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Two Decades of FinTech and Bank Savings Research: A Bibliometric and Science Mapping Analysis (2005–2025)

Amulya S[1], Dr. Saji George[2]
1Research Scholar School of Commerce Presidency University,Bengaluru, Karnataka, India
Email: amulya.20233com0036@presidencyuniversity.in ,ORCID ID: 0000-0001-3221-0027
[2]Assistant Professor & Research Supervisor,School of Commerce Presidency University,Bengaluru, Karnataka, India
Email : saji.george@presidencyuniversity.in , ORCID ID: 0000-0003-4901-0026

ABSTRACT
Purpose – This study maps twenty years of scholarship on financial technology (FinTech) and bank savings. It traces how the field grew, who shapes it, how its knowledge is structured and where its research frontier lies.
Design/methodology/approach – We retrieved 603 English-language articles and reviews published between 2005 and 2025 from Scopus. Using the bibliometrix R package and its Biblioshiny interface, we combine performance analysis with science mapping: keyword co-occurrence, strategic (thematic) mapping, trend-topic analysis, co-citation analysis and bibliographic coupling.
Findings – Output grew at a compound annual rate of 27.51%, and 72.3% of all documents appeared in 2020–2025. The United States (66 documents) and India (63) lead corresponding-author output, but only 3.2% of Indian papers involve international co-authorship. Financial inclusion is the dominant organising concept (231 keyword occurrences). The literature forms six thematic clusters. Banking, financial services and savings make up a basic but weakly developed theme. FinTech, mobile banking and blockchain sit on the border of the motor-theme quadrant, while central bank digital currency (CBDC) and monetary policy form an emerging theme. Research attention has shifted from internet and online banking (median years 2015–2018) to FinTech, blockchain, digital banking, financial stability and open banking (2023–2025). Savings outcomes are mostly studied indirectly, through financial inclusion. Bank-level deposit behaviour in the FinTech era remains under-examined.
Originality/value – To our knowledge, this is the first science-mapping review that centres on the savings and deposit dimension of FinTech in banking rather than on FinTech or financial inclusion in general. It consolidates five research streams and proposes a structured agenda of future research questions, methods and data sources.
Practical implications – The findings guide bank managers, regulators and policymakers on where evidence on digital savings products, deposit stability and inclusive savings design is robust and where it is still thin.
Keywords: FinTech; bank savings; deposit mobilisation; financial inclusion; digital banking; mobile money; bibliometric analysis; science mapping

1. INTRODUCTION

Savings mobilisation is one of the oldest functions of commercial banks. Deposits are the main source of bank funding, and household saving is a precondition for investment, consumption smoothing and resilience to shocks (Karlan et al., 2014). Over the past two decades, this function has been reshaped by financial technology. Internet banking, mobile banking, mobile money, digital payments, blockchain-based infrastructure and, more recently, central bank digital currencies (CBDCs) have changed how savings products are offered, how deposits are gathered and how customers choose where to hold their money (Arner et al., 2016; Gomber et al., 2017; Thakor, 2020).

The consequences for banks are mixed. FinTech can lower the cost of collecting small-value deposits, extend banking to unbanked households and make saving easier through digital channels (Jack & Suri, 2014; Ouma et al., 2017). It can also intensify competition for deposits, push activity towards less regulated lenders and, in the case of retail CBDCs, threaten bank funding (Andolfatto, 2021; Buchak et al., 2018). Global Findex data show that account ownership has expanded markedly, yet the use of formal accounts for saving still lags behind ownership in many developing economies (Demirgüç-Kunt et al., 2022). This gap between access and saving use makes the FinTech–savings link a central question for banks, regulators and development policy alike.

Research on this link is spread across finance, development economics, information systems, marketing and social work. Existing reviews have mapped FinTech in general (Cumming et al., 2023; Milian et al., 2019), financial inclusion, or specific technologies. None, to our knowledge, has systematically mapped the literature where FinTech meets bank savings and deposits. As a result, it is unclear how large this body of work is, which theories and authors anchor it, which themes are mature and which are only emerging. This makes it hard for

researchers to position new studies and for practitioners to judge the strength of the evidence.

This study fills that gap with a bibliometric and science-mapping analysis of 603 Scopus-indexed documents published between 2005 and 2025. Bibliometric analysis is suited to large, fragmented and fast-growing literatures because it reveals their structure objectively and reproducibly (Donthu et al., 2021; Zupic & Čater, 2015).

The study addresses five research questions

RQ1. How have publication output and citation impact in FinTech and bank savings research evolved from 2005 to 2025?

RQ2. Which sources, authors, institutions and countries are most productive and influential, and how do they collaborate?

RQ3. What is the intellectual structure of the field, as revealed by co-citation and bibliographic coupling?

RQ4. What are the main research themes, and how have they evolved over time?

RQ5. What research gaps and future directions emerge from this evidence?

The study makes three contributions. First, it provides the first quantitative map of the FinTech–bank savings literature, covering two decades and three distinct growth phases. Second, it identifies the field's thematic structure, showing that savings outcomes are studied largely through the lens of financial inclusion rather than as bank-level deposit outcomes. Third, it offers a structured research agenda that links each gap to research questions, methods and data sources.

The rest of the paper is organised as follows. Section 2 sets out the conceptual background. Section 3 describes the data and methodology. Section 4 presents the performance analysis, and Section 5 the science mapping. Section 6 discusses the research streams, Section 7 proposes a future research agenda, and Section 8 concludes with implications and limitations.

2. CONCEPTUAL BACKGROUND

2.1 FinTech innovation in commercial banking

FinTech refers to technology-enabled innovation in financial services that produces new business models, applications, processes or products (Gomber et al., 2017). Arner et al. (2016) describe its evolution in stages: from the computerisation of banks and the arrival of internet banking, to the post-2008 rise of technology start-ups and big-tech platforms. For commercial banks, FinTech appears in three forms. The first is channel innovation, such as internet, mobile and app-based banking. The second is product and process innovation, such as digital savings accounts, automated savings tools, robo-advice and blockchain-based settlement. The third is new competitors and new forms of money, such as mobile money operators, neobanks, shadow banks and CBDCs (Buchak et al., 2018; Thakor, 2020).

Empirical studies show that FinTech can raise bank efficiency (C.-C. Lee et al., 2021) and widen access to finance. It also changes how banks compete for funding and how risky they are (Banna et al., 2021; Broby, 2021). Early studies of internet adoption by community banks already found effects on deposit composition and performance (DeYoung et al., 2007).

2.2 How FinTech can affect savings and deposits

The literature suggests several channels through which FinTech can affect savings held with banks:

Access and transaction costs**:** Digital channels cut the cost of opening accounts and making small deposits. This lets banks reach low-income and remote savers whom branches serve poorly (Jack & Suri, 2014; Ouma et al., 2017).

