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# BANK PROFITABILITY FACTORS: A COMPREHENSIVE SYSTEMATIC REVIEW

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## Abstract

Globalization, the economic downturn, a pandemic, and several other crises have affected the banking industry over the past 20 years, yet it has persevered. This had caught academicians' and practitioners' attention. By evaluating existing scientific works, the current paper investigates the trends and directions of research on the idea of profitability in banks.

A systematic literature review approach is used in this study. First, a list of keywords was established. Next, papers from the Scopus database covering the months of January 2009 through June 2024 were found using the keywords. The PRISMA selection method was used to filter and screen the identified articles. In the end, 59 papers were found that address the research issue.

The primary research streams on bank profitability were determined by the study based on the examination of scientific literature. External parameters including GDP, inflation, and currency rates were evaluated, as well as bank-specific characteristics like bank size, liquidity, operational efficiency, capital adequacy, asset quality, and credit risk.

On the other hand, there are notable discrepancies in academic study findings about the connection between research streams and profitability over time. The paper suggests theoretical and practical ramifications for academicians based on the results. Bankers, policymakers, and practitioners. The profitability of banks is obviously significantly impacted by internal issues. This systematic literature review fosters a deeper understanding of the intricate interactions between different factors influencing bank profitability, ultimately contributing to the stability and efficiency of the financial system. It also clearly breaks down the geographical focus of research and identifies the various methodologies used to determine determinants of bank profitability.

**Keywords:** bank profitability, internal factors, external factors, PRISMA, systematic literature review.

## 1. Introduction

Today, whatever obstacle or challenge we face creates new opportunity for organizations, resulting in innovation and profits. This perspective is critical in the banking industry, as it underlines the prospects for growth and development for not just a fellow citizen, but also for the entire nation (Morris, 2011). “The banking sector is the source of any modern economy”, banking penetration and economic development are positively correlated by facilitating liberalization and globalization. It had made trade and investment flourish, leading to increased economic activity (Sharma, 2016). Any organization's lifeblood is its finances, and banks have historically served as the veins, an intermediary that permits the blood to circulate throughout the nation. Consider how crucial it would be to determine the factors that influence banks' profitability as the nation's wealth hub (Siyer & K, 2014). Only profitable banks can support economic growth, ensuring financial stability, facilitating efficient payment system, promoting savings, investment and withstand potential shocks by channeling the funds through diverse financial activities (Hosen 2020, Ahmed & N’Dri 2021, Begimkulov 2023). As a result, practitioners, policymakers, management, financial markets, bank managers, and academics have all expressed an interest in the variables determining bank profitability. Previous studies focused on established nations and their effects on bank profitability, neglecting to represent the rising economies' perspective. This essay seeks to provide clear insights into the link between banks, profitability, and economic growth, stressing their importance in the global economy.

Profits, or income over costs, are not only based on the cost or selling price of goods or services in the twenty-first century. But in the ever-changing economic climate, a variety of internal and external variables impact banks' profitability (Murthy 2004, Singh 2010). Different countries have different levels of these components' variability and the resulting impacts. In order to give a thorough picture, researchers try to classify the impacts on established, emerging, and developing economies. In a developed nation such as the Republic of Croatia, profitability is measured using the traditional financial metric of return on assets (ROA). Internal variables, including bank size, solvency risk, intermediation, and the performance of the previous year, were revealed to have a beneficial effect on profitability. Credit risk and operating expenditure management, on the other hand, have a negative impact on profitability since a rise in client non-payments might result in a drop in profitability. Advocating for banks to do practical measures in order to boost their reputation (Pervan et al., 2015). Chile, Colombia, El Salvador, Honduras, Mexico, and Paraguay are six emerging countries in central and South America that are affected by the same internal factors. Even if financial metrics like return on equity (ROE) and return on assets (ROA) are used to measure profitability, the presence of non-performing loans and non-interest costs have a detrimental effect, while factors like bank capitalization, liquidity, and interest rate differentials have a beneficial effect. Banks may control these factors by strengthening their loan evaluation standards and implementing a well-capitalized banking structure, which can affect liquidity and non-interest costs (Albulescu 2015). Because of the regulatory environment, competitive challenges, and low operating costs, the cost-to-income ratio is negligible in relation to NIMA (Net Interest Margin per Asset). As the standard variable for 16 privately held commercial banks in Ethiopia, ROA and NIMA have shown themselves to be important intrinsic

drivers of bank profitability, as have other internal characteristics such as bank age, bank size, operational efficiency, credit risk, and client deposits (Amare, 2021).

Economic expansion, inflation, interest rates, currency exchange rates, stock turnover, government spending, and market conditions are just a few of the variables that have been shown to have an effect on banks' financial performance when examining external factors that are outside of their purview (Rahman et al., 2015). Several European nations, including Austria, Belgium, Denmark, France, Ireland, Germany, the United Kingdom, Sweden, Norway, Switzerland, and Spain, have demonstrated a negative impact on bank profitability in contrast to inflation. When inflation causes interest rates to rise, banks' expenses expand disproportionately in relation to their income. However, the increase in demand for credit and deposits, which indicates economic expansion and increased banking activities aimed at bolstering earnings in step with a rising economy, results in a positive association between Gross Domestic Product (GDP) and Return on Assets (ROA) (Chhaidar et al., 2022). In developing countries like Bangladesh, on the other hand, things are different. The beneficial effects of inflation are substantial, underscoring the necessity for financial institutions to modify their approaches in reaction to inflation as it may boost their profits. However, the exchange rate's detrimental effects on bank profitability are evident. Positive exchange rate management is therefore essential for the banking sector's growth, whereas GDP and stock turnover have little effects on the profitability of the 24 commercial banks that are listed on the Dhaka Stock Exchange (Akther et al., 2023). It is expected that rising inflation and currency rates will make banks less profitable. Because the fluctuations in foreign exchange markets might have a negative effect on banks' performance. The Ethiopian Birr, for instance, may be significantly impacted by changes in the value of the US dollar. Furthermore, Ethiopia's inflation rates are on the rise, which might hurt banks' bottom lines (Bushashe, 2023). Against the backdrop outlined above, there has been an increased emphasis on the notion of profitability within the banking industry. This review is anchored on a pivotal research question: What factors influence a bank's profitability? In light of this, the current systematic review of the literature attempts to investigate the many avenues and trends of research concerning bank profitability by looking at recent academic works. This research makes concrete recommendations and offers a framework for possible inquiry of unexplored domains based on the investigation's results. This piece is organized into many sections. Section 3 presents a discussion of the results, including content analysis, while Section 2 gives a summary of the technique. In Section 4, the conclusion and practical ramifications are discussed. Lastly, the study's future scope is provided in Section 5.

