Competitiveness in Banking Sector: A Systematic Literature Review

Emil Begimkulov
University of Pécs

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THE AIMS OF THE PAPER

The current paper explores the directions and trends of research on the concept of banking system competition by reviewing published scientific articles. Based on the results, it provides scientific and practical implications.

METHODOLOGY

The research follows the systematic literature review method. First, a set of keywords were defined. Then, the keywords were used to identify articles in Web of Science and Scopus. The identified articles were filtered and screened following the PRISMA method of selection. At the final stage, 61 articles were included.

MOST IMPORTANT RESULTS

Based on the analysis of scientific literature, the study identified the main research streams on bank competition: risk-stability, market power, macroeconomic context, bank activities, new approaches, and digitalization. At the same time, there exist significant inconsistencies in scholarly findings on the relationship between competition and research streams.

RECOMMENDATIONS

Based on the findings, the article proposes conceptual and practical implications. Scientists should consider the existing mixed effects of competition on research streams. Policymakers, bank owners, and managers can utilize the synthesized results of the study to improve bank competitiveness and performance based on different competitive scenarios.

Keywords: bank competitiveness, competition, risk, stability, market power, digitalization, systematic literature review

INTRODUCTION

The banking sector represents one of the most significant sectors of an economy. The average bank assets to GDP ratio of 142 countries is around 73.31% (The Global Economy 2020). The core activity of the banking system, accepting deposits and providing loans, makes commercial banks essential players in the economic activity (Melicher & Norton 2013). In this sense, any shocks to the banking sector influence the whole economy. As a result, studying and understanding bank competitiveness has recently become an important issue. Like other industries, competition in the banking sector affects the quality and price of financial products, services, and innovation (Claessens & Laeven 2004).

Moreover, technological innovation continuously affects the competition within the financial industry (Brandl & Hornuf 2020). Cash circulation has decreased in many developed countries due to the increased use of electronic payment methods (BIS 2017). At the same time, Fintech companies successfully provide alternative services.

In addition, commercial banks are constantly affected by internal competition from other domestic and foreign banks. Strict requirements and regulations established by national/central banks do not provide much flexibility even if banks wish to. Because of this, banks often find themselves "between a rock and a hard place." On the one side, competition benefits the end-users and the national economy by providing lower prices, better customer service, etc. On the other side, increased competition in commercial banking forces banks to take on more risk (Davis & Karim 2019).

Against the abovementioned backdrop, the concept of competition in the banking sector has recently received increased attention among scholars and practitioners (Zigraiova & Havranek 2016, OECD 2020). Thus, the current systematic literature review (SLR) focuses on exploring the directions and trends of research on bank competitiveness by reviewing recently published scientific articles. Based on the study results, the paper proposes a roadmap for future research of less investigated areas and provides practical implications for policymakers and bank managers.

METHODOLOGY

The author followed the SLR method by Petticrew & Roberts (2006). Keywords for the literature search were based on the core research topic and included "bank", "competit*", and "index". The author used keywords to identify the published journal articles in Web of Science and Scopus. The initial search was conducted in March 2022 and updated in February 2023. Articles were identified by combining the keywords with the help of the Boolean operator "AND" among author keywords. This resulted in 158 screens in Web of Science and 77 in Scopus. Next, only journal articles were selected by excluding conference proceedings (n = 35), resulting in 141 articles on the Web of Science and 59 in Scopus.

Further, the author excluded irrelevant fields of studies by limiting only to "Economics", "Business", "Business Finance", "Management", and "Operations Research Management" in Web of Science; and "Business, Management, and Accounting" and "Economics, Econometrics, and Finance" in Scopus (n=30). This resulted in 127 articles on the Web of Science and 43 in Scopus. Further, duplicates between the two databases were manually identified and deleted (n=29), resulting in 141 articles for the further title and abstract screening. At the title and abstract screening stage, the author cleared out all articles focused on irrelevant segments of business and fields of science (n=35). The remaining 106 articles were downloaded for full-text reading. At this stage, the author excluded articles based on different criteria (e.g., low quality, other languages, wrong DOI, paid access, etc.) (n=45).

In the final step, the author selected 61 articles. Figure 1 demonstrates the PRISMA flow diagram of literature selection per Page *et al.* (2021).

OVERVIEW OF IDENTIFIED STUDIES

The identified articles were published between 2006 and 2022 (Figure 2). The interest in studying the competitiveness of banks had significantly grown after 2012, peaking in 2022.

According to SCImago (2023), 44% of selected articles were published in Q1-ranked journals, 34% in Q2, 8% in Q3, 2% in Q4, and 11% in unidentified by SJR journals.