Behavioural design: Commitment devices, reminders and default-based features help people overcome present bias and save more (Dupas & Robinson, 2013; Thaler & Benartzi, 2004). Mobile-linked bank accounts have been tested as a way to strengthen such effects (de Mel et al., 2022).

Trust, security and service quality: Customers' perceptions of risk, security and service quality shape whether they adopt digital banking and keep balances in it (Kaur et al., 2021).

Competition and substitution**:** Mobile money, cryptocurrencies, decentralised finance and CBDCs can complement bank deposits or substitute for them (Andolfatto, 2021; Ndassi Teutio et al., 2023; Othman et al., 2020).

Financial inclusion and stability: Broader inclusion widens the deposit base and can make bank funding more stable, but the outcome depends on market structure and regulation (Ahamed & Mallick, 2019; Feghali et al., 2021).

2.3 Theoretical lenses

The field draws on several theories. Financial intermediation theory explains why banks collect deposits and how technology changes the cost of doing so (Thakor, 2020). Technology acceptance models, such as TAM and UTAUT, explain customer adoption of digital savings channels (Davis, 1989; Venkatesh et al., 2003). Behavioural economics explains why access alone may not raise saving, and why product design matters (Karlan et al., 2014). Financial inclusion frameworks link account access, use and welfare (Sarma & Pais, 2011). Because these lenses come from different disciplines, the literature is fragmented. This makes a science-mapping approach especially useful.

3. METHODOLOGY

3.1 Research design and database

We follow the bibliometric guidelines of Donthu et al. (2021) and Zupic and Čater (2015). The design combines performance analysis, which measures the productivity and impact of research actors, with science mapping, which reveals the intellectual, conceptual and social structure of a field. We chose Scopus because it covers more business, economics and social-science journals than Web of Science and provides consistent metadata for bibliometric software (Mongeon & Paul-Hus, 2016).

3.2 Search strategy and inclusion criteria

The search string combines three blocks of terms with the Boolean operator AND. Block 1 covers FinTech innovations, including the early terms internet, online and electronic banking. This keeps the 2005–2014 period in scope, before the word “FinTech” became common. Block 2 covers savings and deposits. To limit noise, it uses

whole words and phrases rather than truncations such as saving* (which matches "cost saving") or deposit* (which matches "deposition"). Block 3 restricts results to banks.

The search ran on titles, abstracts and keywords on 12 October 2026. Table 1 summarises the protocol.

Table 1:Data retrieval protocol

Step	Criterion	Setting
Database	Bibliographic source	Scopus (Elsevier)
Search field	Fields searched	TITLE-ABS-KEY
Block 1	FinTech innovation	fintech, financial technology, digital/mobile/internet/online/electronic banking, e-banking, digital and mobile payments, mobile money, e-wallets, neobanks, open banking, digital financial services and inclusion, UPI, robo-advice, blockchain, financial inclusion, digital finance, branchless banking, self-service technology
Block 2	Savings and deposits	savings, saving or savings behaviour, deposit(s), deposit or savings mobilisation, savings accounts, schemes and products, term, fixed and recurring deposits, household saving, saving intention
Block 3	Banking context	bank, banks, banking, commercial bank(s), retail bank(s)
Period	Publication years	2005–2025 (two complete decades)
Subject areas	Scopus subject categories	Business, Management and Accounting; Economics, Econometrics and Finance; Social Sciences; Decision Sciences; Computer Science
Document type	Type of publication	Articles and reviews
Language	Language of publication	English
Final dataset	Records retained for analysis	603 documents (588 articles, 15 reviews)

Note. The complete search string is given in Appendix A. The final corpus of 603 documents is well above the minimum of about 200 documents recommended for stable bibliometric indicators (Rogers et al., 2020). Records were exported from Scopus with full citation information, abstracts, keywords and cited references, and imported into Biblioshiny.

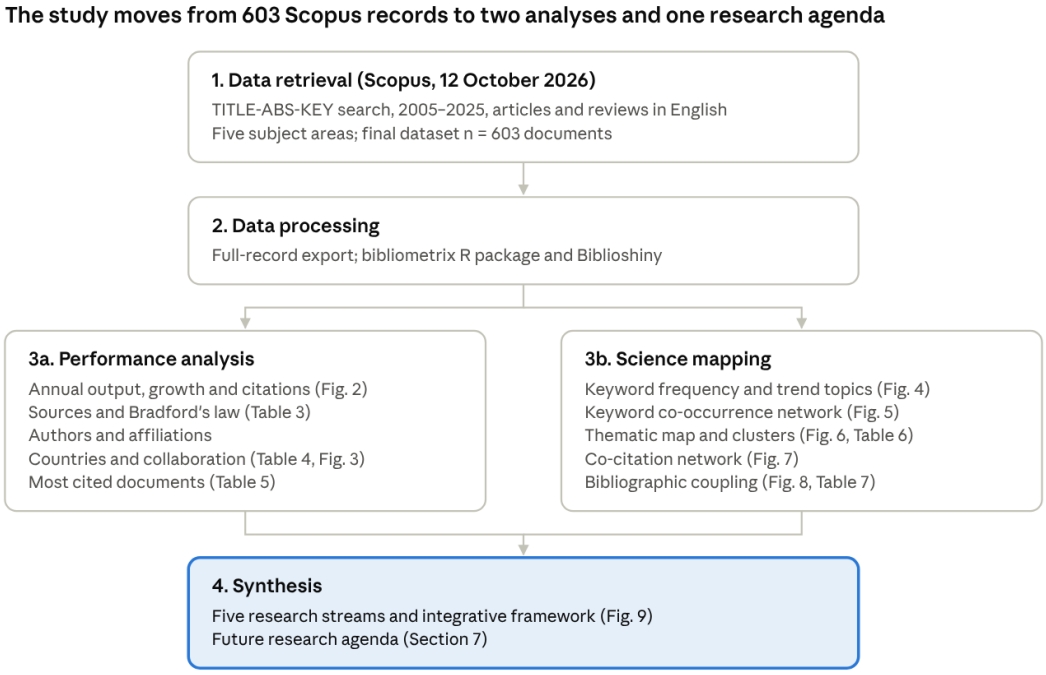
3.3 Analytical techniques

We used the bibliometrix R package and its web interface, Biblioshiny (Aria & Cuccurullo, 2017). The analysis has two parts.

Performance analysis reports annual output and growth, citations per year, the most relevant sources and their dispersion under Bradford's (1934) law, the most productive authors and affiliations, corresponding-author countries with single-country (SCP) and multiple-country (MCP) publications, and the most globally cited documents.