## 2. Methodology

Since the Preferred Reporting Items for Systematic Reviews and Thematic Analysis (PRISMA) are effective at examining a specific domain and have the ability to reduce partial conclusions, the authors followed their methodical examination of literature and thematic scrutiny, elevating the scholarly essence of the discourse by reducing academic bias in simple material selection (Petticrew & Roberts, 2006). A systematic approach to document retrieval was created and put into practice in three consecutive phases, covering the processes of identification, screening, and eligibility, which are extensively outlined (Page et al., 2021).

### 2.1. Identification

The process of identification includes looking for synonyms, related terms, and variations of the primary keywords used in the study, which are “Banks,” “Profitability,” “Determinants,” and

"Technology." Only scientific journal articles included in the Scopus database were identified by the authors using these keywords. A combination of keywords using the Boolean operator "AND" between the author's chosen keywords was used to identify publications.

### 2.2. Screening

The authors entered the data into Excel spreadsheets after locating the assigned manuscript in the Scopus database. Title, abstract, keywords, year of publication, journal name, source title, digital object identifier (DOI), and citation information were all unambiguously recorded in the spreadsheets. 1261 scholarly articles were produced as a result of this strategy. The titles and abstracts of these academic publications were examined by two writers separately, and duplicate papers were eliminated. 1182 papers were ultimately rejected as a result. Articles that were obviously not empirical, such case studies, narrative, descriptive, and conceptual, were not included. Prior to a comprehensive analysis, a preliminary manual screening of the titles was conducted; the findings indicated that 79 articles were pertinent to the objectives of the study.

### 2.3. Eligibility

In order to determine if the acquired articles met the following requirements, a thorough manual review was conducted during the eligibility phase. The majority of the publications focused on statistical analyses of the variables influencing banks' profitability. The study's main goal was to include quantitative studies that explicitly addressed bank profitability, although there were several publications that did not align with this goal. Based on the study topic, Table 1 outlines a set of inclusion and exclusion criteria. Only those papers that met all inclusion criteria were listed as a result.

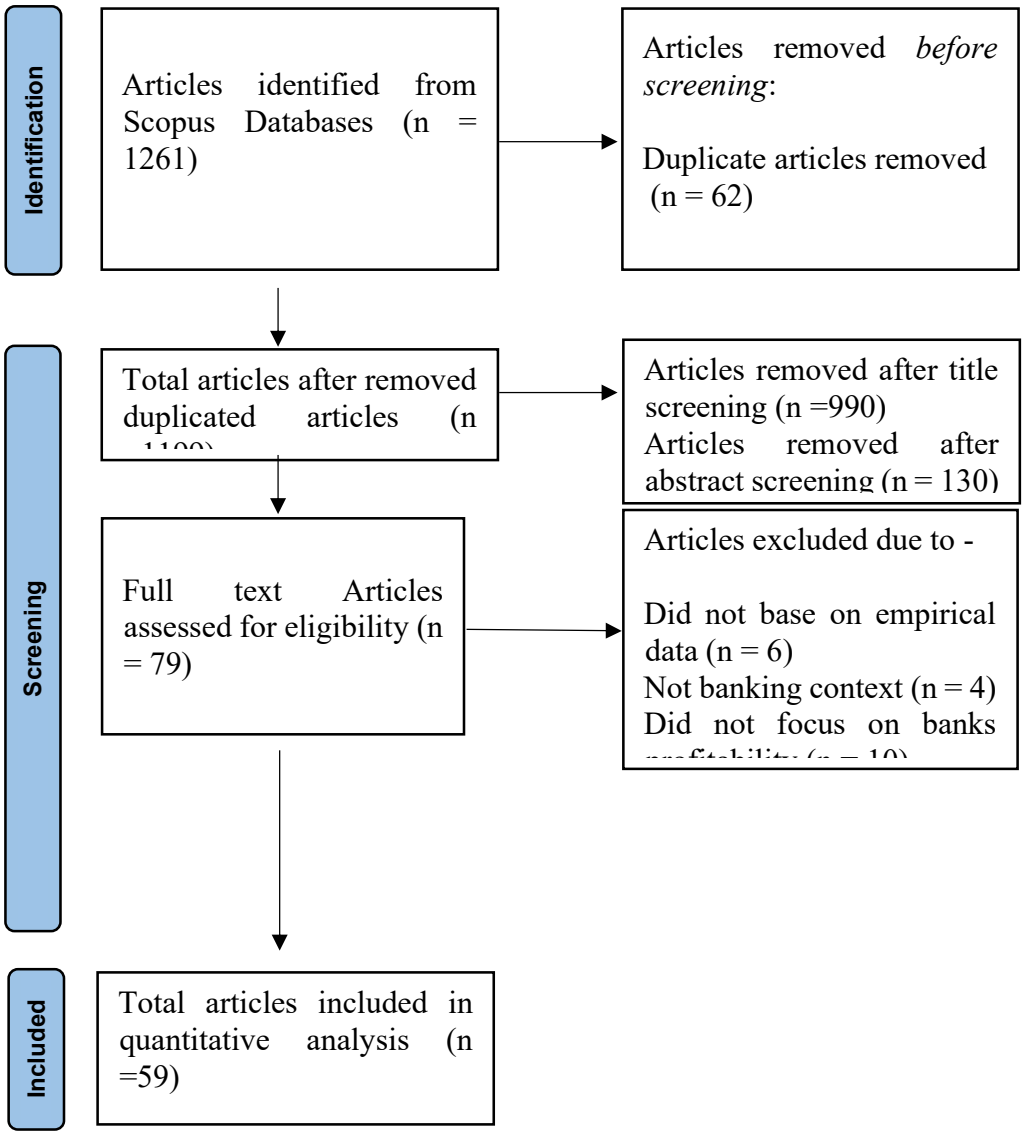
*Table 1. Inclusion and exclusion criteria*

| Criteria | Inclusion | Exclusion |
|---|---|---|
| **Unit of analysis** | Bank profitability and their determinants. | Non-banking institutions and their profitability. |
| **language** | Only English. | Other than English. |
| **Study design** | Articles that only include empirical data which emphasize on quantitative studies. | Articles with qualitative analysis were excluded. |
| **Publication type** | Journal articles indexed only in Scopus. | Journals not indexed in Scopus, Conference proceedings, case study, unpublished data, thesis, book chapters are excluded. |
| **Publication date** | Articles published between January 2009 and July 2024 were considered for the study. | Articles published before January 2009 and after July 2024 were excluded. |

### 2.4. Data extraction

Figure 1 shows the information we gathered from 59 selected publications after they were evaluated. Every article was carefully reviewed, with an emphasis on the abstracts, conclusions, and discussions to answer the research question. The study of the factors that influence banks' profitability gained a lot of attention after 2016, reaching a peak in 2020. In Scopus, the majority of the retrieved papers came from publishers such as Taylor & Francis, Wiley, Sage, MDPI, and others.

