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ORIGINAL PAPER

FinTech and the Integration of Financial Markets and Institutions: Mapping Research Frontiers and Impact Pathways

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Abstract
This study examines how academic research links FinTech to the integration of financial markets and institutions. It aims to map the field's intellectual structure, thematic evolution and collaboration patterns, and to distinguish the mechanisms associated with integration. A query-pair retrieval protocol in Web of Science yielded a screened sample of 764 articles and reviews published between 2013 and 2026. The analysis combines performance indicators, local citations, a keyword co-occurrence network normalised by association strength, Callon's centrality–density measures and Kleinberg burst detection. The results indicate rapid recent growth (44.8% compound annual growth over 2017–2025; 91% of documents published after 2021), concentrated author affiliations (China appears in 44% of documents) and a high share of single-document contributors (Lotka exponent ≈ 4.6). Four thematic clusters are identified: market connectedness and systemic risk; payment infrastructure, interoperability and regulation; digital finance and spatial real-economy spillovers; and SME financing frictions. The map connects integration-related research with spillover, connectedness and interoperability concepts, while recent keyword bursts highlight green finance and digital financial inclusion. The paper proposes three interpretative pathways—friction reduction, infrastructural interoperability, and risk sharing versus contagion—and a research agenda centred on comparable integration measures and their application to the European Union and Central and Eastern Europe. These conclusions concern the selected corpus: the retrieval limits, source screening and partial coverage of 2026 constrain generalisation to the wider literature.
Keywords: *FinTech; financial integration; market connectedness; interoperability; open banking; bibliometric analysis*

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1. Introduction

Financial integration is a central objective of European economic governance, from the Single Market to the Banking Union and the Capital Markets Union. Integration requires equal access and common rules, with economically identical assets and services priced identically regardless of location (Baele, Ferrando, Hördahl, Krylova & Monnet, 2004). Digital payments, application programming interfaces (APIs), platform-based lending, distributed ledgers and central bank digital currencies can change the costs of moving information and value across boundaries. The question is therefore how technology removes, reshapes or creates financial frictions.

The FinTech literature has grown at a pace that makes it difficult to see the whole. Early conceptual contributions described the forces of innovation, disruption and transformation in financial services (Gomber, Kauffman, Parker & Weber, 2018) and the implications for banking (Thakor, 2020; Vives, 2019). In parallel, empirical work has examined risk spillovers between FinTech firms and incumbent institutions (Li, Li, Zhu, Yao & Casu, 2020), the effects of mobile money on risk sharing (Riley, 2018) and the potential of FinTech to support the European Capital Markets Union (Demertzis, Merler & Wolff, 2018). These strands use the word "integration" in different senses: price convergence and co-movement in market studies, interoperability and access in payments research, and territorial diffusion in regional economics.

The study addresses four questions: (RQ1) how large, recent and geographically distributed is the selected literature; (RQ2) which documents form its intellectual base; (RQ3) which thematic communities structure it and how central and developed are they; and (RQ4) which topics are emerging and which measurement priorities follow? It reports a structured retrieval and screening protocol using Web of Science, tests cluster stability across algorithms and combines co-word analysis with burst detection. The resulting map informs a framework of three integration pathways and a measurement-oriented research agenda for the European Union and Central and Eastern Europe.

2. Conceptual background: three meanings of FinTech-enabled integration

The integration literature distinguishes price-based measures (yield and interest-rate dispersion, return co-movement), quantity-based measures (cross-border holdings and flows) and institution-based measures (common rules, access to infrastructures) (Baele et al., 2004). Each can be linked to a distinct FinTech mechanism.

The first mechanism is *friction reduction*. Digital channels lower search, verification and transaction costs and reduce information asymmetries through alternative data and automated underwriting (Fuster, Plosser, Schnabl & Vickery, 2019; Philippon, 2016). Lower frictions should, in principle, compress price differences and expand cross-border participation, which corresponds to price- and quantity-based integration. The second mechanism is *infrastructural interoperability*. Open banking mandates, standardised APIs and interoperable fast-payment systems connect previously closed networks, so that the integration of institutions occurs through shared technical layers rather than through ownership or branch networks. Evidence from India's Unified Payments Interface suggests that interoperability increases the adoption of digital payments by widening users' choice of applications (Copestake, Kirti & Martinez Peria, 2025), while competition authorities emphasise the role of data-sharing frameworks in opening markets to new entrants (OECD, 2024). The third mechanism concerns *risk transmission*. Greater connectedness can improve risk sharing, but it can also accelerate contagion. Spillover measures (Diebold & Yilmaz, 2012) characterise connectedness

involving FinTech, traditional financial institutions and other asset classes, including during periods of stress (Le, Yarovaya & Nasir, 2021; Li et al., 2020).