Science mapping covers five techniques. Keyword co-occurrence analysis shows the conceptual structure of the field (Callon et al., 1991). A strategic (thematic) map plots keyword clusters by Callon centrality, meaning their relevance to the field, and density, meaning their internal development (Cobo et al., 2011). It is based on merged author and index keywords (250 terms, minimum frequency 3, Louvain clustering; Blondel et al., 2008). Trend-topic analysis tracks when keywords peak, using their first-quartile, median and third-quartile years. Co-citation analysis reveals the intellectual foundations of the field (Small, 1973). Bibliographic coupling of documents, based on shared references (250 units, minimum frequency 3, Walktrap clustering), reveals its current research fronts (Kessler, 1963; Pons & Latapy, 2006). Figure 1 summarises the workflow.

Figure 1Research workflow



Source. Authors' elaboration, following Donthu et al. (2021).

4. PERFORMANCE ANALYSIS

4.1 Overview of the dataset

The corpus contains 603 documents from 384 sources, written by 1,525 authors (Table 2). Documents received 24.07 citations on average and cite 48,024 references in total. Collaboration is the norm: only 130 documents are single-authored, the average document has 2.73 co-authors, and 20.73% of documents involve international co-authorship

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Table 2Main information about the dataset

Indicator	Value
Timespan	2005–2025
Sources (journals, books, etc.)	384
Documents	603
Annual growth rate	27.51%
Average document age (years)	4.93
Average citations per document	24.07
References	48,024
Keywords Plus (ID)	591
Author keywords (DE)	1,692
Authors	1,525
Authors of single-authored documents	121
Single-authored documents	130
Co-authors per document	2.73
International co-authorships	20.73%
Articles / reviews	588 / 15

Source. Biblioshiny output based on Scopus data.

4.2 Annual scientific production and citations

Output rose from a single article in 2005 to 129 in 2025, a compound annual growth rate of 27.51% (Figure 2). Three phases stand out.

Phase I, Emergence (2005–2014): 41 documents (6.8%): Studies focused on internet banking, microsavings and access to finance for the poor (e.g., Christen & Mas, 2009; DeYoung et al., 2007).

Phase II, Consolidation (2015–2019): 126 documents (20.9%): Mobile money and financial inclusion research expanded after the Global Findex surveys. This phase produced the most-cited work, averaging 45.2 citations per document.

Phase III, Acceleration (2020–2025): 436 documents (72.3%): The COVID-19 pandemic, the spread of instant payments and the rise of FinTech, blockchain and CBDC debates drove rapid growth. Output in 2025 alone (129 documents) was 61% higher than in 2024.

Mean citations per article peaked for documents published in 2018 (66.79) and 2017 (52.79). Annual citations per year peaked for 2021 publications (7.79). Lower citation counts for 2023–2025 reflect the short time those documents have had to accumulate citations, not lower quality

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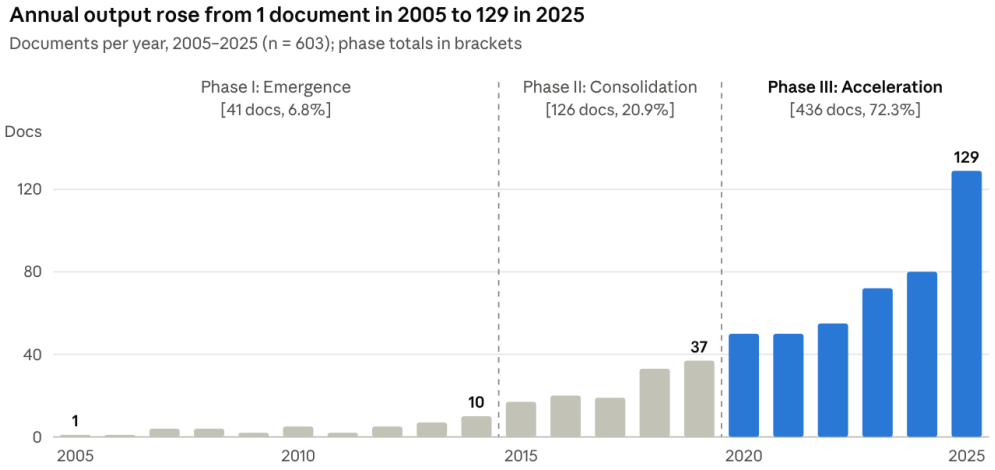
Figure 2Annual scientific production, 2005–2025, by growth phase



Source. Authors' elaboration from Biblioshiny output.

4.3 Most relevant sources and Bradford's law

The literature is widely dispersed. Under Bradford's law, a core of 48 sources (Zone 1) publishes 201 documents, one-third of the corpus. A further 138 sources (Zone 2) publish 204 documents, and 198 sources (Zone 3) publish one document each. Table 3 lists the most productive sources. They span applied economics, banking, development and marketing journals. Indian outlets (Indian Journal of Finance, Finance India, Journal of Rural Development) are well represented, which reflects India's strong national research base on the topic

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Table 3:Most relevant sources (Bradford Zone 1, top 13)

Rank	Source	Documents
1	Cogent Economics and Finance	10
2	Banks and Bank Systems	8
3	Enterprise Development and Microfinance	7
4	Indian Journal of Finance	7
5	International Journal of Bank Marketing	7
6	Journal of Risk and Financial Management	7
7	Finance India	6
8	Finance Research Letters	6
9	Journal of Rural Development	6
10	Applied Economics	5
11	Indian Journal of Economics and Development	5
12	International Journal of Social Economics	5
13	Journal of Internet Banking and Commerce	5

4.4 Most productive authors and affiliations

Authorship is highly dispersed: no author has more than six documents. Sherraden M. leads with six documents, followed by Ansong D. and Ozili P.K. with five each. Ozili's five documents are all single-authored (fractionalised count 5.00), whereas Sherraden's and Ansong's come from large team-based savings experiments (fractionalised counts 0.97 and 0.81). Fifteen further authors have three documents each, including Chavan P., Ghosh S., Kandpal V. and Lee C.-C. At the institutional level, the University of Ghana (12 documents) and Southwestern University of Finance and Economics, China (9) lead. They are followed by the University of Nigeria, Washington University in St. Louis (6 each) and the Management Development Institute Gurgaon, the University of Ibadan and the World Bank (5 each). Ghanaian and US institutions are linked through the YouthSave and youth savings account experiments (Ansong et al., 2019; Y. S. Lee et al., 2017).