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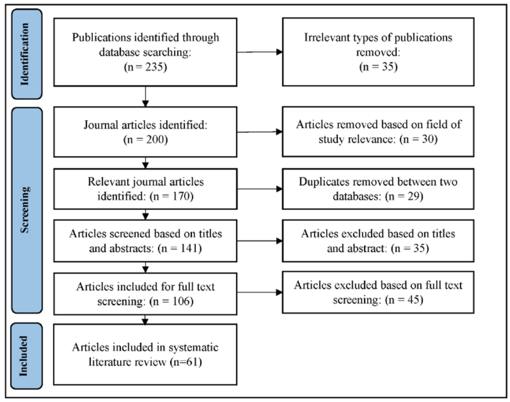
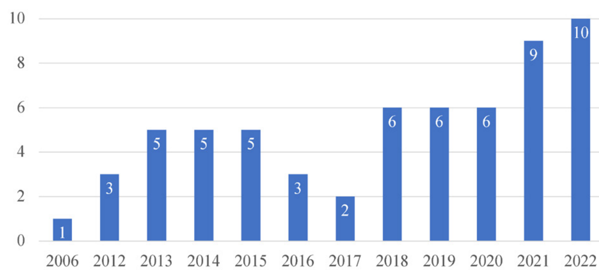
Figure 1. PRISMA Flow Diagram of the literature selection process



Source: own construction based on Page et al. (2021)

Figure 2. Number of publications per year (n=61)



Source: own construction

FINDINGS AND DISCUSSION

Concept of competition

Competition is a complex, dynamic, and multidimensional concept (Grant 1991, Barney 1995). Competition in banking becomes even more complex due to the specificity of the sector (Leon 2014). First, banks as organizations can be viewed from production and intermediation angles. According to the production approach, banks are considered providers of services by producing loans and deposits. On the contrary, in the intermediation approach, banks act as connectors between depositors and borrowers (Leon 2014).

From the methodological perspective, the literature on measuring competitiveness is based on two models: the Structure-Conduct-Performance (SCP) and the New Empirical Industrial Organization (NEIO) (Leon 2014). The SCP is based on market structural characteristics (e.g., number of companies, size, market, etc.), which influence the conduct variable of firms (e.g., pricing, quality, expenses, etc.), which affect the performance (e.g., profitability) (Mason 1939, Bain 1956). There are three key measures in SCP: the number of companies (Tirole 1988), the concentration ratio (Hall & Tideman 1967), and the Herfindahl-Hirschman Index (HHI) (Hirshman 1964).

The NEIO directly observes the firms based on price, cost, profit, etc. (Leon 2014). The NEIO approach includes such methods as the Lerner Index (LI) (Lerner 1934), the Panzar-Rosse Model (PRM) (Panzar & Rosse 1987), and the Boone Indicator (BI) (Boone 2008). Unlike SCP, NEIO methods assess the competition and focus on the competitive behavior of banks based on various financial data.

Table 1. Research streams and methods

Methods / Streams	Lerner Index	Panzar-Rosse	HH Index	Boone Indicator	New	Total
Risk-stability	16	3	3	2	1	25
Market power	8	3	2	1	2	16
Macroeconomic context	6	1		2		9
Bank activities	2	1	1	1	1	6
New approaches	1				2	3
Digitalization	2					2
Total	35	8	6	6	6	61

Source: own construction

Research streams

The analysis of selected articles identified specific streams within which competitiveness was researched (Table 1).

Risk-stability

The relationship between bank risk and competitiveness is highly discussed at the academic level (Anginer *et al.* 2014, Apergis 2015, Apergis *et al.* 2015, Ferrari & Tran 2022). In terms of bank risk, scientists still debate whether high competition is beneficial or not. Some scientists claim that lack of competition in the banking sector leads to the fragility of the financial system, with banks charging higher interest rates and taking on more risk (Akande *et al.* 2018, Cuestas *et al.* 2020, López-Penabad et al. 2021). Another part claims that banking systems with fewer banks are more stable (Allen & Gale 2004, Jiménez *et al.* 2013, Leroy & Lucotte 2017, Khattak *et al.* 2022).

It has been discovered that the relationship between risk and competitiveness depends on a regulatory system (Anginer *et al.* 2014). Banks go for higher risks in countries with inadequate bank regulations, higher government ownership of banks, and low competition support via policies (Anginer *et al.* 2014). On the other hand, adequate banking sector regulations significantly improve competition and risk-stability relationships. Stricter rules aimed at protecting the rights of creditors and investors positively affect banks (Biswas 2019).