These mechanisms provide complementary perspectives on integration. A bibliometric map can describe their thematic connections and relative visibility, but cannot establish causal effects or rule out relevant evidence outside the sample.

3. Data and methodology

3.1. Retrieval protocol and screening

The corpus was retrieved from Web of Science and the search was designed as a grid of 96 query pairs, of which 94 were executed, each combining one FinTech descriptor with one integration descriptor in titles and abstracts (Table 1). The union of all pairs was deduplicated by record identifier. Two filters were then applied. First, 441 records retrieved exclusively through the polysemous term "convergence" (treated as a source of technological-convergence matches in the screening protocol) were removed. Second, the remaining 2,320 records were restricted to those published in sources classified as core by the Centre for Science and Technology Studies (CWTS, Leiden University), an additional source-selection criterion distinct from the Web of Science Core Collection. The final corpus contains 764 documents (749 articles and 15 reviews; 763 in English).

Table 1. Retrieval and screening protocol

Step	Specification
Database	Web of Science (API)
Search field	Titles and abstracts; publication years 2008–2026; document types: article, review
FinTech descriptors (8)	fintech; "financial technology"; "financial technologies"; "digital finance"; "open banking"; "digital payments"; "platform finance"; "mobile money"
Integration descriptors (12)	"financial integration"; "market integration"; "banking integration"; "financial market integration"; "capital mobility"; "cross-border payments"; cross-border; interoperability; interconnectedness; spillover; harmonization; convergence
Query design	96 pairs (FinTech AND integration descriptor); top 200 records by relevance per pair; 94 pairs executed
Records retrieved (union)	2,761 unique works
Exclusion 1	Records matched only through "convergence" (polysemy): −441 → 2,320
Exclusion 2	Sources not classified as CWTS core: −1,556 → 764
Final corpus	764 documents (749 articles, 15 reviews), 2013–2026

Source: Author's design.

3.2. Analytical design

The analysis follows the science-mapping workflow formalised by Aria and Cuccurullo (2017), implemented in Python to allow the additional robustness tests

described below. Performance analysis covers annual production, sources, citations, authorship and country collaboration, distinguishing single-country (SCP) from multiple-country publications (MCP) by the first author's country. Author productivity is assessed against Lotka's (1926) inverse power law, in which the number of authors with n publications is proportional to $\frac{1}{n^{\alpha}}$. The intellectual base is identified through local citations, that is, citations received from other documents in the corpus.

The conceptual structure is derived from the 60 most frequent keywords in the bibliometric dataset (3,199 distinct keywords; 9.9 per document on average). Co-occurrences were normalised by association strength, $AS_{ij} = \frac{c_{ij}N}{c_i c_j}$, where $c$ij is the number of documents in which keywords i and j co-occur, ci and cj are their frequencies and N is the number of documents; this measure corrects for the size effect of frequent terms (van Eck & Waltman, 2009). Communities were detected with the Louvain modularity algorithm (Blondel, Guillaume, Lambiotte & Lefebvre, 2008). Following the triangulation strategy announced in the research design, the partition was compared with twenty alternative random seeds, with greedy modularity optimisation, with label propagation and with a Louvain run on raw counts, using the adjusted Rand index (ARI) (Hubert & Arabie, 1985). Each cluster was positioned using Callon's centrality (strength of external links) and density (strength of internal links), computed from the equivalence index $e_{ij} = \frac{{c_{ij}}^2}{c_i c_j}$ (Callon, Courtial & Laville, 1991). Finally, emerging topics were identified with Kleinberg's (2003) two-state burst detection algorithm applied to annual keyword frequencies relative to annual output (scaling parameter $s = 2$, transition cost $\gamma = 1$).

4. Results

4.1. Growth, sources and production structure

Table 2 summarises the corpus. Publication output in the sample is recent and expanding rapidly. Only 67 documents were published between 2013 and 2021, whereas 697 documents (91.2%) appeared from 2022 onwards (Figure 1). Annual output rose from 10 documents in 2017 to 193 in 2025, a compound annual growth rate of 44.8%, and the 217 documents already indexed for 2026 exceed the full 2025 total. The mean of 20.1 citations per document is driven by a small number of highly cited works, while 30% of the documents have not yet been cited, which is consistent with the recency of the corpus.