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4.5 Country productivity and collaboration

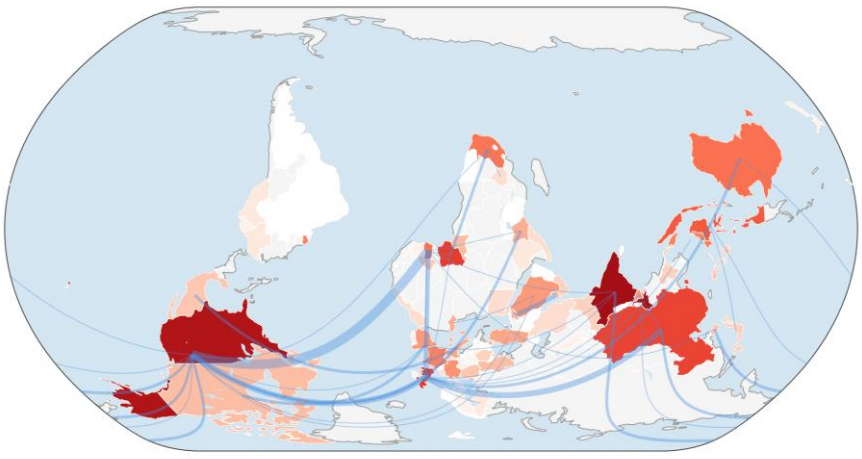
Corresponding authors come from 76 countries. The United States (66 documents) and India (63) lead, followed by China (29), Nigeria (26) and the United Kingdom (24) (Table 4). The two leaders differ sharply in their collaboration. Of US papers, 30.3% are internationally co-authored, compared with only 3.2% of Indian papers, the lowest MCP share among the top ten countries. Collaboration links in Figure 3 confirm this pattern. The strongest pairs are USA–Ghana (8 links), China–United Kingdom (5), USA–United Kingdom (5), Jordan–United Arab Emirates (4) and United Kingdom–Ghana (4). India–USA has three links

Table 4:Top ten countries by corresponding author

Rank	Country	Documents	Share (%)	SCP	MCP	MCP (%)
1	United States	66	10.9	46	20	30.3
2	India	63	10.4	61	2	3.2
3	China	29	4.8	24	5	17.2
4	Nigeria	26	4.3	21	5	19.2
5	United Kingdom	24	4.0	17	7	29.2
6	Australia	14	2.3	9	5	35.7
7	Indonesia	14	2.3	10	4	28.6
8	Malaysia	11	1.8	9	2	18.2
9	South Africa	11	1.8	8	3	27.3
10	Spain	10	1.7	8	2	20.0

Note. SCP = single-country publications; MCP = multiple-country publications.

Figure 3Country collaboration map



Note. Darker shading indicates more documents; lines show co-authorship links between countries. Source. Biblioshiny.

4.6 Most globally cited documents

Table 5 lists the ten most cited documents. Together they show the breadth of the field: shadow banking, bank stability, bank efficiency, inclusion measurement, savings mobilisation, blockchain and CBDC design. The most cited, Buchak et al. (2018), with 1,107 citations, shows how FinTech and regulatory arbitrage drove the growth of shadow banks in US mortgage lending. Only one of the ten, Ouma et al. (2017), places savings mobilisation at the centre of its research question. This is an early sign that savings are often a secondary outcome in highly cited work

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Table 5:Ten most globally cited documents

Rank	Document	Source	Total citations	Citations per year	Focus
1	Buchak et al. (2018)	Journal of Financial Economics	1,107	123.0	FinTech, regulatory arbitrage and shadow banks
2	Ahamed & Mallick (2019)	Journal of Economic Behavior & Organization	471	58.9	Financial inclusion and bank stability
3	C.-C. Lee et al. (2021)	International Review of Economics & Finance	461	76.8	FinTech innovation and bank efficiency (China)
4	Fungáčová & Weill (2015)	China Economic Review	359	29.9	Determinants of financial inclusion in China
5	Demirgüç-Kunt et al. (2020)	World Bank Economic Review	316	45.1	Global Findex 2017: account access and use
6	Sharma (2016)	Journal of Financial Economic Policy	297	27.0	Financial inclusion and economic growth (India)
7	Ouma et al. (2017)	Review of Development Finance	276	27.6	Mobile financial services and savings mobilisation
8	Cocco et al. (2017)	Future Internet	268	26.8	Blockchain and bank cost savings
9	DeYoung et al. (2007)	Journal of Banking & Finance	233	11.7	Internet adoption and community bank performance
10	Andolfatto (2021)	Economic Journal	230	38.3	CBDC and private bank deposits

5. SCIENCE MAPPING

5.1 Keyword frequency and trend topics

Financial inclusion is by far the most frequent keyword (231 occurrences). It is followed by banking (83), FinTech (59), financial services (40), savings (39), India (33), financial system (24), microfinance (24), banks (22) and mobile money (22). Savings-specific terms are much less frequent. Savings (39), deposits (18), saving (6), bank deposit (5) and savings behavior (4) together account for fewer occurrences than financial inclusion alone. Savings, it appears, is usually studied as one outcome of inclusion rather than as a research object in its own right.

The trend-topic analysis (Figure 4) shows a clear shift in research attention over time:

Electronic channels and access (median year 2015–2018): internet banking, low-income population, rural finance, marketing, credit provision, online banking and customer satisfaction.

Mobile money and inclusion (median year 2019–2022): microfinance, Kenya, remittances, savings, India, financial system, deposits, financial institutions, mobile phone and financial inclusion.

FinTech and system-level concerns (median year 2023–2025): FinTech, economic growth, financial literacy, blockchain, financial stability, digital banking, the financial inclusion index and open banking.

The frontier has therefore moved from whether customers adopt digital channels to what FinTech does to banks,

financial stability and the wider economy

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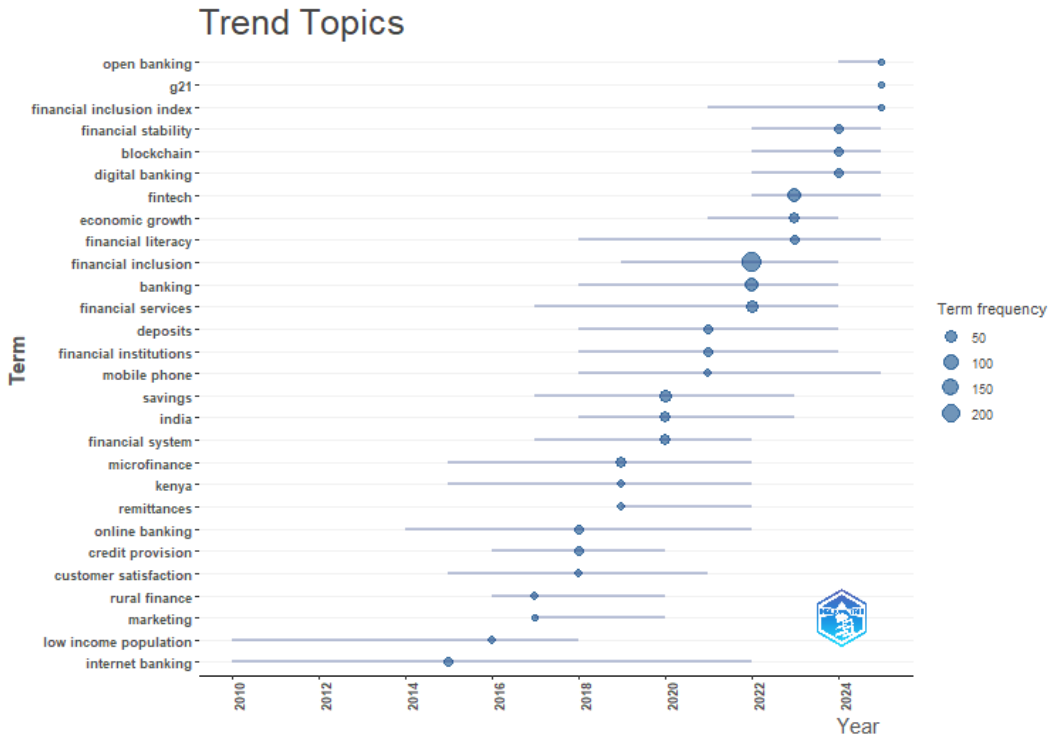
Figure 4:Trend topics, 2010–2025