Also, the risk-competitiveness relationship varies depending on the time frame and different measures of competitiveness. In the short-run higher market power brings higher risks into the banking systems (Davis & Karim 2019). In the long run, the results were mixed with competitiveness measured via PRM, showing a negative risk relationship, while the LI positively correlated with risk (Kasman & Kasman 2015, Davis & Karim 2019). The differences in risk also occur between the different types of banks. For example, lack of competition leads state-wide banks to have higher risks than regional banks and credit cooperatives (Liu & Wilson 2012). Increased competition decreases risk at the level of state banks and increases risk at regional banks (Alvi *et al.* 2021).

Market power

The lack of agreement regarding the assessment of competitiveness resulted in ongoing discussions on bank market power (Prayoonrattana *et al.* 2020). Lapteacru (2014) compared the popular measures of bank competition: HHI, LI, and PRM, and revealed that each yields specific information, and using them interchangeably may not be appropriate.

Furthermore, the relationship between market power and the level of competition varies depending on the region. For instance, there is a negative correlation between market power and competitiveness in ASEAN countries (Khan *et al.* 2017, Astuti & Saputra 2019) and a positive in MENA countries (Polemis 2015, El Moussawi & Mansour 2022).

Different types of banks within the same country also demonstrate different relationships between market power and competitiveness. State-owned banks have worse competitiveness indicators due to financial monopoly, limited decision-making, and strong influence of state policies (Dai & Guo 2020). In dual banking systems with Islamic and conventional banks, Islamic banks in Islamic sta-

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tes have more market power than traditional banks, while in non-Islamic states, it is the opposite (Kabir Hassan *et al.* 2021, Khattak *et al.* 2022, (Risfandy *et al.* 2022).

Also, the relationship between competition and the market power of banks depends on the level of regulation. For instance, stronger control of banks and stricter monetary policy positively affect their market power due to increased availability and ownership of short-term government treasury bills (Al-Muharrami *et al.* 2006, Simpasa 2013).

Macroeconomic context

The effect of bank competition on the macroeconomic context also varies depending on the region. For instance, in South Asian countries, a solid and positive relationship exists between bank competition and long-term economic growth (Rakshit & Bardhan 2019). Increased competition in the Chinese banking system negatively affected the spread of monetary policy on bank lending activity (Yang & Shao 2016). In contrast, in the European banking system, higher market power implied a better spread of monetary policy and access of banks to alternative funding (Marius Andrieş & Căpraru 2012, Fungáčová *et al.* 2014, Leroy 2014).

Similarly, different national and international regulations have a mixed influence on competition. For example, the level of entry barriers to protect the domestic banking system from foreign banks adversely affects competition (Khiabani & Hamidisahneh 2012, Apergis *et al.* 2015, Ferrari & Tran 2022). On a cross-national level, scientists revealed a different effect of international policies on bank competition from various methods of estimating competition (Okolelova & Bikker 2022). Bank sector consolidations negatively affect competition (Chung & Mohd 2018). Similarly, within broader financial integration (e.g., throughout European countries), competitiveness also decreased (Mirzaei & Moore 2014, Karadima & Louri 2020). Proper anti-trust policies in the banking system could help to ensure a level playing field among all financial services market participants (Khan *et al.* 2017).

Bank activities

Competition in the banking sector directly affects the availability of bank services to the population. In competitive and concentrated banking systems, the consumers of banking services have limited (Chong *et al.* 2013) or increased access to financial services (Leon 2015).

The level of competitiveness of the banking system directly influences bank strategies. To attract borrowers, private banks sometimes lower interest rates and gradually increase them (Ornelas *et al.* 2022). Government banks, on the other hand, tend to decrease interest rates as the relationship with the borrowers evolves (Ornelas *et al.* 2022). Under high competition, the level of bank management positively affects profit (Ho & Nguyen 2022).

Competition positively correlates with return on assets and equity and negatively with net interest margin earned on issued loans (Zoghlami & Bouchemia 2021). Yet, competition is positively associated with loan growth (Yang & Shao 2016) and social engagement (Forgione & Migliardo 2020). However, high competition negatively impacts bank profitability (Khattak & Ali 2021, Ho & Nguyen 2022) and the market capitalization of banks (Căpraru *et al.* 2020).

Foreign banks in less developed countries are usually more profitable than domestic banks (Chen & Hsu 2022). Also, banks with higher regulative freedom are more profitable than banks operating in more restrictive banking systems (Sarpong-Kumankoma *et al.* 2018, 2020).

New Approaches

Some scientists argued that the traditional methods of estimating competition are data intensive and underestimate the competition (Brämer *et al.* 2013; Gischer *et al.* 2015, Arrawatia *et al.* 2019). Because of this, the researchers proposed to simplify measures (Tsionas *et al.* 2018) by focusing only on specific bank activities (Gischer *et al.* 2015) and types of markets (Brämer *et al.* 2013).