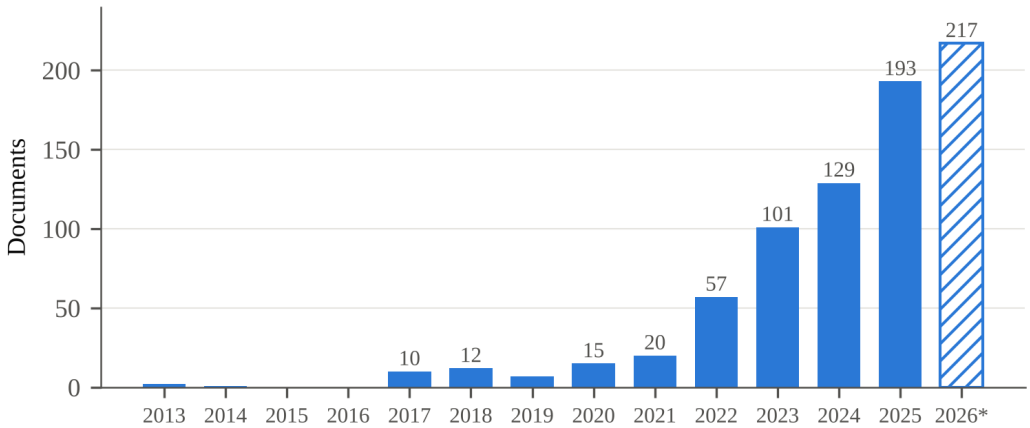
Table 2. Main characteristics of the corpus

Indicator	Value
Timespan	2013–2026
Documents / sources	764 / 377
Compound annual growth rate, 2017–2025	44.8%
Share of documents published 2022–2026	91.2%
Total citations / mean citations per document	15,329 / 20.1
Uncited documents	229 (30.0%)
Mean references per document	40.0
Distinct keywords / mean per document	3,199 / 9.9

Indicator	Value
Authors / mean authors per document	1,828 / 2.86
Single-authored documents	173 (22.6%)
Authors with a single document	1,692 (92.6%)
Lotka exponent (α)	4.61
Countries / country collaboration pairs	93 / 293

Source: Author's calculations.

Figure 1. Annual scientific production, 2013–2026



Note: *2026 data cover 1 January–31 October (hatched bar). Source: Author's calculations.

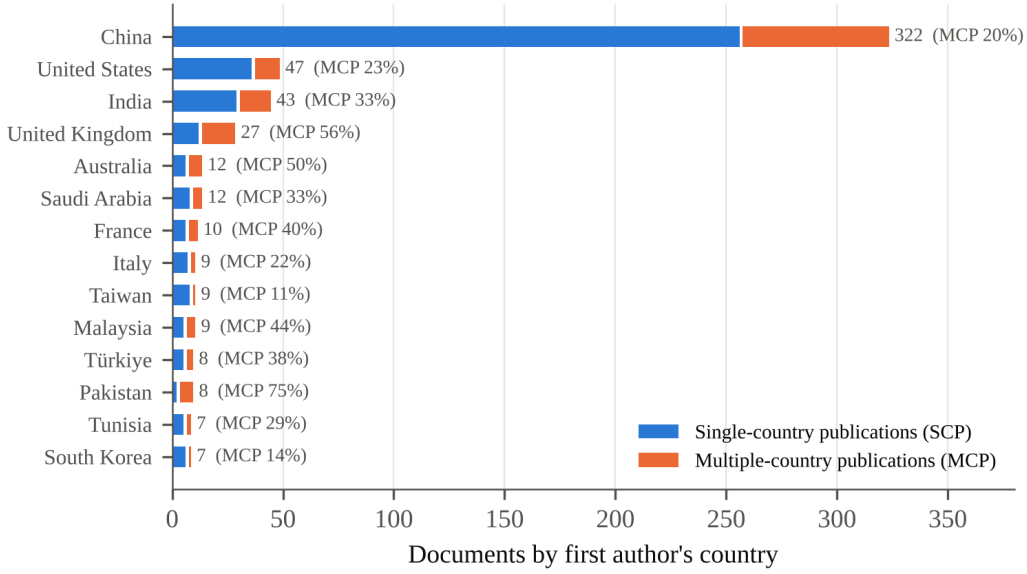
Production is dispersed across 377 sources. *Sustainability* (32 documents), *Finance Research Letters* (19), *Resources Policy* (14), *Research in International Business and Finance* (13), *International Review of Economics & Finance* (13) and *International Review of Financial Analysis* (12) are the most productive outlets. The presence of environmental and resource-economics journals among the leaders already signals that a large part of the literature links digital finance to real-economy and environmental outcomes rather than to financial integration in the narrow sense.

Authorship is concentrated among single-document contributors. Of 1,828 authors, 1,692 (92.6%) contributed a single document, and no author contributed more than five. The estimated Lotka exponent ($\alpha \approx 4.6$) is above the classical value of 2, consistent with the steep decline in author counts as productivity increases. This pattern describes participation in the selected corpus; it does not establish that these authors are occasional researchers or that the wider field lacks established specialists. The average document has 2.86 authors and 22.6% are single-authored.