Note. Dots mark each keyword's median year, lines span its first- to third-quartile years, and dot size reflects frequency. Source. Biblioshiny.

5.2 Keyword co-occurrence network

The co-occurrence network of the most frequent keywords (49 nodes; Figure 5) forms five clusters.

Financial inclusion and FinTech macro-effects (red, 22 nodes): financial inclusion, FinTech, banks, economic growth, blockchain, financial literacy, financial stability, digital finance, digital payments, monetary policy and CBDC. Financial inclusion is the network's main hub, with the highest betweenness (577.7) and PageRank (0.158).

Banking, savings and financial services in developing economies (blue, 14 nodes): banking, financial services, savings, India, microfinance, mobile money, Ghana, technology adoption, credit and mobile phone. Banking is the second hub (betweenness 120.1).

Digital banking channels and deposits (green, 6 nodes): mobile banking, deposits, internet banking, commercial banks, profitability and online banking.

Finance and poverty (purple, 4 nodes): finance, poverty, economics and human.

E-banking service quality (orange, 3 nodes): customer satisfaction, e-banking and electronic banking. This cluster is disconnected from the rest of the network.

The deposit-related cluster (cluster 3) is small and sits on the edge of the network. It is linked to the core mainly through mobile banking (betweenness 34.9). This suggests that bank-level deposit outcomes are not yet well integrated with the inclusion and FinTech debates

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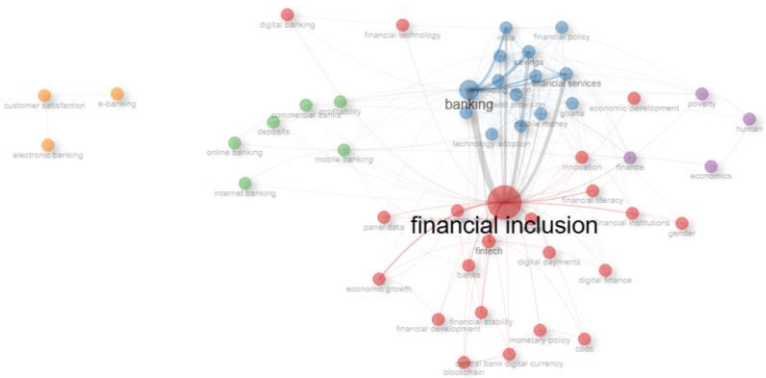
Figure 5:Keyword co-occurrence network (49 nodes)



Note. Node size reflects frequency, colours mark clusters, and line thickness reflects co-occurrence strength. Source. Biblioshiny.

5.3 Thematic map

The strategic map (Figure 6) places six keyword clusters in four quadrants according to their Callon centrality and density (Table 6).

Table 6:Thematic clusters: centrality, density and quadrant

Cluster (label)	Main keywords	Callon centrality	Callon density	Frequency	Quadrant
Banking	banking, financial services, savings, India, microfinance, mobile money	8.74	35.37	494	Basic
Financial inclusion	financial inclusion, banks, economic growth, financial literacy, financial stability	6.06	37.64	676	Basic
FinTech	FinTech, mobile banking, blockchain, deposits, internet banking, digital banking	4.37	39.67	405	Motor (border)
Digital finance	digital finance, mobile phone, gender, rural finance, financial exclusion	2.75	44.14	82	Niche
Poverty	poverty, income, women, household, open banking	2.64	68.73	137	Niche
Monetary policy	monetary policy, CBDC, central bank, deposit, digital currency	1.06	36.58	75	Emerging or declining

Note. Merged author and index keywords; 250 terms; minimum frequency 3; Louvain clustering.

Three findings stand out. First, banking, financial services and savings is the most central cluster (centrality 8.74), but it has the lowest density of all six (35.37). Savings is therefore a foundational theme that is still weakly developed. Second, the FinTech cluster, which contains deposits, mobile, internet and digital banking, sits on the border of the motor quadrant. It is moving towards becoming a driver of the field. Third, monetary policy and CBDC falls in the emerging-or-declining quadrant. Given that its median trend years are recent (2023–2025), it is best read as an emerging theme that directly concerns the future of bank deposits

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Figure 6:Thematic map

Note. The horizontal axis shows relevance (Callon centrality), the vertical axis shows development (Callon density), and bubble size reflects cluster frequency. Source. Biblioshiny.

5.4 Co-citation analysis: intellectual foundations

The co-citation network of the most cited references (48 nodes; Figure 7) has three clusters.

Cluster 1, Financial inclusion measurement and savings experiments (red): Demirgüç-Kunt and colleagues' Global Findex work is the network's central node (betweenness 646.4). Around it sit Sarma's (2008) inclusion index, savings field experiments (e.g., Prina, 2015) and the asset-building and youth-savings tradition of Sherraden, Ssewamala and Friedline.

Cluster 2, Banking and finance economics and methods (blue): This cluster combines bank competition, stability and law-and-finance research (Berger, Claessens, La Porta), FinTech and lending research (Jagtiani, Piskorski) and inclusive-banking studies (Ahamed & Mallick, 2019) with dynamic panel econometrics (Arellano, Blundell). It forms the methodological backbone for bank-level studies.

Cluster 3, Inclusion, stability and adoption (green): This cluster links financial inclusion with bank stability and digital finance (Fungáčová & Weill, 2015; Ozili, 2018) and digital-finance adoption (Venkatesh et al., 2003). Hess's contribution to Findex 2017 is its bridging node (betweenness 152.7).