*Figure.1. Representing PRISMA flow diagram on the literature selection process.*




*Source: author's construction based on (Page et al., 2021)*

## 3. Results and discussion

### 3.1. Geographical Breakdown of Research Focus

The locations of the research—regions, continents, and cross-continents—were utilized to examine the 59 papers. The study found that four of the papers were about the Middle East and North Africa (MENA) area, fifty-two articles were about four distinct continents, and three research articles were conducted across various nations (cross-continents), as shown in Figure 2. In Asia, 34 articles were identified, including two that compared India and China, seven that were from India, five from Indonesia, four from Vietnam, four from China, two from Jordan, two from Bangladesh, and one from Asia as a whole. In contrast, individual studies were conducted in Malaysia, Thailand, Iraq, Palestine, Yemen, and Sri Lanka. Next, nine research articles were focused on the African continent. It includes 3 studies from Nigeria, 4 single studies from Ghana, Ethiopia, Tanzania, Zimbabwe, and 2 cross-country studies. Additionally, 8 studies from the European continent. It includes six separate studies from Portugal and Spain, Sweden, Portugal, Serbia, and the UK, as well as three cross-country studies. Similarly, just one South American nation (Peru) is included. Lastly, three investigations that were conducted across continents were selected. A research gap depending on regional focus was noted in the study, with a particular lack of studies. Therefore, further study on the continents of Africa and South America is needed. Furthermore, because Asia has more emerging markets, the region was the primary focus of the geographic endeavor.

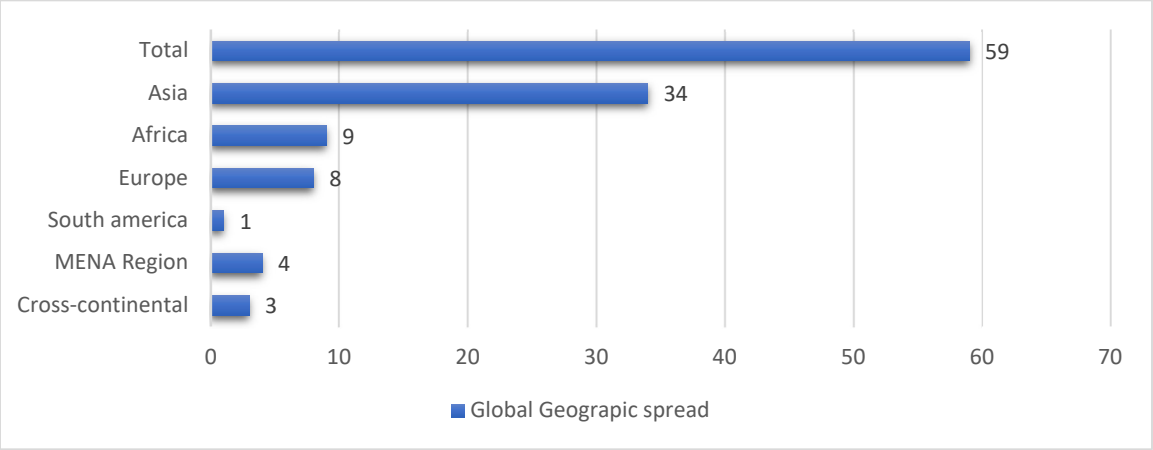



*Figure.2. Geographical Breakdown of Research concerning to Bank profitability and its determinants*

### 3.2. Annual Scholarly Output

The literature trend on factors influencing bank profitability is shown in this section according to the frequency of publications in terms of years. The year-by-year distribution of the studies from January 2009 to July 2024 is shown in Figure 3. Research from 2009 to 2015 was quite consistent. Although there were no pertinent studies in 2014, interest in researching the factors that influence bank profitability grew dramatically after 2016 and peaked in 2020.

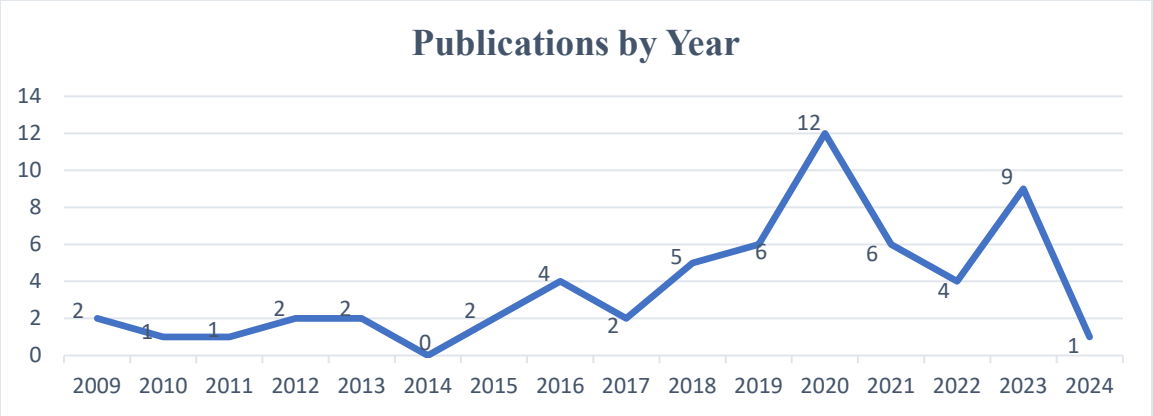



*Figure.3. Distribution frequencies of the studies.*

### 3.3. Research streams and methods

Table 2 reviews a few scholarly articles clarifying some explanatory variables involved in determining banks profitability.