Other authors focused on entirely new methods of estimating competition in the banking sector (Dincer 2019, Rahman & Misra 2021). For example, in the research conducted by Rahman & Misra (2021), the authors used Market Power Network Index (MNPI) based on the view that banks do not exist in isolation. Another new approach was implemented by Dincer (2019) to evaluate the level of competition and concentration using a multi-criteria decision-making approach within the fuzzy environment.

Digitalization

The growth of digital technologies and Fintechs brought the banking system to a new era, which has resulted in innovative changes in all parts of financial services (OECD 2020). Implementing the Payment Services Directive was pivotal in expanding Fintechs and digital financial ecosystems (Romānova *et al.* 2018). In addition, recent Covid-19 increased the importance of digital bank solutions (Rutskiy *et al.* 2021, Ding *et al.* 2022).

The growth and popularity of Fintechs have increased the competitive pressure on banks. Compared to banks, Fintechs provide faster and cheaper transactions, have fewer requirements, and provide better customer service (Chishti & Barberis 2016). Such competition improved banking systems by forcing banks towards customer-centric and platform-based business models (Vives 2019). Scientists also revealed that Fintechs allowed commercial banks to decrease risk levels (Deng *et al.* 2021). In addition, the collaboration of banks with Fintechs improved the long-term competitiveness and profitability of both (Vovk *et al.* 2021). The successful implementation of digital improvements helped mitigate the influence of information asymmetry, improved technical infrastructure and information protection, and increased the overall competitiveness of banks (Koetter & Noth 2013). Digitalization among financial service providers reduces the negative outcome of bank concentration by decreasing financial constraints (Vovk *et al.* 2021, Wang & Du 2022).

CONCLUSION AND IMPLICATIONS

The interest in bank competitiveness has increased the scientific community's attention in recent years. Despite limitations (financial, time, and space constraints), the study represents an initial step in classifying and organizing the research focus of empirical scientific literature on bank competition. Bank competition has been researched from various perspectives (streams), including bank risk-stability, market power, macroeconomic context, new methods, and digitalization. Identifying these research streams provides the basis for further development of the scientific area and its practical implementation, as discussed in further subsections.

Theoretical implications

The paper has identified significant inconsistencies in the relationship between the concept of bank competition and identified research streams. Therefore, it is suggested to focus on alternative and non-linear approaches to measuring the impact of competition on bank stability, market power, macroeconomic context, and various bank activities.

Next, although the growth of Fintech companies is believed to disrupt banks and heighten competitive pressure, they do not represent a severe threat to traditional banks. Cooperation with Fintech companies allows conventional banks to decrease risks and improve profits and digitalization. A bank's ability and willingness to adopt digital technology innovations are crucial in determining its competitiveness and profitability in the banking industry. So further research is needed to identify appropriate methods of estimating banks' digitalization levels and their impact on competition.

Also, measuring the competitiveness of banks remains a complex issue due to the absence of a consensus on the most appropriate methods. Moreover, traditional methods provide contradictory results regarding the competition. Future research in this area must continue exploring the most effective methods for measuring competitiveness and how best to apply them in different contexts, such as banks' digital transformation.

Practical implications

The research results can assist policymakers, bank owners, and managers. Policymakers can consider specific regulations depending on various competitive situations. For example, to positively affect bank competition, lowering the level of bank supervisory and increasing the flexibility of banking system regulations is suggested. This can be achieved by stimulating the banking system by attracting international banks and establishing lower interest rate margins. Proper anti-trust policies in the banking system can help to ensure a level playing field among all financial services market participants. As a result of correct decisions, policymakers can improve the overall economic and financial stability, access the population to credit and payment systems, and enhance banking system digitalization transformations.

Private bank owners and managers can use the study results to enhance performance based on competitive scenarios. Owners and managers of comparatively smaller banks can start by participating in various social activities to achieve a competitive advantage. In situations of high competition, bank managers can diversify revenue streams by actively investing in R&D activities, innovative products, and digital transformation processes. In case when banks do not have free resources to invest in digitalization, managers can consider cooperating with local Fintech companies, which

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improves the profits of both. High competition negatively impacts bank profitability, net interest margins, and the market capitalization of banks, so bank managers can consider adjusting their deposit and loan interest rates to attract more borrowers. The level of bank management positively correlates with profits and significantly influences the relationship between competition and bank performance. Therefore, owners and managers can focus on improving their management practices.

Emil Begimkulov, PhD student
JPUYSQ@pte.hu

University of Pécs

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