The geographical distribution is strongly concentrated. The following counts include documents with at least one affiliated author from each country; Figure 2 instead attributes each document to the first author's country. Authors affiliated with Chinese institutions appear in 334 documents (43.7% of the corpus), followed by the United States (81), the United Kingdom (57) and India (56). Among the reported European Union affiliations, France appears in 24 documents, Italy in 12, Spain in 9 and Germany in 7.

These affiliation counts describe research participation, not the countries examined by the studies. International collaboration is limited: only one fifth of the documents with a Chinese first author involve foreign co-authors, compared with 56% for the United Kingdom. The strongest bilateral links connect China with the United States (15 joint documents), the United Kingdom (13) and Malaysia (9).

Figure 2. Most productive countries and international collaboration



Note: Documents attributed to the first author's country; MCP = share of documents with co-authors from other countries. Source: Author's calculations.

4.2. Intellectual base

Table 3 lists the most locally cited documents. Gomber et al. (2018) is the dominant reference, cited by 50 documents in the corpus, and acts as the field's conceptual anchor. The next four positions concern connectedness and spillovers involving FinTech, traditional financial institutions, other asset classes and investor attention (Li et al., 2020; Le, Yarovaya & Nasir, 2021; Chen, Chiu & Chung, 2022; Adekoya, Oliyide, Saleem & Adeoye, 2022). A second group comprises policy-oriented contributions on the Capital Markets Union (Demertzis, Merler & Wolff, 2018) and on sustainability and inclusion (Arner, Buckley, Zetzsche & Veidt, 2020), while a third group consists of Chinese regional studies on digital finance, carbon efficiency and industrial upgrading (Ren, Zeng & Gozgor, 2023; Zhang & Liu, 2022). These influential documents illustrate several strands also visible in the keyword network.

Table 3. Most locally cited documents in the corpus

Document	Source	Local citations	Global citations
Gomber et al. (2018)	Journal of Management Information Systems	50	2,135

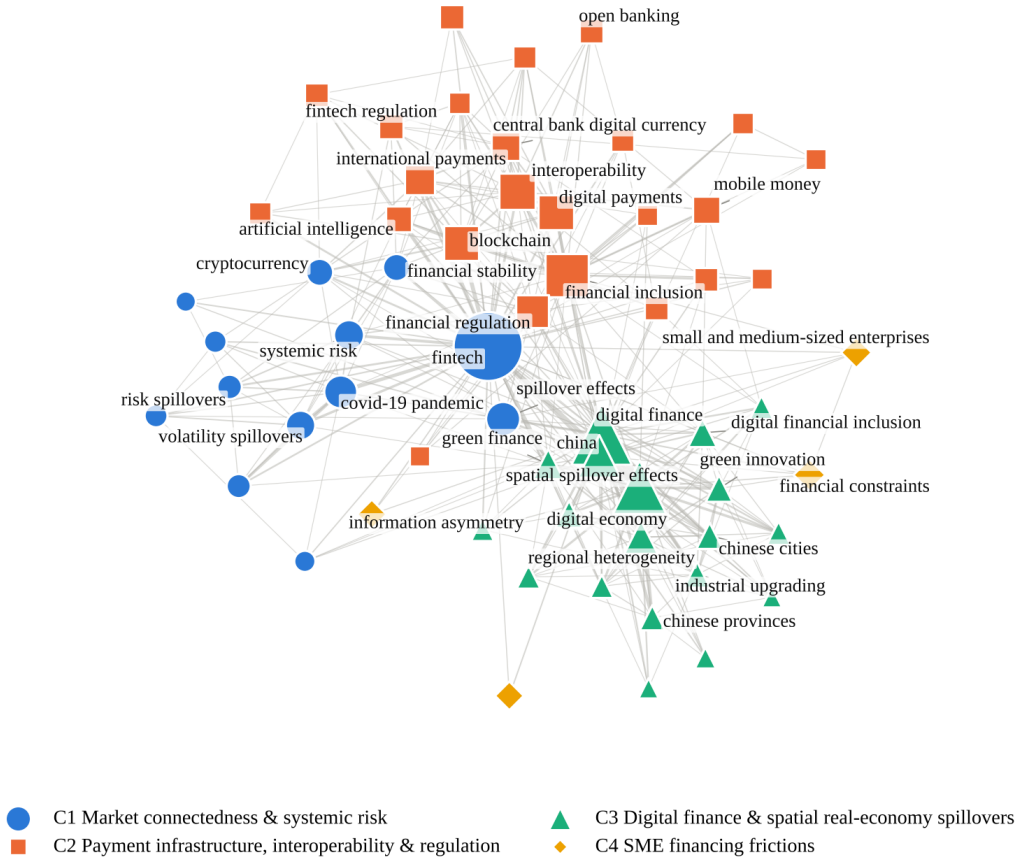
Document	Source	Local citations	Global citations
Li et al. (2020)	International Review of Financial Analysis	37	222
Le, Yarovaya & Nasir (2021)	Research in International Business and Finance	21	123
Chen, Chiu & Chung (2022)	Finance Research Letters	19	62
Adekoya et al. (2022)	Technology in Society	17	57
Demertzis, Merler & Wolff (2018)	Journal of Financial Regulation	17	341
Zhang & Liu (2022)	Science of the Total Environment	17	435
Ren, Zeng & Gozgor (2023)	Journal of Environmental Management	14	333
Arner et al. (2020)	European Business Organization Law Review	13	748
Abakah, Tiwari, Lee & Ntow-Gyamfi (2023)	International Review of Finance	13	108