*Table 2. Research areas and applied methodologies*

| Methods / Streams | Ordinary Least Squares (OLS) and Multiple Linear Regression | Panel Data Regression Models | Generalized Method of Moments (GMM) | Quantile Regression | Data Envelopment Analysis (DEA) | Dynamic Models and Other Advanced Methods | Total |
|---|---|---|---|---|---|---|---|
| **Internal determinants** a. Bank size | 2 | - | 1 | 1 | - | - | 4 |
| b. Liquidity | 2 | 3 | 2 | - | - | - | **7** |
| c. Operational efficiency | 2 | - | 2 | - | 3 | - | **7** |
| d. Asset quality | 1 | 1 | 2 | - | - | - | **4** |
| e. Capital adequacy | 2 | 1 | 2 | 1 | - | - | **6** |
| f. Credit risk | 1 | 3 | 2 | - | - | - | **6** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **External determinants**<br>a. Inflation | 1 | 2 | 4 | - | - | 1 | **8** |
| b. GDP | 1 | 1 | 3 | - | 1 | 2 | **8** |
| c. Exchange rates | - | 2 | 1 | - | - | - | **3** |
| **Other Determinants**<br>**a.** Market power | - | 2 | - | - | - | - | **2** |
| b. CSR | - | - | 1 | - | - | - | **1** |
| c. Globalization | - | - | - | - | 1 | - | **1** |
| d. Board size composition | - | - | - | - | 1 | - | **1** |
| e. Risk adjusted returns | - | - | 1 | - | - | - | **1** |
| **Total** | **12** | **15** | **21** | **2** | **6** | **3** | **59** |

*Source: Authors own construction*

Based on their methodological groupings and application, exploratory variables were evaluated in order to provide further insights into banks' profitability. The Generalized Method of Moments (GMM) is the most widely used analytical technique. It has been used in 21 studies for dynamic panel data to guarantee accurate predictions and handle endogeneity concerns between profitability drivers and indicators. In this case, the independent variables include both macro- and micro-economic factors, while the dependent variables are profitability metrics such as return on equity, return on asset, and net interest margin. With fifteen studies for cross-sectional data to correct for unobserved heterogeneity, panel data regression models are the second most used method. Additionally, six research employed data envelopment analysis (DEA) for efficiency analysis and production frontier estimation, while twelve studies utilized multiple linear regression and ordinary least squares (OLS). Ultimately, three papers used further sophisticated approaches, such as regression analysis with random and fixed effects, random forest regression, and the Tobit model, while two studies used quantile regression.

### 3.4. Concept of profitability

There is a great deal of complication in understanding profitability. This complexity results from its multifaceted and dynamic character. For schoolchildren, profit is the difference between the selling price and the expense incurred. Families use the term “profit” or “savings” to describe the difference between their income and expenses. Profit is the key to success for entrepreneurs, the returns produced on investments for investors, and the shape that dividends take for shareholders. Different stakeholders have different definitions and ways of expressing profit. Given that the

banking industry is the largest sector of the financial system and an essential player therein, profit in its operations is a vital indicator of the economic progress of a nation (Ariyadasa et al., 2016). Numerous factors exert influence over the profitability of banks. These factors are categorized into internal and external influences, with each factor elaborately explained with their impact on banks profitability.

### 3.4.1. Internal determinants (Micro-economic factors)

#### *3.4.1.1 Bank size*

Policymakers and academics frequently discuss the relationship between bank's size and profitability. Wherein bank size is calculated utilizing the natural logarithm of either total or real assets (Saona & Azad, 2018). The profitability of a bank is positively impacted by its size, according to research. Economies of scale allow bigger banks to more efficiently distribute fixed expenses, lowering average transaction costs and increasing profits. On the other hand, research shows that bank size has a detrimental effect on profitability since larger banks are under a lot of pressure to enhance their capabilities due to their greater total assets, restrictive regulations, and other issues (Bolarinwa et al., 2021). Furthermore, banks' profitability is not much impacted by their size in industrialized nations like Austria. Even Islamic banks can have conflicting effects in some situations. For example, in Pakistan, their influence on profitability is beneficial, while in Yemen, it is bad. (Shah et al., 2023b; Al-Homaidi et al., 2021).

#### *3.4.1.2 Liquidity*

It indicates the capacity of bank to meet its temporary financial obligation, which is measured by dividing sum of non-customer deposits and cash by total deposits or assets (Pham & Nguyen, 2023; Sufian, 2012). The benefits of liquidity for profitability are not universally accepted. According to some academics, high liquidity is kept in place to mitigate risk and deal with bankruptcy issues since liquid assets may be quickly converted into cash. Another section asserts that because retaining liquid assets has a lower opportunity cost, which indicates poorer profitability, they provide lower returns. (Coccorese & Girardone, 2020). Additionally, the impact of liquidity is not uniform across developing countries. Liquidity has positive impact on profitability in Ghana and Ethiopia (Adusei, 2015) (Isayas, 2022). Whereas, negative influence in India and China (Al-Homaidi et al., 2018; Sufian, 2009). However, Liquidity is essential for banks to maintain balanced asset portfolio and at the same time excessive liquidity can hinder banks profitability.

#### *3.4.1.3 Operational efficiency*

The ratio of total expenses to total revenues is how operational efficiency is measured in the banking sector. The cost-benefit ratio is basically indicated by this (Neves et al., 2020). Effective cost and expenditure management by banks has a beneficial impact on their profitability. (Mohanty & Sarkar, 2020). Whether the banks are privately held or state-owned, they have demonstrated resistance to the economic disruption by surviving the COVID-19 pandemic thanks to effective banking technology, managerial strategies, and a strictly enforced operating strategy. (Abdeljawad & Bahlaq, 2023; Gulati et al., 2023; Chauhan et al., 2022). Profitability, on the other hand, decreases when expenses surpass revenues. This problem might be caused by loan defaults, poor asset management, rising labor expenses, or banks participating in unconventional or high-risk financial operations. (Herdhayinta & Supriyono, 2019). Such inefficiencies may yield detrimental

effects on profitability. In certain geographical regions, the findings exhibit inconsistencies among the same categories of banks (Sufian & Noor, 2009).

#### *3.4.1.4 Capital adequacy*

It acts as a standard for evaluating banks' soundness and capacity to pay off their commitments, liabilities, and debts. Capital adequacy is the ratio of total assets to total equity. (Olarewaju, 2020). For banks to maintain liquidity, handle economic downturns, and reduce operational and credit risks, they need enough capital. Few studies have shown how capital adequacy, liquidity, non-performing loans, and profitability are all interdependent. (Tan, 2019; Roy et al., 2019). A higher capital adequacy ratio correlates with a more efficient capital structure and a favorable influence on profitability (Jeris, 2021; Sah & Pokharel, 2023). When capital adequacy negatively impacts profitability, on the other hand, it indicates that there are obstacles to the development of a properly capitalized banking organization, making banks vulnerable to market shocks and possible incompetence (Ohman & Yazdanfar, 2018).

#### *3.4.1.5 Asset quality*

Remarkably, Zarrouk et al. (2016) state that the ratio of loans to total assets or the ratio of loan loss provisions to net interest income may be used to gauge the quality of a bank's assets. Banks make money by making loans. Non-performing loans have a higher risk, which usually leads to a drop in earnings and subpar asset quality (Ngweshemi & Isiksal, 2021). Budgetary restrictions, economic hardship, a bad credit culture, and insufficient risk management techniques are all associated with this occurrence (Boateng et al., 2015). In order to overcome these obstacles, banks should prioritize the development of thorough asset diversification, rigorous adherence to regulatory guidelines, and the application of efficient credit management techniques to enhance asset quality and, consequently, boost bank profitability (Abdelmoneim & Yasser, 2023).

