen during recession when the rise in NPLs gathered pace, leading to the need for greater provisioning and a reduction in net results. Nevertheless, thanks to the stabilisation of macroeconomic conditions, banks were able to scale down credit losses significantly after 2015, which positively impacted their overall financial performance.

Operational efficiency of banks also played an important role in business performance results. Banks continuously improved their efficiency through cost optimisation and business rationalisation, which led to an improvement in the cost-to-income (C/I) ratio. Although banks faced rising operating expenses, especially in terms of provisioning and intangible costs, they managed to adapt their business models in a way that maintained stability in operational results. This segment became especially important during periods of particularly low interest margins, when operating expenses had to be strictly controlled to maintain a positive outcome.

Another factor that shaped profitability was the degree of concentration in the banking sector. Although the analysis of the relationship between increased concentration and the profitability of the banking sector in Serbia was not the subject of this paper, it is a fact that the consolidation of the banking sector had an impact on its profitability through the effects of recognising gains from bargain purchase in accordance with IFRS 3 Business Combinations.

Regulations, as the final factor analysed, also played an important role in shaping the performance of the banking sector. The implementation of international standards, such as the Basel standards and IFRS 9, significantly influenced the way banks manage credit risks and liquidity. While the introduction of these standards did increase transparency and resilience of the sector, it also led to higher operating expenses and the recognition of expected credit losses, which, in some periods, posed a challenge to maintaining profitability.

Also, the comparison of the relative performance of the banking sector and the rest of the economy indicates that the real sector benefits significantly more from macroeconomic stabilisation and growth. During most of the observed period, the corporate sector generated higher return on assets compared to banks, as confirmed by the average value of this indicator, which was almost twice higher for corporates than for banks: 1.94% vs. 1.07%. This result was achieved despite the fact that at the beginning of the observed period (2009–2014), return on assets for the corporate sector was negative, while since 2015, the earning capacity of the corporate sector has consistently been at a higher level. The same holds true even in years like 2022 and 2023, when, in conditions of strong interest rate growth in the fight against inflation, banks achieved a return on assets similar to that of 2008.

The general conclusion is that the stabilisation of macroeconomic conditions in the country since 2013, particularly tackling of inflation and the relatively stable exchange rate of the dinar against the euro, along with the rise in employment and wages, have fully reflected in the growth of the volume and quality of credit activity. The improvements in risk management processes have also had a positive impact on the results. Thanks to the stabilisation of macroeconomic conditions, banks were able to significantly reduce credit losses. Although net interest income increased in 2023 amid the fastest and most aggressive tightening of monetary policies ever, the net interest margin in 2023 was still lower compared to the period before 2012.

Specifically, the analysis of the period from 2009 to 2023 on the case of Serbia offers insight into the dynamic changes of numerous factors that shaped the structure of banks' interest income and expenses in various macroeconomic and microeconomic environments. This period was marked by significant changes in business conditions – from exceptionally low interest rates, which posed a challenge for maintaining net interest income, to the sharp and unprecedented global increase in interest rates in the fight against surging inflation, which was conducive to a rise in net interest margins.

Generally, the period up to 2013 was marked by a volatile exchange rate of the dinar against the euro, with considerable depreciation, which negatively impacted domestic inflation and the level of NPLs. Unstable domestic macroeconomic conditions led to interest rates in the domestic market being much higher than in the region.

The second period, starting from 2013, was marked by policies aimed at the macroeconomic stabilisation of the country and curbing of domestic inflation within a one-year period, to which the establishment and preservation of the relative stability of the dinar exchange rate against the euro provided a major contribution. This also enabled the beginning of a cycle of strong interest rate cuts. A strategic approach was implemented to resolve the inherited issue of NPLs. At the same time, after the necessary fiscal consolidation was carried out, economic growth accelerated strongly, until the emergence of the pandemic and multiple global macroeconomic shocks.

Conclusion: The profitability of the Serbian banking sector during the observed period was shaped by a complex set of internal and external factors. Key challenges came from macroeconomic shocks, credit risk, and regulatory changes, with banks managing these risks through adjustments to their business strategies and optimisation of operating expenses. Future challenges, such as growing competition and further regulatory pressures, will require

continued adjustments to ensure the sector's long-term sustainability. Just as Winston Churchill once said, "Success is not final, failure is not fatal: it is the courage to continue that counts." This thought perfectly illustrates Serbia's path toward strengthening its economic stability.

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