Source: Author's calculations.

4.3. Conceptual structure: four thematic communities

The co-occurrence network of the 60 keywords contains 525 links with at least two co-occurrences (density 0.30). The Louvain partition has a modularity of 0.41 and shows strong agreement across random initialisations: across twenty random seeds the mean ARI is 0.91, and agreement with greedy modularity optimisation is high (ARI = 0.81). Agreement is lower with label propagation (0.58) and with clustering on raw counts (0.52). The four-community interpretation is more consistent across random seeds than across algorithms or weighting choices (Figure 3; Table 4).

Figure 3. Keyword co-occurrence network and thematic communities



Note: Node size is proportional to keyword frequency; links with at least three co-occurrences are drawn; colours and marker shapes identify Louvain communities. Source: Author's calculations.

Table 4. Thematic communities of the keyword co-occurrence network

Cluster (size)	Leading keywords	Mean year	Cit./ occ.	Centr.	Dens.
C1 (13)	fintech; spillover effects; COVID-19 pandemic; systemic risk; volatility spillovers; cryptocurrency; financial stability; risk spillovers	2023.9	26.4	15.95	13.24
C2 (24)	financial inclusion; interoperability; digital payments; blockchain; financial regulation; international payments; CBDC; mobile money; open banking	2024.0	25.0	16.52	10.81

Cluster (size)	Leading keywords	Mean year	Cit./ occ.	Centr.	Dens.
C3 (19)	digital finance; spatial spillover effects; China; regional heterogeneity; green finance; digital financial inclusion; green innovation	2024.4	19.1	11.41	23.34
C4 (4)	financial constraints; SMEs; information asymmetry; Chinese listed companies	2024.6	11.6	4.16	2.55

Note: Cluster size is the number of keywords; cluster names are defined below. Mean year is the frequency-weighted mean publication year; Cit./occ. = citations per keyword occurrence; Centr. and Dens. = Callon centrality and density (equivalence index). Louvain modularity Q = 0.41; mean ARI across 20 seeds = 0.91. Source: Author's calculations.

Cluster 1, *market connectedness and systemic risk*, groups keywords such as spillover effects, volatility and risk spillovers, systemic risk, financial stability, cryptocurrency, bitcoin, portfolio diversification and the COVID-19 and Russia–Ukraine shocks. Its centrality is second only to Cluster 2 and its density second only to Cluster 3; it has the highest citation impact (26.4 citations per keyword occurrence). Co-movement and the direction of shock transmission provide a price-based perspective on linkages between FinTech assets and traditional finance.

Cluster 2, *payment infrastructure, interoperability and regulation*, is the largest community (24 keywords) and has the highest centrality but only moderate density. It brings together financial inclusion, interoperability, digital and international payments, central bank digital currency, open banking, mobile money, blockchain, artificial intelligence and several regulatory terms. Its density is lower than that of Clusters 1 and 3, and its keywords span heterogeneous technologies and institutional questions.

Cluster 3, *digital finance and spatial real-economy spillovers*, has the highest density and the lowest centrality among the large clusters. Its vocabulary is consistent with regional research on digital finance, green innovation, industrial upgrading and carbon efficiency, illustrated by Chinese studies such as Ren, Zeng and Gozgor (2023) and Zhang and Liu (2022). The word "spillover" in this cluster refers to geographical diffusion rather than to financial contagion. This semantic distinction helps interpret why "spatial spillover effects" (145 documents) and "spillover effects" (54 documents) belong to different communities, and it warns against keyword-based reviews that treat both as evidence of financial integration.

Cluster 4, *SME financing frictions*, is a small and recent community (financial constraints, information asymmetry, small and medium-sized enterprises, Chinese listed companies) with low centrality and density. Its mean publication year (2024.6) suggests an emerging rather than a declining theme. It corresponds most directly to the friction-reduction mechanism, yet remains weakly connected to the integration debate.