#### *3.4.1.6 Credit risk*

In the financial industry, risk is an unwelcome guest. While we can't get rid of it entirely, we can definitely lessen it to some degree. By calculating the ratio of loan loss provisions to total loans, this risk is quantitatively evaluated (Bolarinwa et al., 2019). Credit risk occupies a central place in the loan portfolio, particularly when it comes to nonperforming loans. When debtors don't fulfill their repayment commitments when the loan is due, it becomes clear. If not well handled, it might lead to bankruptcy (Saleh & Afifa, 2020). The income streams of banks are adversely affected by a rise in credit risk. Most academic studies indicate that, regardless of the geographical locations, credit risk has a big detrimental impact on the profitability of banks in China, India, Nigeria, Jordan, and Zimbabwe (Kumar & Bird, 2020; Pires & Basílio, 2021; Altarawneh, & Shafie, 2018; Abel, & Le Roux, 2016). Through the implementation of a comprehensive and strong regulatory framework, credit risk can be managed effectively.

### 3.4.2. External determinants (Macro-economic factors)

#### *3.4.2.1 Inflation*

A persistent price increase has both direct and indirect effects on the bank's overall operating costs and earnings, making it one of the macroeconomic factors influencing bank profitability (Gupta & Mahakud, 2020). According to Siddik et al. (2016), this is determined by the consumer price

index's yearly percentage change. Banks attempt to forecast the rate of inflation in order to modify lending, deposit rates, and total assets in order to improve bank returns (Mawutor et al., 2023; Horobet et al., 2021). By this, banks pass the inflation cost to customers, and hence inflation has a positive impact on net interest margin, being a profitability indicator (Batten & Vo, 2019) (Tan & Floros, 2012). However, because the link between inflation and profitability is unclear, the majority of research show that inflation has no discernible impact on bank income. (Almaskati, 2022; Kumar & Bird, 2020).

#### *3.4.2.2 GDP*

it serves as an extensive measure of total economic activity in the country and is regarded as the healthiest economic indicator (Ammar & Boughrara, 2019). Increased GDP is positively correlated with higher per capita income, which encourages savings and deposit growth and makes money more affordable for banks. This, in turn, increases demand for loans at lower interest rates, ultimately boosting bank profitability and economic growth (Prenaj et al., 2024). In determining the bank's profitability GDP is measured as annual GDP growth of the country (Vu & Nahm, 2013; Pham et al., 2022). Impact of GDP on banks profitability can be negative when banks operate in highly competitive environment, where interest and profit margins are dynamic (Knezevic & Dobromirov, 2016; Sufian & Habibullah, 2010). Another part claims that GDP has no significant impact on banks profitability, irrespective of developed, developing and under developed countries (Bucevska & Misheva, 2017; Shehzad et al., 2013).

#### *3.4.2.3 Exchange rate*

It is the real exchange rate measured as the average exchange rate during the year or Foreign Exchange Rate (FOREX) (Priharta & Gani, 2023). Studies prove exchange rate have negative impact on profitability due to translation; credit risk, and currency exposure risk associated with it in banking sector over the years (Almaqtari et al., 2018; Endri et al., 2020).

#### *3.4.2.4 Other determinants*

Market power and price (Manurung & Hutahayan, 2020; Siagian, 2023), corporate social responsibility (Vicente-Ramos et al., 2020), banks ownership, board size composition (Tanna et al., 2011), globalization (Sufian et al., 2017), and risk adjusted returns (Sanni et al., 2020) are few factors which have significant but, indirect impact when compared to all other macro and micro economic determinants of profitability.

## 4. Conclusion and Practical implications

Scientific communities and practitioners have been paying more attention to the Bank's profitability in recent years. The purpose of this paper is to use PRISMA principles to reveal the factors that influence bank profitability in systematic literature reviews. These searches were conducted only using the Scopus database. Notwithstanding its narrow scope, selective inclusion, database, citation, and language bias, this study only represents a first step in determining, categorizing, arranging, and evaluating the factors that influence bank profitability. In order to provide the foundation for implementation and further study, the research topic has been assessed using both internal and external criteria.

Comparing internal elements like bank size, liquidity, capital adequacy, asset quality, credit risk, and operational efficiency to external factors like inflation, GDP, currency rates, market power, and interest rates, banks have direct influence over the former. Capital and operating costs are rising as developing nations prioritize the integration of financial technology for infrastructure development. Under such conditions, the profitability of banks is not significantly impacted by internal issues. Profitability is anticipated to be significantly impacted until the banks have recovered their investment through asset quality in accordance with banking standards, enhanced credit policies, diversification of financial assets, and efficient operating methods. However, there are healthy internal drivers that can concurrently address the detrimental effects of external determinants on profitability. For example, a decline in GDP or a rise in inflation have an adverse effect on bank profitability. In order to overcome these situations and improve their profitability, banks often modify their lending and deposit rates. Similar to this, operational changes and financial diversification can counteract the exchange rate's detrimental effects. External factors are clearly indirectly controlled by internal factors such as asset quality, capital sufficiency, and operational efficiency. Due to robust microeconomic fundamentals and steady banking policy, the banking industry has weathered several crises over the past 20 years, including pandemics, economic recessions, and globalization.

For academicians, this systematic review provides a compiled body of knowledge that might guide future research initiatives. By examining the factors that influence bank profitability, scholars can spot possible gaps in the literature and develop research questions for more study. Researchers may use this underlying information to help them develop experiments that test novel theoretical frameworks and investigate understudied topics. However, by obtaining a thorough understanding of the operational and strategic elements that might affect banks' profitability, bankers and other financial professionals can learn from this methodical assessment. Banks are able to make well-informed judgments on risk management, product offerings, strategic positioning, and resource allocation because of factors including capital sufficiency, operational efficiency, and market circumstances. In addition, practitioners can use the review's findings to compare their performance to industry norms. By doing this, banks are able to assess their own procedures and pinpoint areas that require more development. In general, this study promotes a better comprehension of the intricate interactions among many factors that affect bank profitability, thereby enhancing the stability and effectiveness of the financial system.

