

# The Bibliometric Analysis of Bank Competition

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**Abstract**—This study presents a comprehensive bibliometric analysis of the scholarly literature review on bank competition spanning the period from 1936 to 2025. Drawing upon 743 Scopus-indexed publications, the analysis provides a longitudinal and thematic mapping of the intellectual structure, research trends, and influential contributions within the field. Using performance analysis and science mapping techniques—such as co-authorship networks, keyword co-occurrence, citation analysis, and bibliographic coupling—this study identifies four major research clusters: (1) regulation, stability, and inclusion; (2) market structure and risk-taking; (3) digital finance and financial constraints; and (4) efficiency, profitability, and risk. Prominent scholars like Thorsten Beck, Boyd & De Nicoló, and Claessens are identified as key contributors, while leading journals such as the *Journal of Banking and Finance* and *Journal of Money, Credit and Banking* serve as pivotal dissemination platforms. The analysis reveals underexplored areas including the role of fintech in shaping competitive dynamics, the intersection of bank competition with ESG finance, and the impact of global regulatory diversity. The study concludes by outlining future research directions, including non-linear effects of competition, post-pandemic resilience, and emerging issues such as open banking and digital identity frameworks. This work significantly advances both the methodological and conceptual understanding of bank competition and offers valuable insights for researchers, practitioners, and policymakers.

**Keywords:** Bank Competition, Bibliometric Analysis, and Literature Review

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## I. INTRODUCTION

The banking industry plays a central role in economic development by facilitating financial intermediation, enhancing credit allocation, and promoting financial stability. Within this context, bank competition has emerged as a critical theme in academic literature and policy debate, due to its implications for financial innovation, efficiency, stability, and inclusion (Claessens & Laeven, 2004; Berger et al., 2009). As financial markets evolve and new entrants, including fintech firms, challenge traditional banking models, understanding the dynamics of competition among banks becomes increasingly important.

The concept of bank competition has been extensively examined through various theoretical and empirical lenses. Seminal works such as those by Claessens and Laeven (2004) and Vives (2010) have established foundational insights into how competition influences bank performance, risk-taking, and access to finance. More recent studies explore competition within emerging markets, digital banking contexts, and post-crisis regulatory frameworks (Fungáčová, Pessarossi, & Weill, 2013; Leon, 2015). Despite the growing volume of literature, there is a lack of holistic synthesis capturing the evolution, thematic structures, and scholarly impact in the field of bank competition over time.

This study employs a bibliometric analysis (BA) to systematically map the knowledge structure and development of research on bank competition. Bibliometric analysis allows researchers to go beyond qualitative reviews by identifying patterns, relationships, and research frontiers quantitatively (Donthu et al., 2021). Although bibliometric analysis (BA) has long been

recognized as a robust methodological approach for evaluating research productivity and scholarly influence (Wallin, 2005), its application has recently gained significant traction in the field of business and management. This growing interest is largely attributed to BA's ability to systematically uncover publication trends, assess journal and article impact, map collaborative research networks, and identify core thematic areas within a discipline (Donthu et al., 2021a, 2021b; Khan et al., 2021).

While bibliometric techniques have been widely adopted in disciplines such as health sciences and engineering, recent contributions have emphasized their relevance and potential within the domain of finance and banking. Scholars such as Durisin and Puzone (2009) and Kumar et al. (2021) argue that finance-related research stands to benefit significantly from the methodological rigor offered by BA, especially in tracing the evolution of core topics, co-authorship dynamics, and influential academic contributions.

However, despite this growing methodological interest, the application of BA in banking and finance remains relatively underexplored. The studies conducted by Violeta and Gordana (2021), Ikra et al. (2021), and Alam et al. (2021) represent early yet limited attempts to utilize bibliometric techniques in this field. These efforts highlight the need for more comprehensive and updated bibliometric investigations, particularly in specialized areas such as bank competition. This study, therefore, aims to fill this gap by providing a longitudinal and thematic bibliometric mapping of scholarly output on bank competition from 1936 to 2025.

Accordingly, the study addresses the following research objectives (ROs):

- RO1: Identify the key themes used in bank competition over the past years (1936–2025);
- RO2: Identify the most impactful scholars on bank competition over the past years (1936–2025);
- RO3: Identify the sources in bank competition over the past years (1936–2025);
- RO4: Examine future research directions.

The current study significantly distinguishes itself from earlier bibliometric and systematic reviews in the finance and banking literature by offering a comprehensive, longitudinal analysis of *bank competition* across an expansive publication timeline, from 1936 to 2025. While prior bibliometric research in finance has often focused on broader themes—such as financial technology (Tao et al., 2022), Islamic finance (Saiti & Yucel, 2019), or risk management (Xu et al., 2021)—very few have specifically targeted *bank competition* as a standalone and evolving research domain. This focused approach enables the present study to offer a deeper and more targeted insight into how scholarly interest in bank competition has developed over the decades, including shifts in themes, geographical focus, and methodologies.