The strongest inter-cluster connection joins Cluster 1 and Cluster 2 (494 co-occurrences), indicating that research on market connectedness is closely associated with payments, regulation and digital currencies. Cluster 3 is the most self-contained community: only 39% of its co-occurrence links point outside the cluster, compared with 69% for Cluster 1 and 57% for Cluster 2, while Cluster 4 is linked mainly to Cluster 3 (84 co-occurrences). The field is thus organised around a financial core (Clusters 1 and 2) and

a relatively separate regional-development periphery (Clusters 3 and 4); these links indicate shared vocabulary, rather than necessarily shared methods or research questions.

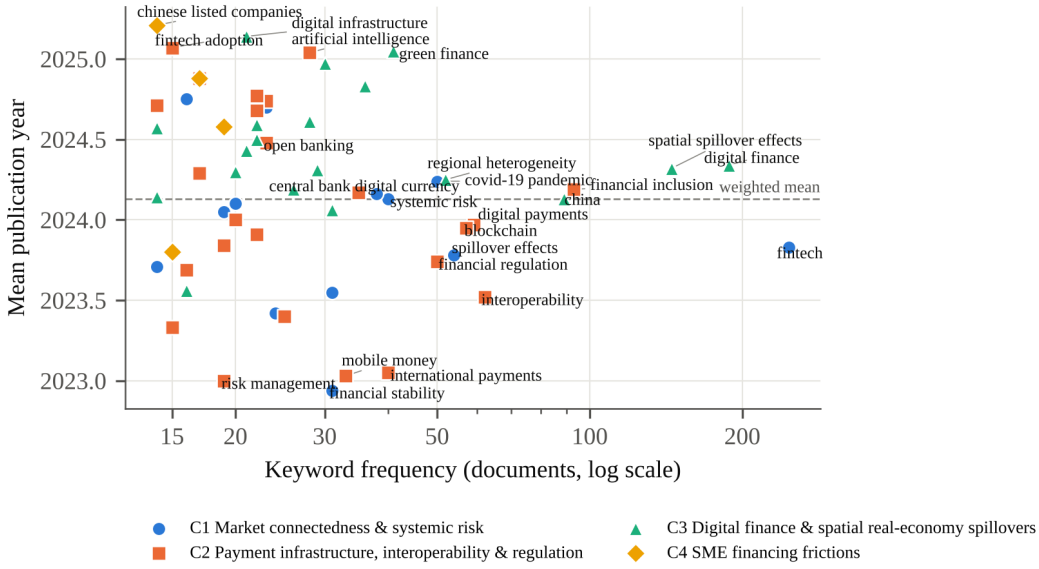
Betweenness centrality indicates the bridging role of a few general terms: "fintech" (0.22), "digital finance" (0.11), "financial inclusion" (0.06) and "financial regulation" (0.03) connect communities that otherwise share few keywords. Notably, the keyword "financial integration" does not reach the top 60: even in the set of 2,320 records before the CWTS core-source screen it is assigned to only 37 documents (1.6%), while supplementary title-and-abstract search counts are 107 for "financial integration", 660 for "cross-border", 602 for "interoperability" and 459 for "spillover". These retrieval counts should not be interpreted as shares of the final 764-document corpus or as mutually exclusive categories. The absence of "financial integration" from the top 60 keywords indicates limited visibility of that exact label, rather than an absence of research on integration.

4.4. Thematic evolution and emerging topics

Figure 4 positions each keyword by frequency and average publication year, and Figure 5 shows the share of documents mentioning the main keywords in four periods. Three dynamics stand out. First, the distribution of selected keywords has shifted from payment and stability concerns towards regional development. Between 2013–2021 and 2026, the share of documents mentioning financial stability fell from 11.9% to 2.3%, interoperability from 14.9% to 6.9% and international payments from 14.9% to 4.1%, whereas digital finance rose from 6.0% to 23.0% (with a peak of 31.0% in 2022–2023) and spatial spillover effects from 3.0% to 15.7%. Second, some keyword labels have gained visibility: the exact keyword "artificial intelligence" is not recorded before 2024 in Figure 5 but appears in 6.2% of the 2024–2025 documents, and green finance grew from zero to about 7%. Third, central bank digital currency accounts for around 3–6% of documents per period in Figure 5; the reported range for open banking is 1–4%, although that keyword is not displayed in the figure. Changes in exact labels should not be equated