## 5. Future scope of the study

The factors that affect bank profitability may be the subject of future research since this area is particularly interesting and complex, offering a wealth of options for in-depth academic study. An important topic for future research is the integration of new elements pertaining to financial technology and digital banking, as the banking sector continues its progressive evolution, especially in response to technological advancements, heightened competition, and shifting economic conditions. It is crucial to focus on the impact of digital transformation and financial technology advancements on profitability in order to analyze how certain financial technology tactics might be strategically used by banks to improve their financial performance. Furthermore, research on the relationship between cutting-edge financial technology and conventional banking is highly desirable. Fintech firms, government involvement, and automation through artificial intelligence are a few examples of elements that might be used as exploratory variables while evaluating bank profitability. Additionally, using cutting-edge analytical methods like big data

analytics and machine learning to the study of bank profitability may be an intriguing avenue for further investigation. By using these approaches, researchers might find intricate linkages and patterns that conventional statistical methods would miss. In an increasingly data-driven banking environment, this method may be especially helpful in comprehending the dynamic nature of profitability factors. By enabling a rapid growth in both non-interest revenue and interest-generating activities through financial technology, technological advancements have simplified banking procedures and improved efficacy.

**Ethical approval and informed consent statements**

This article does not contain any studies with human participants performed by the authors.

**Missing data availability statement**

The datasets generated during and/or analyzed during the current study are available from the corresponding author upon reasonable request.

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**Conflicts of interest**

The authors declare no conflict of interest.

**Reference**

1. Morris, C. S. (2011). What should banks be allowed to do. Econometric Reviews, 96(4), 55–80. https://www.kansascityfed.org/publicat/econrev/pdf/11q4Morris.pdf
2. Sharma, D. (2016b). Nexus between financial inclusion and economic growth. Journal of Financial Economic Policy, 8(1), 13–36. https://doi.org/10.1108/jfep-01-2015-0004
3. Siyer, E., & K, S. (2014). Finance is the oil of wheel, marrow of bones and spirit of trade, commerce and industry - an analytical elucidation. International Journal of Innovative Research in Science Engineering and Technology/International Journal of Innovative Research in Science, Engineering and Technology, 03(09), 16308–16314. https://doi.org/10.15680/ijirset.2014.0309072
4. Hosen, M. Z. (2020). Internal factors influencing the profitability of commercial banks in Bangladesh. International Journal of Economics and Financial Research, 67, 192–200. https://doi.org/10.32861/ijefr.67.192.200
5. Ahmed, A., & N'Dri, K. S. (2021). Determinants of Banks Profitability: Empirical Evidence from Ghana's Commercial Banking Industry. International Journal of Economics and Financial Research, 74, 175–189. https://doi.org/10.32861/ijefr.74.175.189
6. Begimkulov, E. (2023). COMPETITIVENESS IN BANKING SECTOR: A SYSTEMATIC LITERATURE REVIEW. Marketing & Menedzsment, 56(4), 47–56. https://doi.org/10.15170/mm.2022.56.04.05
7. Murthy, Y. S. R. (2004). Financial ratios of major commercial banks. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1015238
8. Singh, D. (2010). Bank Specific and Macroeconomic Determinants of bank Profitability: The Indian Evidence. Paradigm a Management Research Journal, 14(1), 53–64. https://doi.org/10.1177/0971890720100107

9. Pervan, M., Pelivan, I., & Arnerić, J. (2015). Profit persistence and determinants of bank profitability in Croatia. Economic Research-Ekonomska Istraživanja, 28(1), 284–298. https://doi.org/10.1080/1331677x.2015.1041778
10. Claessens, S., & Laeven, L. (2004). What drives bank competition? Some international evidence. Journal of Money Credit and Banking, 36(3b), 563–583. https://doi.org/10.1353/mcb.2004.0044
11. Dapp, T. F. (2017). Fintech: The digital transformation in the financial sector. In CSR, sustainability, ethics & governance (pp. 189–199). https://doi.org/10.1007/978-3-319-54603-2_16
12. Albulescu, C. T. (2015b). Banks' Profitability and Financial Soundness Indicators: A Macro-level investigation in Emerging countries. Procedia Economics and Finance, 23, 203–209. https://doi.org/10.1016/s2212-5671(15)00551-1
13. Amare, A. (2021). Capital structure and profitability: Panel data evidence of private banks in Ethiopia. Cogent Economics & Finance, 9(1). https://doi.org/10.1080/23322039.2021.1953736
14. Rahman, M. M., Hamid, M. K., & Khan, M. a. M. (2015). Determinants of Bank Profitability: Empirical Evidence from Bangladesh. International Journal of Business and Management, 10(8). https://doi.org/10.5539/ijbm.v10n8p135
15. Chhaidar, A., Abdelhedi, M., & Abdelkafi, I. (2022). The effect of financial technology investment level on European banks' profitability. Journal of the Knowledge Economy, 14(3), 2959–2981. https://doi.org/10.1007/s13132-022-00992-1
16. Akther, T., Rahman, M., & Rahman, M. M. (2023). Factors influencing commercial bank profitability in Bangladesh: a panel data approach. Future Business Journal, 9(1). https://doi.org/10.1186/s43093-023-00247-8
17. Bushashe, M. A. (2023). Determinants of private banks performance in Ethiopia: A partial least square structural equation model analysis (PLS-SEM). Cogent Business & Management, 10(1). https://doi.org/10.1080/23311975.2023.2174246
18. Petticrew, M., & Roberts, H. (2006). Systematic reviews in the social sciences: a practical guide. Choice Reviews Online, 43(10), 43–5664. https://doi.org/10.5860/choice.43-5664
19. Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., . . . McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. BMJ, n160. https://doi.org/10.1136/bmj.n160
20. Ariyadasa, C., Selvanathan, E. A., Siddique, M. a. B., & Selvanathan, S. (2016). On the profitability of commercial banks: the Sri Lankan case. Applied Economics, 49(21), 2106–2116. https://doi.org/10.1080/00036846.2016.1231909
21. Saona, P., & Azad, M. a. K. (2018). Bank- and country-based determinants of banks' performance in Asia. Journal of the Asia Pacific Economy, 23(3), 428–446. https://doi.org/10.1080/13547860.2018.1469585
22. Bolarinwa, S. T., Olayeni, R. O., & Vo, X. V. (2021). Is there a nonlinear relationship between nonperforming loans and bank profitability? Evidence from dynamic panel threshold. Managerial and Decision Economics, 42(3), 649–661. https://doi.org/10.1002/mde.3262