The field thus rests on three foundations: a development-economics base on access and saving behaviour, a banking-economics base on competition and stability, and a technology-adoption base

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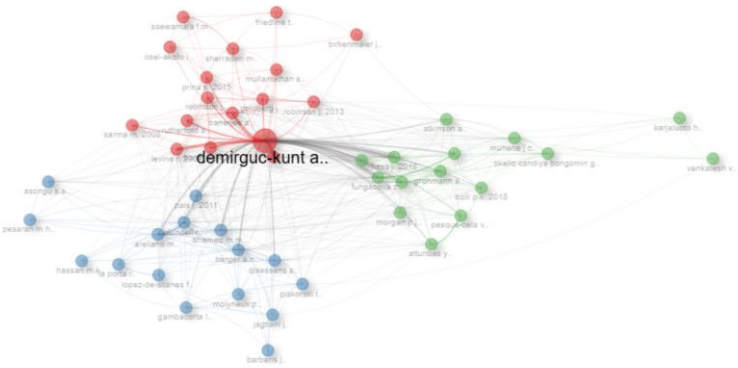
Figure 7:Co-citation network of cited references (48 nodes)



Note. Colours mark the three intellectual clusters; node size reflects PageRank. Source. Biblioshiny.

5.5 Bibliographic coupling: current research fronts

Bibliographic coupling of documents yields six clusters, shown in Figure 8 and Table 7. Each cluster is labelled by its most characteristic keywords

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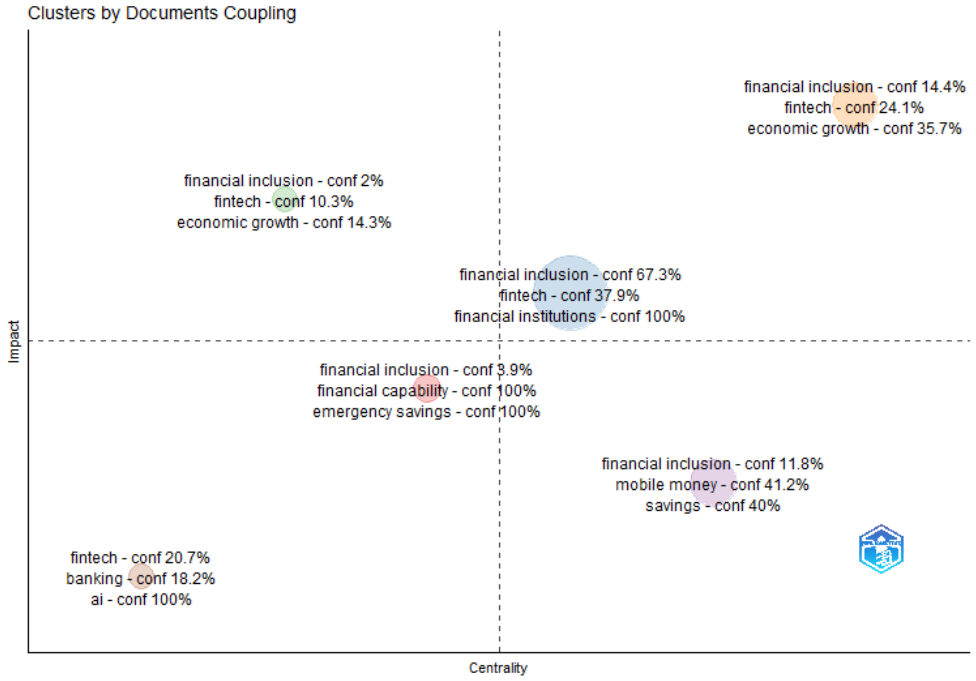
Table 7:Research fronts from bibliographic coupling of documents

Cluster	Label (keywords)	Documents	Centrality	Impact	Leading documents
C2	Financial inclusion, FinTech, financial institutions	142	0.42	3.20	Fungáčová & Weill (2015); Sharma (2016); Demirgüç-Kunt et al. (2020)
C4	Mobile money and savings	37	0.43	1.79	Loaba (2022); Ouma et al. (2017); Steinert et al. (2018)
C5	FinTech, inclusion and economic growth	33	0.48	4.06	Ahamed & Mallick (2019); Vo et al. (2021); Banna et al. (2021)
C1	Financial capability and emergency savings	14	0.28	2.14	Despard et al. (2020); Friedline et al. (2019)
C3	Inclusion, FinTech and growth (recent)	12	0.25	3.24	C.-C. Lee et al. (2021); Canlas et al. (2025)
C6	FinTech, banking and AI	12	0.18	1.55	Kaddumi et al. (2023); Allen et al. (2025)

Note. Coupling based on cited references; impact is the normalised local citation score; Walktrap clustering. Documents from Biblioshiny's labelled units (n = 250).

The largest front, C2 (142 documents), studies the determinants and effects of financial inclusion through banks. The highest-impact front, C5 (impact 4.06), links FinTech-driven inclusion to bank stability, risk-taking and growth. The front most directly about savings, C4, is mid-sized and central but has relatively low impact (1.79). It covers mobile money, mobile banking and saving behaviour, mainly in Africa (Loaba, 2022; Ndassi Teutio et al., 2023; Ouma et al., 2017). Two smaller fronts point to newer directions: household financial capability and emergency savings (C1), and AI-enabled banking (C6).

Figure 8:Clusters by bibliographic coupling of documents



Note. The horizontal axis shows centrality and the vertical axis impact; labels give each cluster's top keywords with their confidence. Source. Biblioshiny.

6. DISCUSSION: FIVE RESEARCH STREAMS

Taken together, the co-word, co-citation and coupling results point to five research streams. Figure 9 places them in an integrative framework that links FinTech innovations to savings and deposit outcomes through four mechanisms.

6.1 Stream 1: FinTech-enabled financial inclusion as a gateway to formal savings

This is the largest stream, corresponding to coupling cluster C2 and co-citation cluster 1. It treats an account or a digital channel as the first step towards formal saving. Studies find that income, education, gender and age shape the use of formal accounts and formal saving (Fungáčová & Weill, 2015) and link inclusion to growth, notably in India (Sharma, 2016). A recurring finding is that access does not automatically lead to use. In rural south India, gold, rotating savings groups and private lending remained the dominant forms of saving despite large public programmes, shaped by cultural norms and social institutions (Goedecke et al., 2018). Account-level data from India's Pradhan Mantri Jan Dhan Yojana show a slow diffusion of even basic deposit, withdrawal and transfer services in the new accounts (Singh & Prasad, 2024).