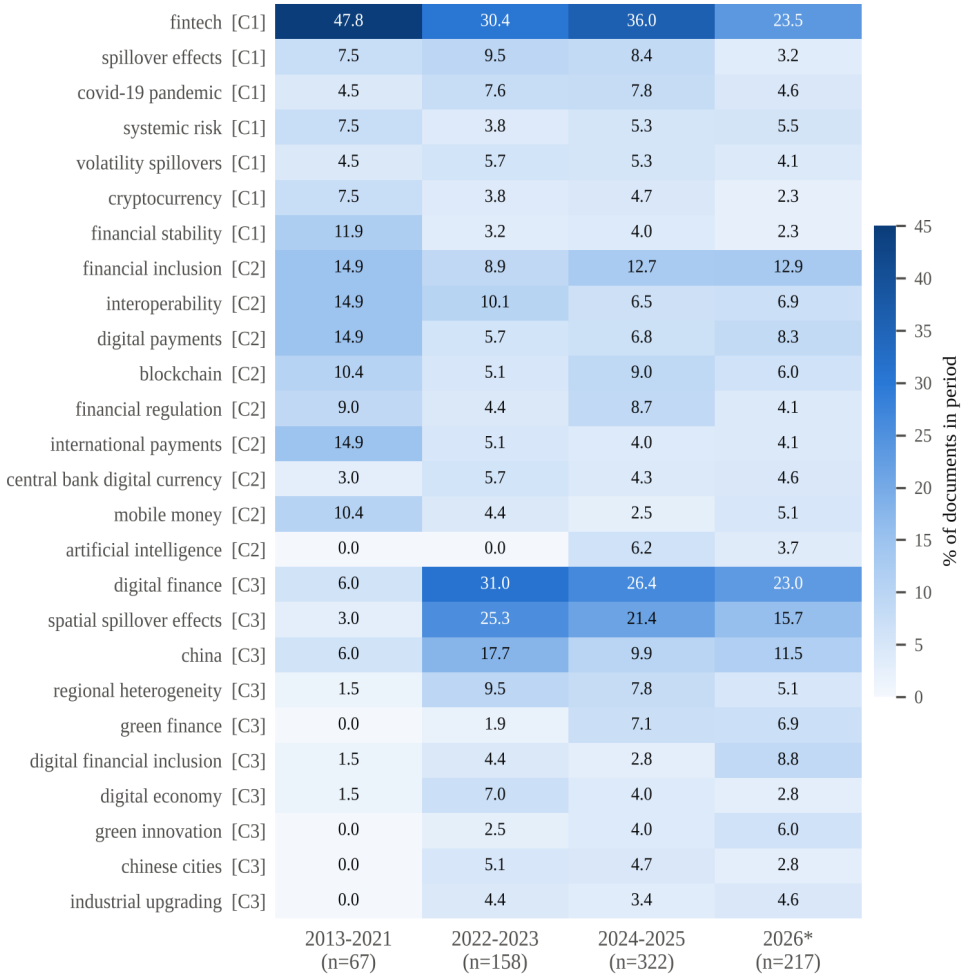
with the first appearance or disappearance of a research topic, and the 2026 period remains incomplete.

Figure 4. Thematic maturity map: keyword frequency and mean publication year



Note: The dashed line marks the frequency-weighted mean publication year of the 60 keywords. Source: Author's calculations.

Figure 5. Thematic evolution: share of documents mentioning each keyword, by period



Note: Values are percentages of documents published in each period; bracketed labels give the community. *2026 to 31 October. Source: Author's calculations.

Burst detection supports this reading (Table 5). The earliest bursts concern mobile money (2013–2020), international payments (2017–2020), financial stability (2017–2020), interoperability (2018–2020) and digital payments (2020), that is, the institutional and payment dimensions of integration. The most recent bursts concern green bonds (2025) and digital financial inclusion (2026). The detected bursts indicate increased attention to developmental and environmental vocabulary within this sample; they do not establish that cross-border connectivity has ceased to be an active research topic.

Table 5. Keyword bursts (Kleinberg algorithm)

Keyword	Burst period	Burst strength
international payments	2017–2020	5.00
green bonds	2025	3.69
digital payments	2020	3.37
financial stability	2017–2020	3.25
interoperability	2018–2020	3.14
digital financial inclusion	2026	3.13
mobile money	2013–2020	3.00

Note: Two-state automaton, $s = 2$, $\gamma = 1$; strength is the log-likelihood gain of the burst state. Source: Author's calculations.

5. Discussion: impact pathways and research agenda

The mapping allows the three conceptual mechanisms to be translated into three impact pathways, each associated with a dominant community, potential measures and a proposed measurement priority (Table 6).