Moreover, unlike earlier studies that often analyzed short time spans or a narrow set of keywords, this research incorporates a large and diverse dataset of 743 Scopus-indexed publications, making it one of the most extensive bibliometric analyses on this topic to date. In doing so, the study not only maps the intellectual structure of bank competition research but also identifies future research directions by highlighting underexplored themes and collaboration gaps. For instance, the work of Alam et al. (2021) and Ikra et al. (2021), although valuable, focused on banking efficiency or performance using narrower bibliometric scopes, without offering a longitudinal view or linking findings directly to policy implications in a global context.

Additionally, by integrating both performance analysis (e.g., top authors, journals, institutions) and science mapping techniques

such as co-authorship and keyword co-occurrence networks, this study provides a holistic view of the research landscape—an approach not often seen in prior literature (Donthu et al., 2021a; Zupic & Čater, 2015). These findings are not only academically valuable but also offer critical insights for policymakers and regulatory bodies seeking to understand the competitive dynamics of the banking industry and their broader implications for financial stability and inclusion (Claessens, 2009; Vives, 2010).

Hence, this study makes a dual contribution: it advances bibliometric methodology within finance and banking while enriching the discourse on bank competition. This provides a valuable resource for researchers, policymakers, and practitioners to navigate past findings and explore future trajectories in the banking sector.

## **II. LITERATURE REVIEW**

### **II.I. EVOLUTION OF BANK COMPETITION RESEARCH**

The study of bank competition has evolved significantly over the decades, reflecting changes in financial systems, regulatory environments, and technological advancements. Early research primarily focused on the structural aspects of banking markets, examining how market concentration and competition levels influenced bank performance and financial stability (Bikker & Haaf, 2002). Subsequent studies expanded the scope to include the effects of competition on risk-taking behaviors, efficiency, and innovation within banks (Berger et al., 2009; Claessens & Laeven, 2004).

Recent literature has increasingly explored the interplay between bank competition and financial stability, particularly in the context of global financial crises. For instance, Beck et al. (2013) analyzed cross-country heterogeneity in the relationship between bank competition and stability, highlighting that the impact of competition varies depending on institutional and macroeconomic factors. Similarly, Goetz (2018) investigated how competition influences bank stability, finding that increased competition can lead to higher risk-taking, thereby affecting stability.

Other scholars have examined the dynamic nature of competition in the context of globalization and market liberalization. For example, Casu and Girardone (2006) applied frontier efficiency techniques to assess competitive conditions in European banking and concluded that deregulation had led to modest gains in competition. Similarly, Fernández de Guevara and Maudos (2011) used the Lerner Index to measure bank market power in Europe, noting a trend toward increased concentration and pricing power post-financial liberalization, raising concerns over consumer welfare and stability.

More recently, studies have emphasized the dual-edged nature of competition in banking. While competition is often viewed as beneficial for consumers through lower prices and increased innovation, it can also incentivize excessive risk-taking. Martínez-Miera and Repullo (2010) introduced a theoretical model showing a non-linear relationship between competition and stability, suggesting that there exists an optimal level of competition where the trade-off between risk and efficiency is minimized. Their model has since been empirically tested and validated in various contexts, providing a nuanced understanding of competitive dynamics in banking.

In emerging markets, the evolution of bank competition research has taken on additional dimensions, including the influence of state ownership, financial inclusion, and institutional quality. For instance, Fungáčová, Pessarossi, and Weill (2013) studied Chinese banks and found that increased competition improved efficiency but only when accompanied by robust institutional reforms. In the Southeast Asian context, Tan (2016) explored the competitive structure of banking in ASEAN countries and

found significant variation due to differing regulatory environments and market structures.

Digital disruption has introduced a new wave of competition in the banking sector. Fintech startups and digital banking platforms are reshaping competitive landscapes, pushing traditional banks to adopt innovative business models and technologies. Vives (2019) highlighted how digitalization reduces entry barriers and increases transparency, intensifying competitive pressures while also challenging existing regulatory frameworks. As digital finance continues to evolve, the research agenda is increasingly focused on understanding how these changes affect traditional metrics of competition and stability.

## **II.II. METHODOLOGIES IN BANK COMPETITION STUDIES**

Various methodologies have been employed to assess bank competition, including structural and non-structural approaches. Structural methods often utilize concentration ratios like the Herfindahl-Hirschman Index (HHI) to measure market concentration, while non-structural methods, such as the Panzar-Rosse H-statistic and the Lerner Index, assess the competitive behavior of banks based on their pricing strategies and market power (Shaffer & Spierdijk, 2015). Structural approaches assume that higher concentration implies less competition, but this relationship has been debated, leading to the popularity of conduct-based (non-structural) approaches.

The Panzar-Rosse H-statistic is one of the most widely used non-structural models and measures the degree of competition by examining how changes in input prices affect bank revenues. An H-statistic close to one suggests perfect competition, while a value below zero implies monopoly power (Claessens & Laeven, 2004). Numerous empirical studies have applied this methodology to both developed and emerging banking markets. For example, Bikker, Shaffer, and Spierdijk (2012) used the Panzar-Rosse approach to compare competition levels across more than 100 countries, revealing considerable variation and linking competitive conditions to institutional and regulatory environments.