23. Shah, S. S. H., Gherghina, Ș. C., Dantas, R. M., Rafaqat, S., Correia, A. B., & Mata, M. N. (2023). The impact of COVID-19 pandemic on Islamic and conventional banks' profitability. Economies, 11(4), 104. https://doi.org/10.3390/economies11040104
24. Al-Homaidi, E. A., Al-Matari, E. M., Anagreh, S., Tabash, M. I., & Senan, N. a. M. (2021). The relationship between zakat disclosures and Islamic banking performance: Evidence from Yemen. Banks and Bank Systems, 16(1), 52–61. https://doi.org/10.21511/bbs.16(1).2021.05
25. Pham, M. H., & Nguyen, N. M. (2023). Bank funding diversity, risk and profitability: Evidence from Vietnam in the context of the Covid-19 pandemic. Cogent Business & Management, 10(1). https://doi.org/10.1080/23311975.2023.2191305
26. Sufian, F. (2012). Determinants of bank profitability in developing economies: empirical evidence from the South Asian banking sectors. Contemporary South Asia, 20(3), 375–399. https://doi.org/10.1080/09584935.2012.696089
27. Coccorese, P., & Girardone, C. (2020). Bank capital and profitability: evidence from a global sample. European Journal of Finance, 27(9), 827–856. https://doi.org/10.1080/1351847x.2020.1832902
28. Adusei, M. (2015). Bank profitability: Insights from the rural banking industry in Ghana. Cogent Economics & Finance, 3(1). https://doi.org/10.1080/23322039.2015.1078270
29. Isayas, Y. N. (2022). Determinants of banks' profitability: Empirical evidence from banks in Ethiopia. Cogent Economics & Finance, 10(1). https://doi.org/10.1080/23322039.2022.2031433
30. Al-Homaidi, E. A., Tabash, M. I., Farhan, N. H. S., & Almaqtari, F. A. (2018). Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. Cogent Economics & Finance, 6(1), 1548072. https://doi.org/10.1080/23322039.2018.1548072
31. Sufian, F. (2009). Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from the China Banking Sector. Journal of Asia-Pacific Business, 10(4), 281–307. https://doi.org/10.1080/10599230903340205
32. Neves, M. E., Proença, C., & Dias, A. (2020). Bank Profitability and Efficiency in Portugal and Spain: A Non-Linearity Approach. Journal of Risk and Financial Management, 13(11), 284. https://doi.org/10.3390/jrfm13110284
33. Mohanty, B., & Sarkar, S. (2020). Impact of Bank-Specific and external factors on profitability: An empirical study of PSU banks in India. Journal of Asia-Pacific Business, 21(3), 227–242. https://doi.org/10.1080/10599231.2020.1783983
34. Abdeljawad, I., & Bahlaq, A. (2023). Determinants of net interest margin for banks operating in Palestine. An-Najah University Journal for Research - B (Humanities), 37(8), 1565–1594. https://doi.org/10.35552/0247.37.8.2076
35. Gulati, R., Charles, V., Hassan, M. K., & Kumar, S. (2023). COVID-19 crisis and the efficiency of Indian banks: Have they weathered the storm? Socio-Economic Planning Sciences, 88, 101661. https://doi.org/10.1016/j.seps.2023.101661
36. Chauhan, S., Kumar, S., Singh, A., & Jain, M. K. (2022). Does digitisation affect the technical efficiency of Indian banks. International Journal of Electronic Finance, 11(4), 291. https://doi.org/10.1504/ijef.2022.126480
37. Herdhayinta, H., & Supriyono, R. (2019). DETERMINANTS OF BANK PROFITABILITY: THE CASE OF THE REGIONAL DEVELOPMENT BANK (BPD

BANK) IN INDONESIA. Journal of Indonesian Economy and Business, 34(1), 1. https://doi.org/10.22146/jieb.17331

38. Sufian, F., & Noor, M. a. N. M. (2009). The determinants of Islamic banks' efficiency changes. International Journal of Islamic and Middle Eastern Finance and Management, 2(2), 120–138. https://doi.org/10.1108/17538390910965149
39. Olarewaju, O. M. (2020). Investigating the factors affecting nonperforming loans in commercial banks: The case of African lower middle-income countries. African Development Review, 32(4), 744–757. https://doi.org/10.1111/1467-8268.12475
40. Tan, Y. (2019). Competition and Profitability in the Chinese Banking Industry: New Evidence from Different Ownership Types. Journal of Industry Competition and Trade, 20(3), 503–526. https://doi.org/10.1007/s10842-019-00305-4
41. Roy, S., Misra, A. K., Padhan, P. C., & Rahman, M. R. (2019). Interrelationship among Liquidity, Regulatory Capital and Profitability- A Study on Indian Banks. Cogent Economics & Finance, 7(1), 1664845. https://doi.org/10.1080/23322039.2019.1664845
42. Jeris, S. S. (2021). Factors influencing bank profitability in a developing economy. International Journal of Asian Business and Information Management, 12(3), 333–346. https://doi.org/10.4018/ijabim.20210701.oa20
43. Sah, G. K., & Pokharel, S. P. (2023). Analysis of Financial Performance of Nepalese Commercial Banks using CAMEL Approach. Cognition, 5(1), 37–49. https://doi.org/10.3126/cognition.v5i1.55405
44. Ohman, P., & Yazdanfar, D. (2018). Organizational-level profitability determinants in commercial banks: Swedish evidence. Journal of Economic Studies, 45(6), 1175–1191. https://doi.org/10.1108/jes-07-2017-0182
45. Zarrouk, H., Jedidia, K. B., & Moualhi, M. (2016b). Is Islamic bank profitability driven by same forces as conventional banks? International Journal of Islamic and Middle Eastern Finance and Management, 9(1), 46–66. https://doi.org/10.1108/imefm-12-2014-0120
46. Ngweshemi, L. E., & Isiksal, A. Z. (2021). Analysis of the factors affecting bank profitability: Evidence of Tanzania Commercial Banks. Studies of Applied Economics, 39(8). https://doi.org/10.25115/eea.v39i8.4768
47. Boateng, A., Huang, W., & Kufuor, N. K. (2015). Commercial bank ownership and performance in China. Applied Economics, 47(49), 5320–5336. https://doi.org/10.1080/00036846.2015.1047089
48. Abdelmoneim, Z., & Yasser, M. (2023). The impact of bank performance and economic growth on bank profitability: CAMEL model application in middle-income countries. Banks and Bank Systems, 18(3), 205–220. https://doi.org/10.21511/bbs.18(3).2023.1
49. Bolarinwa, S. T., Obembe, O. B., & Olaniyi, C. (2019). Re-examining the determinants of bank profitability in Nigeria. Journal of Economic Studies, 46(3), 633–651. https://doi.org/10.1108/jes-09-2017-0246
50. Saleh, I., & Afifa, M. A. (2020). The effect of credit risk, liquidity risk and bank capital on bank profitability: Evidence from an emerging market. Cogent Economics & Finance, 8(1), 1814509. https://doi.org/10.1080/23322039.2020.1814509
51. Kumar, V., & Bird, R. (2020b). Factors influencing the profitability of banks in India and China. Applied Economics Letters, 29(5), 371–375. https://doi.org/10.1080/13504851.2020.1869153
52. Pires, C., & Basílio, M. (2021). Determinants of Portuguese banks' profitability: an update. Tourism & Management Studies, 17(3), 63–70. https://doi.org/10.18089/tms.2021.170305