Table 6. Impact pathways of FinTech-enabled integration and measurement priorities

Pathway	Main community	Typical measures	Measurement priority
Friction reduction (price- and quantity-based integration)	C4 (and parts of C2)	Price dispersion, pass-through, cross-border credit and investment flows	Test whether reduced frictions narrow cross-border price differences
Infrastructural interoperability (institution-based integration)	C2	Open-banking API usage, instant-payment reach, CBDC design	Link infrastructure access and usage to cross-border participation
Risk sharing versus contagion (market integration)	C1	Spillover and connectedness indices, tail dependence	Distinguish risk-sharing benefits from contagion and fragility

Source: Author's synthesis.

The friction-reduction pathway links FinTech to price- and quantity-based integration through lower transaction and information costs. Relevant measures include price dispersion, interest-rate pass-through and cross-border credit and investment flows, while the corresponding cluster is the smallest and most recent in the map. Research on financing constraints can inform this pathway, but improved access to credit is not equivalent to financial integration. A direct test would examine whether lower frictions narrow price differences or expand participation across institutional, regional or national boundaries, with appropriate controls for changes in borrower risk and market conditions.

The infrastructural-interoperability pathway links FinTech to institutional integration through open banking, interoperable instant payments and digital currencies.

Its community has the highest centrality in the network. The study of India's Unified Payments Interface by Copestake, Kirti and Martinez Peria (2025) illustrates how interoperability can be examined empirically through payment adoption and user choice. A European research agenda could similarly connect technical access and actual usage to cross-border participation, drawing on the broader integration questions discussed by Demertzis, Merler and Wolff (2018). Differences in the timing of infrastructure adoption may provide useful comparisons, but their value for causal analysis depends on the institutional setting, selection into adoption and the availability of comparable data.

The risk-sharing versus contagion pathway links FinTech to market integration through connectedness. Cluster 1 has the highest citations per keyword occurrence and the second-highest density in the map. The cited studies examine financial linkages using market-based measures, including spillovers involving traditional institutions and other asset classes (Li et al., 2020; Le, Yarovaya & Nasir, 2021; Chen, Chiu & Chung, 2022). Such measures do not by themselves identify welfare implications: higher connectedness may accompany improved risk sharing or greater fragility. Distinguishing these possibilities requires linking connectedness estimates to outcomes such as resilience to shocks, funding continuity or the concentration of exposures.

Central and Eastern European member states offer a useful setting for investigating how digital channels interact with established cross-border financial relationships. Relevant questions concern access to payment and investment infrastructures, the allocation of credit and dependence on financial or technological intermediaries. Digital access could broaden participation, but it could also create concentrated reliance on particular platforms or infrastructure providers. These are competing hypotheses rather than effects demonstrated by the bibliometric map. A targeted assessment of study settings is needed to establish the coverage and adequacy of regional evidence.

Four priorities follow for future research. First, measurement: use comparable price-, quantity- and infrastructure-based indicators, reporting their components separately before combining them into an index. This would help distinguish integration outcomes from general digital adoption. Second, geography: assess European Union and Central and Eastern European applications through a targeted review of study settings, rather than inferring gaps from author affiliations. Third, identification: regulatory and infrastructure changes may support quasi-experimental designs, including difference-in-differences, where parallel-trends and other identification assumptions are credible. Such designs require attention to anticipation, concurrent reforms and spillovers between treated and comparison groups. Fourth, conceptual precision: distinguish financial spillovers from spatial spillovers, since similar vocabulary can describe different mechanisms and outcomes.

6. Conclusions

This paper mapped 764 articles and reviews on FinTech and the integration of financial markets and institutions using Web of Science data. The selected corpus shows rapid recent growth, concentrated author affiliations and a high proportion of single-document contributors. Four thematic communities correspond imperfectly to three integration mechanisms: friction reduction, infrastructural interoperability and risk transmission. The keyword structure connects integration-related questions with connectedness, spillovers and interoperability, while recent bursts highlight developmental and environmental topics. These patterns motivate closer attention to how

integration is defined and measured; they do not independently establish the prevalence of particular empirical methods or the absence of European evidence. For policymakers and researchers, the proposed framework identifies complementary outcomes to examine through comparable data on digital payments, open-banking usage and cross-border financial activity.

The study has limitations. The query-pair design retained the 200 most relevant records for each pair, and two of the 96 pairs could not be executed because of API rate limits. The corpus is therefore a relevance-selected sample rather than an exhaustive population. Excluding convergence-only matches may also omit relevant price-convergence research. The additional CWTS core-source screen restricts source coverage and should not be interpreted as a guarantee of individual article quality. These choices may affect growth, geography, citation patterns and thematic structure. Keyword labels and clustering choices influence the map, while citation indicators reflect unequal time available to accumulate citations. Author affiliations do not identify study locations, and the 2026 data are partial. The findings should consequently be read as an exploratory synthesis within these boundaries.

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