Another influential method is the Lerner Index, which calculates the difference between output prices and marginal cost to assess market power. Unlike the H-statistic, which measures competition across the industry, the Lerner Index can be computed at the firm level, making it useful for cross-sectional comparisons (Fernández de Guevara & Maudos, 2007). This index has been instrumental in studies exploring the link between competition and profitability or risk-taking behavior. For instance, Kasman and Kasman (2015) applied the Lerner Index to Turkish banks and found a negative relationship between market power and risk, supporting the competition–fragility hypothesis.

Stochastic frontier analysis (SFA) and data envelopment analysis (DEA) are frequently used to estimate bank efficiency, often as a complement to competition studies. These frontier-based techniques help researchers identify whether market competition leads to cost efficiency or operational improvements. Casu and Girardone (2006) combined efficiency scores from SFA with competition indicators to investigate European banks, showing that higher competition was associated with increased efficiency post-deregulation. Such approaches allow for a multidimensional view of performance and behavior under different market structures.

Bibliometric analysis has emerged as a powerful meta-methodology to synthesize and map research trends in the bank competition literature. By analyzing co-authorship networks, keyword clustering, and citation patterns, bibliometric tools help identify influential authors, seminal works, and dominant methodologies. Doku and Nabieu (2024), for instance, utilized

VOSviewer to explore 1,144 articles on bank efficiency and competition. Their analysis revealed that the Panzar-Rosse and Lerner indices dominate the empirical literature, while thematic evolution indicates a shift toward digital banking and financial inclusion in recent years. Similarly, Yang and Li (2022) performed a bibliometric analysis focused on Asian markets and noted a growing emphasis on regulatory reforms and fintech's role in reshaping competition.

Emerging methodologies are also leveraging machine learning and big data analytics to understand bank behavior in increasingly complex markets. For example, Jiang et al. (2021) proposed a machine learning model to predict changes in competitive intensity using real-time transaction data and macro-financial indicators. While still nascent, such approaches hold promise for more dynamic and high-frequency assessments of competition. As the banking sector continues to digitize, the methodological toolbox for studying bank competition is expected to diversify further, incorporating real-time analytics, network modeling, and sentiment analysis from digital platforms.

### III. METHOD

This study employs a bibliometric analysis approach within the broader framework of systematic literature review. Bibliometric analysis is a quantitative technique that allows researchers to map, measure, and analyze scientific publications within a specific field or topic over time. According to Tranfield, Denyer, and Smart (2003), systematic literature reviews aim to develop a structured and reproducible overview of existing literature, while bibliometric techniques provide quantitative insights into authorship patterns, citation networks, keyword evolution, and thematic trends. Heersmink et al. (2011) add that bibliometric analysis is particularly effective in identifying knowledge structures and intellectual dynamics within a research domain, enabling a comprehensive understanding of its development and focal areas.

We adopted the bibliometric workflow framework used in previous studies such as Fahiminia et al. (2015), Donthu et al. (2021), and Aria and Cuccurullo (2017), which include the following main steps: (1) formulation of research keywords, (2) data retrieval and screening, (3) data preparation, and (4) data processing and analysis.

First, formulation of keywords was conducted by identifying the core variable of interest: "*bank competition*". The keyword was directly inputted into the Scopus database, chosen for its extensive indexing of peer-reviewed academic articles and its frequent use in bibliometric research (Mongeon & Paul-Hus, 2016). We did not include other synonyms or variations in the initial search to maintain focus and ensure relevance.

Second, in the data retrieval and screening phase, we applied search criteria that included all document types (articles, reviews, conference papers, etc.), languages, and subject areas to capture the broadest view of the literature. The search returned 743 documents published between 1936 and 2025. We then conducted a screening process by reviewing document types and titles to ensure that the core topic of "bank competition" was substantially addressed in each publication. Only documents that explicitly discussed bank competition in the title, abstract, or keywords were retained.

Third, for data preparation, the bibliographic information (including title, authors, source, year, citations, keywords, and abstract) from the final dataset was exported in CSV formats. These formats are compatible with bibliometric tools such as VOSviewer and Bibliometrix R-package. This step ensures that the dataset is cleaned, structured, and ready for visualization and co-occurrence analysis.

Fourth, data processing and analysis were performed using VOSviewer, a leading tool for constructing and visualizing

bibliometric networks (van Eck & Waltman, 2010). We used co-authorship analysis, keyword co-occurrence mapping, citation analysis, and bibliographic coupling to identify major themes, influential scholars, and research clusters within the bank competition literature. In addition, temporal analysis was conducted to understand publication trends over the decades and the evolution of dominant research topics.

This methodical approach enables the identification of intellectual structures and thematic trajectories in bank competition research, offering valuable insights into the dynamics, patterns, and emerging frontiers of the field.

## IV. RESULTS AND DISCUSSION

### IV.I. KEY THEMES IN BANK COMPETITION

Based on bibliometric visualization using VOSviewer, this analysis identifies four main clusters that represent the key themes in the literature on bank competition. Each cluster reflects a set of frequently co-occurring keywords, forming the conceptual structure of research in this area.