53. Altarawneh, M. H., & Shafie, R. (2018). Risks and bank performance in Jordan. Academy of Accounting and Financial Studies Journal, 22(6), 1-15.
54. Abel, S., & Le Roux, P. (2016). Determinants of banking sector profitability in Zimbabwe. International Journal of Economics and Financial Issues, 6(3), 845-854.
55. Gupta, N., & Mahakud, J. (2020). Ownership, bank size, capitalization and bank performance: Evidence from India. Cogent Economics & Finance, 8(1), 1808282. https://doi.org/10.1080/23322039.2020.1808282
56. Siddik, M. N. A., Sun, G., Kabira, S., Shanmugan, J., & Yanjuan, C. (2016). IMPACTS OF E-BANKING ON PERFORMANCE OF BANKS IN a DEVELOPING ECONOMY: EMPIRICAL EVIDENCE FROM BANGLADESH. Journal of Business Economics and Management, 17(6), 1066–1080. https://doi.org/10.3846/16111699.2015.1068219
57. Mawutor, J. K. M., Boadi, I., Antwi, S., & Tetteh, A. B. (2023). Improving banks' profitability through income diversification and intellectual capital: The sub-Saharan Africa perspective. Cogent Economics & Finance, 11(2). https://doi.org/10.1080/23322039.2023.2271658
58. Batten, J., & Vo, X. V. (2019). Determinants of Bank Profitability—Evidence from Vietnam. Emerging Markets Finance and Trade, 55(6), 1417–1428. https://doi.org/10.1080/1540496x.2018.1524326
59. Tan, Y., & Floros, C. (2012). Bank profitability and inflation: the case of China. Journal of Economic Studies, 39(6), 675–696. https://doi.org/10.1108/01443581211274610
60. Almaskati, N. (2022). The determinants of bank profitability and risk: A random forest approach. Cogent Economics & Finance, 10(1). https://doi.org/10.1080/23322039.2021.2021479
61. Kumar, V., & Bird, R. (2020). Factors influencing the profitability of banks in India and China. Applied Economics Letters, 29(5), 371–375. https://doi.org/10.1080/13504851.2020.1869153
62. Ammar, N., & Boughrara, A. (2019). The impact of revenue diversification on bank profitability and risk: evidence from MENA banking industry. Macroeconomics and Finance in Emerging Market Economies, 12(1), 36–70. https://doi.org/10.1080/17520843.2018.1535513
63. Prenaj, V., Miftari, I., & Berisha, S. (2024). The Determinants of Profitability of Western Balkan Countries Commercial Banks: A panel Data Approach. (2024b). Economic Alternatives, 30(2), 243–258. https://doi.org/10.37075/ea.2024.2.02
64. Vu, H., & Nahm, D. (2013). The determinants of profit efficiency of banks in Vietnam. Journal of the Asia Pacific Economy, 18(4), 615–631. https://doi.org/10.1080/13547860.2013.803847
65. Pham, N. H., Hoang, T. M., & Pham, N. T. H. (2022). The impact of capital structure on bank profitability: evidence from Vietnam. Cogent Business & Management, 9(1). https://doi.org/10.1080/23311975.2022.2096263
66. Knezevic, A., & Dobromirov, D. (2016). The determinants of Serbian banking industry profitability. Economic Research-Ekonomska Istraživanja, 29(1), 459–474. https://doi.org/10.1080/1331677x.2016.1174390
67. Sufian, F., & Habibullah, M. S. (2010). Developments in the efficiency of the Thailand banking sector: a DEA approach. International Journal of Development Issues, 9(3), 226–245. https://doi.org/10.1108/14468951011073316

68. Bucevska, V., & Misheva, B. H. (2017). The determinants of profitability in the banking industry: Empirical research on selected Balkan countries. Eastern European Economics, 55(2), 146–167. https://doi.org/10.1080/00128775.2016.1260473
69. Shehzad, C. T., De Haan, J., & Scholtens, B. (2013). The relationship between size, growth and profitability of commercial banks. Applied Economics, 45(13), 1751–1765. https://doi.org/10.1080/00036846.2011.637896
70. Priharta, A., & Gani, N. A. (2023). Determinants of bank profitability: Empirical evidence from Republic of Indonesia state-owned banks. Contaduría Y Administración, 69(3). https://doi.org/10.22201/fca.24488410e.2024.4999
71. Almaqtari, F. A., Al-Homaidi, E. A., Tabash, M. I., & Farhan, N. H. (2018). The determinants of profitability of Indian commercial banks: A panel data approach. International Journal of Finance & Economics, 24(1), 168–185. https://doi.org/10.1002/ijfe.1655
72. Endri, E., Marlina, A., & Hurriyaturrohman, N. (2020). Impact of internal and external factors on the net interest margin of banks in Indonesia. Banks and Bank Systems, 15(4), 99–107. https://doi.org/10.21511/bbs.15(4).2020.0
73. Manurung, A. H., & Hutahayan, B. (2020). Determinants of market power of Indonesia's Bank. International Journal of Scientific and Technology Research, 9(4), 1059–1062. https://www.ijstr.org/final-print/apr2020/Determinants-Of-Market-Power-Of-Indonesias-Bank.pdf
74. Siagian, P. (2023). Determinants of Banking Operational Efficiency and the Relationship Between the Factors to Market Price: Evidence from Indonesia. Economics, 11(2), 153–168. https://doi.org/10.2478/eoik-2023-0051
75. Vicente-Ramos, W., Reymundo, K. G. C., Pari, L. J. E., Rudas, N. M. N., & Rodriguez, P. B. V. (2020). The effect of good corporate governance on banking profitability. Management Science Letters, 2045–2052. https://doi.org/10.5267/j.msl.2020.2.007
76. Tanna, S., Pasiouras, F., & Nnadi, M. (2011). The effect of board size and composition on the efficiency of UK banks. International Journal of the Economics of Business, 18(3), 441–462. https://doi.org/10.1080/13571516.2011.618617
77. Sufian, F., Kamarudin, F., & Nassir, A. M. (2017). Globalization and bank efficiency nexus: empirical evidence from the Malaysian banking sector. Benchmarking an International Journal, 24(5), 1269–1290. https://doi.org/10.1108/bij-09-2014-0090
78. Sanni, M., Salami, A. A., & Uthman, A. B. (2020). Determinants of Bank Performance in Nigeria: Do they Behave Differently with Risk-Adjusted Returns? Studia Universitatis „Vasile Goldis" Arad – Economics Series, 30(3), 1–34. https://doi.org/10.2478/sues-2020-0015