6.2 Stream 2: Mobile money, digital channels and household saving behaviour

This stream, coupling cluster C4, tests whether digital channels change how much and how households save. Mobile financial services raise both the likelihood of saving and the amounts saved in sub-Saharan Africa (Ouma et al., 2017). In West Africa, using mobile banking services raises the likelihood of formal saving by 2.4%, including for women (Loaba, 2022). Perceived cost, relative advantage and ubiquity drive the intention to use mobile money for bank deposits in Cameroon, which suggests that mobile money can act as a deposit channel for banks (Ndassi Teutio et al., 2023). Experimental evidence is more mixed. In Sri Lanka, mobile-linked bank accounts produced a small rise in bank deposits but no change in overall savings, implying that transaction costs are not the main barrier (de Mel et al., 2022). In India, by contrast, financial education raised the total savings of branchless-banking clients by 49% within a year (Calderone et al., 2018). A meta-analysis of randomised trials in sub-Saharan Africa finds small but significant effects of saving-promotion interventions (Steinert et al., 2018). Much of the evidence comes from Kenya, Ghana and West Africa.

6.3 Stream 3: FinTech, bank performance, deposits and stability

This stream, coupling cluster C5, has the highest impact. It studies FinTech from the bank's side. FinTech innovation improves bank efficiency in China (C.-C. Lee

et al., 2021), and FinTech adoption is linked to better financial performance in Jordan (Kaddumi et al., 2023). Inclusion supports bank stability, depending on market structure and regulation (Ahamed & Mallick, 2019; Feghali et al., 2021; Vo et al., 2021). FinTech-based inclusion also affects risk-taking (Banna et al., 2021). Direct evidence on deposits is still thin and comes mostly from single countries. Turkish deposit banks invest in digital banking as a strategic necessity rather than a source of advantage (Kahveci & Wolfs, 2018). Vietnamese banks with mobile banking applications show about 10.6% higher deposit growth (Duong et al., 2023). Other studies examine electronic banking and deposit market share in Iran (Kashmari et al., 2016) and the regionally uneven effect of mobile banking on deposits in China (Wu et al., 2023). Canlas et al. (2025) find that both small and large deposits were withdrawn ahead of bank failures in the Philippines, and that contagion reached small depositors too. This raises a question for inclusion-driven deposit growth: does a broader deposit base mean a more stable one?

6.4 Stream 4: Digital money, CBDC and competition for deposits

This emerging stream corresponds to the monetary-policy cluster of the thematic map. It asks whether new forms of money and new intermediaries will draw deposits away from banks. FinTech and regulatory arbitrage helped shadow banks gain market share (Buchak et al., 2018), and interest-rate liberalisation and FinTech jointly affect the stability of shadow deposits in China (Chan & Ji, 2020). Cryptocurrency market growth has been linked to bank deposit variability in the Gulf region (Othman et al., 2020), and growth in decentralised finance shows a weak negative long-run association with bank deposits (Harir & Bel Mkaddem, 2025). The CBDC literature models how a retail CBDC could compete with bank deposits and affect lending and monetary transmission (Agur et al., 2022; Andolfatto, 2021; Barrdear & Kumhof, 2022). In a model of retail deposit markets, lower entry costs from online banking reduce banks' market power and weaken the deposits channel of monetary policy (Choi & Rocheteau, 2023).

6.5 Stream 5: Financial capability, emergency savings and asset building

This smaller stream, coupling cluster C1, comes mainly from social work and family economics. It links savings to financial capability, meaning knowledge and skills combined with access to suitable products. Households without emergency savings tend to have weaker financial capability (Despard et al., 2020; Reyers, 2019). Local financial-service environments shape savings-account ownership (Friedline et al., 2019). Youth savings experiments in Ghana show effects on savings and schooling (Ansong et al., 2019; Y. S. Lee et al., 2017). This stream offers rich behavioural insight but rarely engages with FinTech product design or with banks' own strategies.

6.6 Synthesis

Three patterns cut across the streams. First, savings is mostly studied as a downstream outcome of inclusion rather than as a bank decision variable such as deposit pricing, deposit mix or deposit stability. Second, household studies (Streams 1, 2 and 5) and bank studies (Streams 3 and 4) seldom cite each other. This is visible in the small, peripheral deposit cluster of the co-word network and in separate co-citation foundations. Third, the evidence is geographically uneven. India is the second most productive country, but its research is almost entirely domestic, while much of the experimental evidence comes from Africa

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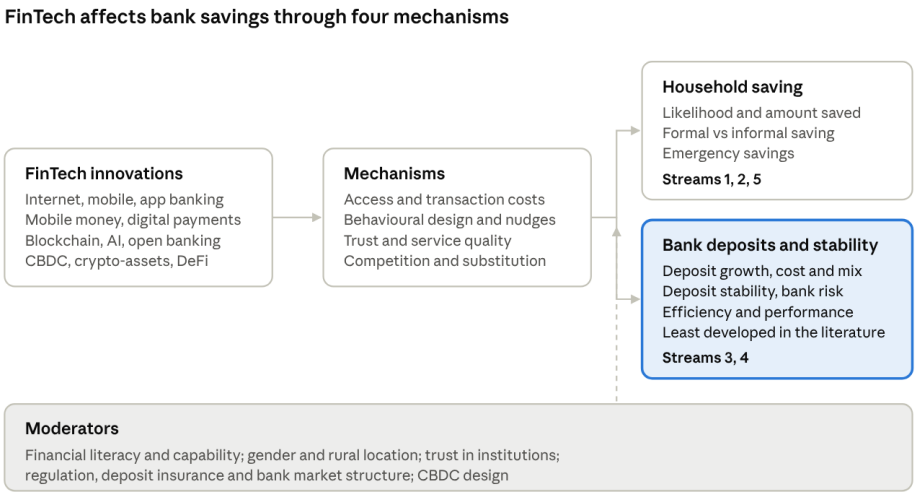
Figure 9:Integrative framework of FinTech and bank savings research



Note. The highlighted outcome, bank deposits and stability, is the least developed area of the literature. Source. Authors' synthesis of the science-mapping results.

7. FUTURE RESEARCH AGENDA

The gaps identified in Sections 4–6 point to nine directions for future research. Each is grounded in the evidence of this review and is set out below with indicative research questions, suitable methods and possible data sources.

FinTech and bank-level deposit outcomes: The deposit cluster in the co-occurrence network is small and peripheral (Section 5.2), and savings is a basic but weakly developed theme in the thematic map (Section 5.3). Existing deposit studies are mostly confined to single countries. Future research should ask how FinTech intensity affects deposit growth, the cost of deposits, the share of current and savings accounts and the mix of term deposits in commercial banks, and whether these effects differ between public, private and foreign banks. Bank-level panel data, FinTech disclosure indices built from annual reports through text mining, dynamic panel GMM estimation and difference-in-differences designs around digital product launches are well suited to these questions.

Deposit stability in the digital era: Inclusion-driven deposit growth does not necessarily mean stable funding. Canlas et al. (2025) show that both small and large deposits were withdrawn ahead of bank failures, yet empirical work on digitally enabled withdrawals remains scarce. Researchers could examine whether deposits gathered through digital channels are more or less stable under stress, and whether the speed of digital withdrawals changes liquidity risk and the design of deposit insurance. High-frequency deposit data, event studies of stress episodes, survival and hazard models and supervisory data offer promising routes.