#### Cluster 1: Regulation, Stability, and Inclusion

The first cluster comprises themes such as *bank regulation*, *bank stability*, *bank efficiency*, *credit risk*, *systemic risk*, and *financial inclusion*. These topics reflect an institutional approach to bank competition, where regulation and supervision play a crucial role in maintaining financial system stability (Beck et al., 2013; Barth et al., 2004). Research in this cluster often explores the link between market concentration, bank stability, and systemic risk, as well as the mediating role of regulation (Uhde & Heimeshoff, 2009). In recent years, financial inclusion has emerged as an important theme, especially in relation to how competition can broaden access to financial services (Cull et al., 2018).

#### Cluster 2: Market Structure and Risk-Taking

The second cluster is related to *market power*, *market structure*, *financial stability*, *lerner index*, and *boone indicator*. This cluster dominates the empirical literature on measuring competition in the banking sector. Many studies use non-structural indicators such as the Lerner Index or Boone Indicator to assess pricing behavior and bank profit margins (Claessens & Laeven, 2004; Schaeck & Cihák, 2014). This cluster also highlights the ongoing debate on how market structure affects banks' risk-taking behavior. Some studies argue that more competition leads to higher risk-taking (Boyd & De Nicoló, 2005), while others suggest that healthy competition may enhance financial stability (Jiménez et al., 2013).

#### Cluster 3: Digital Finance and Financial Constraints

The third cluster consists of more contemporary topics such as *digital finance*, *fintech*, *monetary policy*, *information asymmetry*, and *financial constraints*. This cluster reflects the evolution of bank competition in the context of digital transformation. The emergence of financial technologies has reshaped the competitive landscape by allowing non-bank entities to enter the market and increasing pressure on traditional banks (Vives, 2019). Studies in this cluster explore how fintech reduces information asymmetry and financial constraints—issues that were significant in traditional banking systems (Chen et al., 2021). In addition, monetary policy is examined in relation to how its transmission is influenced by digital disruptions.

#### Cluster 4: Efficiency, Profitability, and Risk

The fourth cluster focuses on *bank profitability, efficiency, risk, and risk-taking*, highlighting the relationship between competition, operational efficiency, and banks' financial performance. Studies in this cluster often employ quantitative approaches to assess how competition intensity affects bank profitability (Maudos & Fernández de Guevara, 2007). Some findings suggest that competition encourages efficiency and innovation, thus improving profitability. However, others warn that excessive competition can reduce profit margins and push banks toward riskier behavior (Turk-Ariss, 2010).

These four clusters reflect the conceptual framework of bank competition studies, covering aspects of market structure, regulatory policy, systemic stability, digital transformation, and financial performance and risk. The interconnectivity between clusters indicates that bank competition is an interdisciplinary and evolving topic, shaped by global trends in regulation, innovation, and financial development.

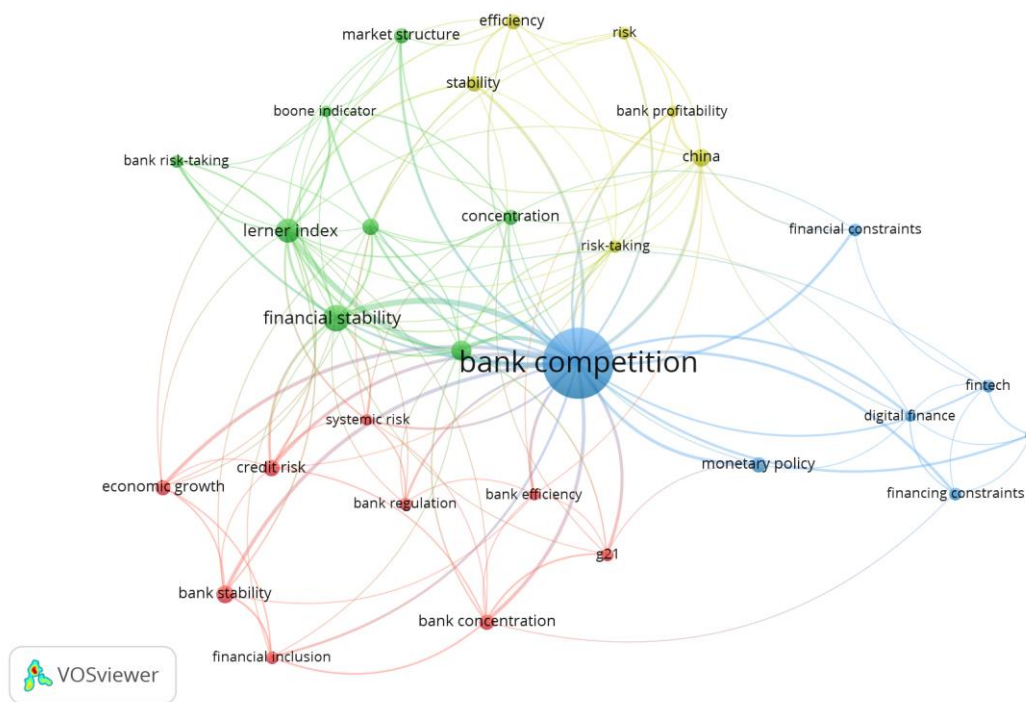


Figure 4.1. Keywords co-occurrence network analysis

Source(s): Authors' own creation

#### IV.II. INFLUENTIAL SCHOLARS ON BANK COMPETITION

To understand the intellectual landscape and identify the most influential contributors in the field of bank competition, a citation analysis was conducted. Table 4.1 presents the top ten most cited authors whose works have significantly shaped the development of research in this domain. The citation count serves as a proxy for scholarly impact and visibility within the academic community.

Table 4.1. Top Ten Highest Citation Authors

Author	Title	Year	Journal	Citations
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Beck	Big bad banks? The winners and losers from bank deregulation in the United States	2010	Journal Finance	1966
Boyd	The theory of bank risk taking and competition revisited	2005	The Journal of Finance	1141
Claessens	What drives bank competition? Some international evidence	2004	Journal of Money, Credit, and Banking	784
Beck	Small and medium-size enterprises: Access to finance as a growth constraint	2006	Journal of Banking & Finance	781
Berger	Bank competition and financial stability	2009	Journal of Financial Services Research	685
Beck	Bank competition and stability: Cross-country heterogeneity	2013	Journal of Financial Intermediation	671
Cetorelli	Finance as a barrier to entry: Bank competition and industry structure in local U.S. markets	2006	The Journal of Finance	427
Beck	Bank competition and access to finance: international evidence	2004	Journal of Money, Credit and Banking	427
Fu	Bank competition and financial stability in Asia Pacific	2014	Journal of Banking and Finance	410
Jiménez	How does competition affect bank risk-taking?	2013	Journal Financial Stability	370

Source(s): Authors' own creation

Thorsten Beck emerges as the most prolific and influential author in the field of bank competition, with four highly cited articles featured among the top ten. His research spans a diverse range of themes including deregulation, access to finance, cross-country differences in banking stability, and financial inclusion. These contributions highlight his significant role in shaping both the theoretical and empirical development of the field. Similarly, Boyd and De Nicoló (2005) made a major impact with their widely cited paper examining the relationship between bank competition and risk-taking behavior. Their work has become central to the ongoing debate on whether competition enhances or undermines financial system stability, prompting numerous subsequent studies.

Claessens and Laeven (2004) provided one of the earliest cross-country investigations into the drivers of bank competition,

laying a strong foundation for comparative international research. Additionally, Berger (2009) and Jiménez et al. (2013) have contributed notable insights into the interplay between competition and financial stability—an area of growing importance especially in the post-global financial crisis era, as policymakers seek to balance market efficiency with systemic resilience. Cetorelli (2006) and Fu (2014) further broaden the academic discourse by offering perspectives focused on local U.S. markets and the Asia-Pacific region, respectively, thereby enriching the geographic diversity of the literature.

Collectively, these influential works encapsulate the core intellectual themes that define the study of bank competition: the impacts of regulation and deregulation, the complex relationship between competition and risk-taking, the role of competition in shaping access to finance and market structure, and the insights derived from both cross-country and regional comparative analyses.

#### IV.III. INFLUENTIAL SOURCES ON BANK COMPETITION

Table 4.2. Top Ten Most Cited Journals

Sources	No. of articles	Citations
Journal of banking and finance	39	2912
Journal of money, credit and banking	17	1954
Journal of financial intermediation	8	1241
Journal of international financial markets, institutions and money	19	1105
Journal of financial services research	11	877
Journal of financial economics	7	852
Journal of financial stability	10	599
Journal of corporate finance	8	443
International review of financial analysis	12	408
Pacific basin finance journal	13	321

Source(s): Authors' own creation

The most cited journals in the field of bank competition reveals a concentration of influential research within a select group of specialized finance and banking publications. Leading the list is the *Journal of Banking and Finance*, which stands out with 39 articles and a total of 2,912 citations. This indicates the journal's dominant role as a primary outlet for scholarly work on bank competition, encompassing studies on market structure, risk-taking, regulation, and financial stability. Following closely is the *Journal of Money, Credit and Banking*, with 17 articles that have garnered 1,954 citations. Its high impact reflects its contribution to theoretical and empirical research on monetary systems and financial institutions.

The *Journal of Financial Intermediation* also holds a strong position, publishing 8 influential articles with 1,241 citations. Its focus on the mechanisms and efficiency of financial intermediaries makes it particularly relevant to the competition discourse.

The *Journal of International Financial Markets, Institutions and Money*, with 19 articles and 1,105 citations, emphasizes the global dimension of bank competition, highlighting regional variations and international dynamics.

Other notable journals include the *Journal of Financial Services Research* (11 articles, 877 citations), which focuses on policy and institutional analysis, and the *Journal of Financial Economics* (7 articles, 852 citations), known for its high-quality contributions to financial theory and corporate finance. The *Journal of Financial Stability* (10 articles, 599 citations) reflects increasing academic attention to the stability implications of competitive dynamics, especially after the global financial crisis.