CBDC, stablecoins, decentralised finance and deposit substitution: Monetary policy and CBDC form an emerging theme (Table 6), but the literature is dominated by theoretical models (Agur et al., 2022; Andolfatto, 2021). Empirical work is needed on how retail CBDC pilots, such as India's e-rupee, affect households' willingness to hold bank deposits, and on which holding limits or remuneration designs best protect bank funding. Pilot transaction data, survey and choice experiments, calibrated macro-finance models and cross-country comparisons of CBDC pilots can address these questions.

Behavioural design of digital savings products: Access to accounts does not guarantee their use (Goedecke et al., 2018; Singh & Prasad, 2024), and experimental results on digital savings remain mixed (Calderone et al., 2018; de Mel et al., 2022). Future studies should identify which digital features, such as goal-based saving, round-ups, automatic sweeps, recurring-deposit reminders and default enrolment, sustain saving over time. Randomised controlled trials and A/B tests conducted with banks, app usage logs and behavioural measures of present bias would strengthen this evidence.

Linking household and bank perspectives: Household-level streams (Streams 1, 2 and 5) and bank-level streams (Streams 3 and 4) rarely cite each other (Section 6.6). Research is needed on how customers' adoption intentions, trust and financial capability translate into deposit balances and bank funding outcomes. Multilevel models that link customer surveys to branch- or bank-level data, and designs that combine PLS-SEM with panel econometrics, could bridge the two literatures.

India and urban FinTech hubs: India is the second most productive country in the field, yet only 3.2% of its papers are internationally co-authored (Table 4), and Indian evidence centres largely on financial inclusion programmes. Future work could examine how the Unified Payments Interface, the Account Aggregator framework and digital fixed and recurring deposits shape saving in commercial banks, and whether savers in urban FinTech hubs such as Bengaluru behave differently from those in rural districts. Comparative household surveys, bank-level data from the Reserve Bank of India and international comparative designs with cross-country co-authorship would add depth and external validity.

Gender, rural and vulnerable savers: Digital finance, gender and rural finance form a niche theme with high density but low centrality (Table 6). Researchers should ask whether digital saving narrows gender and rural savings gaps or instead widens digital divides, and which groups are left behind. The latest waves of Global Findex microdata, intersectional analysis and mixed-methods designs are appropriate for this work.

AI, open banking and personalised savings: Open banking and the financial inclusion index peak as trend topics in 2025 (Figure 4), and an AI-banking research front is emerging (Table 7, cluster C6). Future studies could investigate how AI-driven personalisation, robo-advice and open-banking data sharing affect savings product choice, switching between banks and competition for deposits. Platform and open-banking API data, quasi-experiments around open-banking regulation and discrete-choice experiments are suitable approaches.

Methodological consolidation: The evidence remains fragmented across disciplines and methods, and the corpus contains no meta-analysis of FinTech effects on bank savings. A systematic review and meta-analysis drawing on both Scopus and Web of Science could estimate the average effect of digital channels on saving and deposits and identify its moderators. Periodic bibliometric updates would also help track how this fast-growing field evolves.

8. IMPLICATIONS, LIMITATIONS AND CONCLUSION

8.1 Theoretical implications

The review shows that savings, although central to banking theory, is a weakly developed theme in FinTech research. Most studies treat it as a by-product of financial inclusion. We propose that future work treat deposit mobilisation as a distinct outcome. It should be explained jointly by intermediation theory, which covers costs, competition and funding stability, and by behavioural and adoption theories, which cover use, trust and present bias. The framework in Figure 9 offers a starting point for building and testing such integrated models. The review also shows that the field's intellectual base is split between development economics and banking economics. Bridging the two is a theoretical priority.

8.2 Practical and policy implications

For bank managers, the evidence suggests that digital channels widen access, but sustained saving depends on product design and customer capability. Investing in channels alone may yield only a competitive parity, not an advantage (Kahveci & Wolfs, 2018). Banks should therefore pair digital channels with behavioural features, such as goals, automation and reminders, and with monitoring of how stable digitally gathered deposits are.

For regulators and central banks, the emerging CBDC and

decentralised-finance literature warns that new forms of money can compete with deposits. CBDC design choices, such as holding limits and remuneration, should consider effects on bank funding (Agur et al., 2022; Andolfatto, 2021). Supervisors should also monitor how fast digital deposits move during stress.

For policymakers in India and other emerging economies, account-opening drives need to be followed by measures that turn accounts into active savings vehicles (Goedecke et al., 2018; Singh & Prasad, 2024). The low level of international co-authorship in Indian research also suggests scope for policies that fund cross-country collaboration.

8.3 Limitations

This study has limitations. First, it uses Scopus only. Although Scopus has broad coverage, combining it with Web of Science could capture additional work. Second, the language, document-type and subject-area filters may exclude relevant studies, such as non-English, conference or working-paper research. Third, the full set of 603 records returned by the search was analysed without manual title and abstract screening. A small number of loosely related records, such as studies of blockchain cost savings, therefore remain in the corpus. Fourth, keyword variants (for example deposit and deposits, or e-banking and electronic banking) were not merged with a thesaurus, which may slightly fragment clusters. Fifth, citation counts for recent documents, especially those from 2024–2025, are still accumulating, so their influence is understated. Future reviews could address these limits with multi-database searches, PRISMA-based screening and thesaurus-based keyword cleaning.

9.CONCLUSION

Over two decades, research on FinTech and bank savings has grown from a handful of internet-banking studies into a fast-expanding field of more than 600 documents, with output rising by 27.51% a year. The field is anchored in financial inclusion, centred on the United States and India, and moving towards FinTech, digital banking, financial stability, CBDC and open banking. Yet savings and deposits, the very function that links FinTech to the core of commercial banking, remain under-theorised and studied mostly indirectly. By mapping the field's structure, identifying five research streams and setting out a nine-point agenda, this study provides a foundation for research that places savings mobilisation at the centre of the FinTech–banking debate..

10.DECLARATIONS

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Conflict of interest

The authors declare no conflict of interest.

Declaration of AI Tool Usage

The authors declare that AI-assisted tools, namely Grammarly, SciSpace, Jenni AI, and Paperpal, were used solely for grammar, spelling, and language corrections to improve manuscript readability. No AI tools were used for generating scientific content, data analysis, or interpretation. The authors take full responsibility for the manuscript's content and originality.

Data availability

The bibliographic data were retrieved from the Scopus database on 12 October 2026 using the search string in Appendix A. The data are available from the corresponding author on reasonable request, subject to Scopus licensing term

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