The list is further enriched by contributions from the *Journal of Corporate Finance*, *International Review of Financial Analysis*, and *Pacific-Basin Finance Journal*, which provide diverse methodological perspectives and regional case studies. Collectively, these journals represent the core scholarly platforms that shape and disseminate cutting-edge research in the domain of bank competition, covering a wide range of issues from global policy debates to localized market behavior.

#### **IV.IV. FUTURE RESEARCH DIRECTIONS**

The bibliometric analysis of bank competition literature reveals both well-established themes and emerging areas that present fertile ground for future exploration. One promising direction lies in the integration of digital innovation and competition policy. As identified in Cluster 3, digital finance and fintech have significantly transformed the competitive dynamics of the banking sector. However, the academic literature has yet to fully incorporate these developments into traditional competition theories. Future research should delve into how fintech firms influence market structures, pricing behavior, and consumer welfare (Vives, 2019; Chen et al., 2021), as well as how regulatory initiatives like sandboxing, open banking, and digital identity frameworks reshape competitive balance and market concentration.

Another underexplored area involves the intersection between bank competition and ESG or green finance. With Environmental, Social, and Governance (ESG) considerations becoming increasingly important in banking operations, future studies could investigate whether competitive pressures encourage or impede the adoption of ESG criteria in lending and investment decisions. Moreover, the growth of green financial products offers an opportunity to assess their impact on the market positioning of both traditional banks and non-bank financial institutions (Carney, 2015).

Cross-border competition in a globalized financial system also remains insufficiently addressed, despite the increasing internationalization of banking activities. Research is needed to understand how differences in regulatory regimes and market environments affect the behavior, risk-taking, and market strategies of multinational banks, particularly in regions such as ASEAN where financial integration is deepening (Claessens & Laeven, 2004; Beck et al., 2013). Similarly, while financial inclusion was prominent in Cluster 1, the complex relationship between competition and inclusive finance merits deeper empirical investigation. For example, does heightened competition lead to greater outreach to underserved populations, or do scale economies discourage service provision in remote and rural areas (Cull et al., 2018; Fu et al., 2014)?

Further, the non-linear and threshold effects of competition deserve more attention. Prior studies have debated whether competition enhances or undermines financial stability, but future research could adopt advanced econometric approaches, such as threshold regressions or machine learning models, to detect complex, non-linear interactions between market structure, regulatory policy, and bank performance (Martinez-Miera & Repullo, 2010).

Finally, the resilience of banking systems in post-crisis environments, particularly following the COVID-19 pandemic, is a

critical topic for further exploration. Shifts in consumer behavior, monetary policy, and bank strategies during crisis periods provide a natural laboratory to analyze the evolving structure-conduct-performance paradigm in banking (Demirgüç-Kunt et al., 2021).

## V. CONCLUSION

This bibliometric study provides a systematic and longitudinal mapping of the bank competition literature from 1936 to 2025. Through keyword co-occurrence, citation analysis, and clustering, the research identifies four core themes—regulation and stability, market structure and risk-taking, digital finance and constraints, and efficiency-profitability-risk—that define the intellectual structure of the field.

Influential scholars such as Thorsten Beck, Boyd & De Nicoló, Claessens, Berger, and Jiménez have contributed foundational insights, and key journals like the *Journal of Banking and Finance* and *Journal of Money, Credit and Banking* serve as central platforms for scholarly dialogue.

In addition to mapping the past and present landscape, the study outlines emerging frontiers—including digital transformation, climate finance, and AI applications—that will shape the future research trajectory of bank competition. These insights offer valuable guidance for academics, practitioners, and regulators seeking to navigate and contribute to the evolving discourse on banking sector competitiveness.

## REFERENCES

1. Alam, N., Seifzadeh, S., & Rashid, M. (2021). Bibliometric review of literature on Islamic banking and finance. *International Journal of Islamic and Middle Eastern Finance and Management*. <https://doi.org/10.1108/IMEFM-11-2020-0560>
2. Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
3. Barth, J. R., Caprio Jr., G., & Levine, R. (2004). Bank regulation and supervision: what works best? *Journal of Financial Intermediation*, 13(2), 205–248. <https://doi.org/10.1016/j.jfi.2003.06.002>
4. Beck, T., Demirgüç-Kunt, A., & Levine, R. (2013). Finance, inequality and the poor. *Journal of Economic Growth*, 12(1), 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
5. Beck, T., Demirgüç-Kunt, A., & Levine, R. (2013). Financial institutions and markets across countries and over time: The updated financial development and structure database. *The World Bank Economic Review*, 24(1), 77–92. <https://doi.org/10.1093/wber/lhr017>
6. Beck, T., De Jonghe, O., & Schepens, G. (2013). Bank competition and stability: Cross-country heterogeneity. *Journal of Financial Intermediation*, 22(2), 218–244. <https://doi.org/10.1016/j.jfi.2012.07.001>
7. Begimkulov, E. (2022). Competitiveness in Banking Sector: A Systematic Literature Review. *Marketing & Menedzsment*, 56(4), 45–58. <https://doi.org/10.15170/MM.2022.56.04.05>
8. Berger, A. N., Demirgüç-Kunt, A., Levine, R., & Haubrich, J. G. (2004). Bank concentration and competition: An

- evolution in the making. *Journal of Money, Credit and Banking*, 36(3), 433–451. <https://doi.org/10.1353/mcb.2004.0040>
9. Berger, A. N., Klapper, L. F., & Turk-Ariss, R. (2009). Bank competition and financial stability. *Journal of Financial Services Research*, 35(2), 99–118. <https://doi.org/10.1007/s10693-008-0050-7>
  10. Bikker, J. A., & Haaf, K. (2002). Competition, concentration and their relationship: An empirical analysis of the banking industry. *Journal of Banking & Finance*, 26(11), 2191–2214. [https://doi.org/10.1016/S0378-4266\(02\)00205-4](https://doi.org/10.1016/S0378-4266(02)00205-4)
  11. Bikker, J. A., Shaffer, S., & Spierdijk, L. (2012). Assessing competition with the Panzar–Rosse model: The role of scale, costs, and equilibrium. *Review of Economics and Statistics*, 94(4), 1025–1044. [https://doi.org/10.1162/REST\\_a\\_00210](https://doi.org/10.1162/REST_a_00210)
  12. Boyd, J. H., & De Nicoló, G. (2005). The theory of bank risk taking and competition revisited. *The Journal of Finance*, 60(3), 1329–1343. <https://doi.org/10.1111/j.1540-6261.2005.00763.x>
  13. Carney, M. (2015). Breaking the tragedy of the horizon – climate change and financial stability. *Bank of England*. <https://doi.org/10.2139/ssrn.3033869>
  14. Casu, B., & Girardone, C. (2006). Bank competition, concentration and efficiency in the single European market. *The Manchester School*, 74(4), 441–468. <https://doi.org/10.1111/j.1467-9957.2006.00503.x>
  15. Chen, M. A., Wu, Q., & Yang, B. (2021). How valuable is FinTech innovation? *The Review of Financial Studies*, 34(5), 2356–2416. <https://doi.org/10.1093/rfs/hhaa123>
  16. Claessens, S., & Laeven, L. (2004). What drives bank competition? Some international evidence. *Journal of Money, Credit and Banking*, 36(3), 563–583. <https://doi.org/10.1353/mcb.2004.0044>
  17. Claessens, S. (2009). Competition in the financial sector: Overview of competition policies (IMF Working Paper No. 09/45). *International Monetary Fund*. <https://doi.org/10.5089/9781451871905.001>
  18. Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2018). The microfinance business model: Enduring subsidy and modest profit. *World Bank Economic Review*, 32(2), 221–244. <https://doi.org/10.1093/wber/lhx013>
  19. Cull, R., Ehrbeck, T., & Holle, N. (2018). Financial inclusion and development: Recent impact evidence. Focus Note, 92, CGAP. <https://doi.org/10.2139/ssrn.2651030>
  20. Demirgüç-Kunt, A., Pedraza, A., & Ruiz-Ortega, C. (2021). Banking sector performance during the COVID-19 crisis. *Journal of Banking & Finance*, 133, 106390. <https://doi.org/10.1016/j.jbankfin.2021.106390>
  21. Doku, J. N., & Nabieu, G. A. A. (2024). Bank efficiency and competition: bibliometric analysis of concepts and emerging issues. *Journal of Economic Studies*, 51(4), 859–878. <https://doi.org/10.1108/JES-02-2023-0067>
  22. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
  23. Donthu, N., Kumar, S., Pandey, N., & Lim, W. M. (2021a). A retrospective and prospective overview of business &

- management research using bibliometric analysis. *Journal of Business Research*, 133, 280–290. <https://doi.org/10.1016/j.jbusres.2021.01.070>
24. Fahiminia, M., Bagheri, M., & Omrani, H. (2015). A bibliometric analysis of green supply chain management based on scientific publications. *Management Science Letters*, 5(3), 321–330. <https://doi.org/10.5267/j.msl.2014.12.019>
  25. Fernández de Guevara, J., & Maudos, J. (2007). Explanatory factors of market power in the banking system. *Managerial Finance*, 33(5), 351–370. <https://doi.org/10.1108/03074350710739922>
  26. Fernández de Guevara, J., & Maudos, J. (2011). Banking competition, market structure and economic stability. *The Spanish Review of Financial Economics*, 9(2), 45–54. <https://doi.org/10.1016/j.srfe.2011.06.002>
  27. Fungáčová, Z., Pessarossi, P., & Weill, L. (2013). Is bank competition detrimental to efficiency? Evidence from China. *China Economic Review*, 27, 121–134. <https://doi.org/10.1016/j.chieco.2013.08.004>
  28. Fu, X. M., Lin, Y. R., & Molyneux, P. (2014). Bank competition and financial stability in Asia Pacific. *Journal of Banking & Finance*, 38, 64–77. <https://doi.org/10.1016/j.jbankfin.2013.09.012>
  29. Goetz, M. R. (2018). Competition and bank stability. *Journal of Financial Intermediation*, 35, 57–69. <https://doi.org/10.1016/j.jfi.2017.06.001>
  30. Ikra, M., Alam, N., & Rizvi, S. A. R. (2021). Mapping the intellectual structure of bank performance studies: A bibliometric review. *Journal of Economic Studies*. <https://doi.org/10.1108/JES-01-2021-0043>
  31. Jiang, Y., Liang, J., & Sun, Z. (2021). Predicting banking competition dynamics with machine learning: Evidence from China. *Expert Systems with Applications*, 182, 115138. <https://doi.org/10.1016/j.eswa.2021.115138>
  32. Jiménez, G., Lopez, J. A., & Saurina, J. (2013). How does competition affect bank risk-taking? *Journal of Financial Stability*, 9(2), 185–195. <https://doi.org/10.1016/j.jfs.2013.02.004>
  33. Kanas, A., Al-Tamimi, H. A. H., Albaity, M., & Mallek, R. S. (2018). Bank competition, stability, and intervention quality. *International Journal of Finance & Economics*, 24(1), 568–587. <https://doi.org/10.1002/ijfe.1680>
  34. Kasman, S., & Kasman, A. (2015). Bank competition, concentration and financial stability in the Turkish banking industry. *Economic Systems*, 39(3), 502–517. <https://doi.org/10.1016/j.ecosys.2015.01.001>
  35. Leon, F. (2015). Does bank competition alleviate credit constraints in developing countries? *Journal of Banking & Finance*, 57, 130–142. <https://doi.org/10.1016/j.jbankfin.2015.04.005>
  36. Martínez-Miera, D., & Repullo, R. (2010). Does competition reduce the risk of bank failure? *Review of Financial Studies*, 23(10), 3638–3664. <https://doi.org/10.1093/rfs/hhq057>
  37. Maudos, J., & Fernández de Guevara, J. (2007). The cost of market power in banking: Social welfare loss vs. cost inefficiency. *Journal of Banking & Finance*, 31(7), 2103–2125. <https://doi.org/10.1016/j.jbankfin.2006.07.018>
  38. Saiti, B., & Yucel, E. (2019). A bibliometric analysis of Islamic finance literature. *Journal of Islamic Accounting and Business Research*, 10(4), 497–516. <https://doi.org/10.1108/JIABR-02-2017-0021>

39. Schaeck, K., & Cihák, M. (2014). Competition, efficiency, and stability in banking. *Financial Management*, 43(1), 215–241. <https://doi.org/10.1111/fima.12010>
40. Shaffer, S., & Spierdijk, L. (2015). The Panzar-Rosse revenue test and market power in banking. *Journal of Banking & Finance*, 61, 340–347. <https://doi.org/10.1016/j.jbankfin.2015.09.019>
41. Shaffer, S., & Spierdijk, L. (2015). Contestable banking markets: Theory and evidence. *Journal of Banking & Finance*, 61, 71–88. <https://doi.org/10.1016/j.jbankfin.2015.08.015>
42. Tan, Y. (2016). The impacts of competition and shadow banking on profitability: Evidence from the Chinese banking industry. *The North American Journal of Economics and Finance*, 37, 229–244. <https://doi.org/10.1016/j.najef.2016.05.002>
43. Tao, R., Akbar, M., & Javed, T. (2022). Fintech research: A bibliometric analysis. *Technological Forecasting and Social Change*, 175, 121385. <https://doi.org/10.1016/j.techfore.2021.121385>
44. Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222. <https://doi.org/10.1111/1467-8551.00375>
45. Turk-Ariss, R. (2010). On the implications of market power in banking: Evidence from developing countries. *Journal of Banking & Finance*, 34(4), 765–775. <https://doi.org/10.1016/j.jbankfin.2009.09.004>
46. Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
47. Verawati, Y., Budhi, M. K. S., Setyari, N. P. W., & Yudha, I. M. E. K. (2023). Bank Business Sustainability: Bibliometric Analysis. *Journal of Corporate Finance Management and Banking System*, 4(4), 65–77. <https://doi.org/10.55529/jcfmbs.44.65.77>
48. Vives, X. (2010). Competition and stability in banking. *Oxford Review of Economic Policy*, 27(3), 479–497. <https://doi.org/10.1093/oxrep/grr022>
49. Vives, X. (2019). Digital disruption in banking. *Annual Review of Financial Economics*, 11(1), 243–272. <https://doi.org/10.1146/annurev-financial-100719-120854>
50. Xu, Y., Fang, L., & Zhang, H. (2021). A bibliometric review of risk management research in banking. *Physica A: Statistical Mechanics and its Applications*, 565, 125621. <https://doi.org/10.1016/j.physa.2020.125621>
51. Yang, Y., & Li, M. (2022). Mapping the development of bank competition research in Asia: A bibliometric analysis. *Asian Journal of Economics and Banking*, 6(2), 215–233. <https://doi.org/10.1108/AJEB-11-2021-0125>
52. Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>