Revista de Științe Politice. Revue des Sciences Politiques • No. 92 • 2026: 20 – 43

ORIGINAL PAPER

Mapping the Digital Assets and their Connectedness Within the Ecosystem: A Bibliometric Analysis

Eugen Petrisor Stanciu[1], Cristian Valeriu Stanciu[2]

Abstract

This study provides a bibliometric mapping of research on digital assets and their interconnectedness within the ecosystem, based on 444 documents published between 2017 and 2026 across 147 sources, with contributions from 984 authors. The analysis, conducted using the Bibliometrix R-package, combines performance indicators with scientific mapping techniques. The results highlight a recent concentration in research output, with 76.4% of the documents published since 2022, and the dominant position of the journal *Finance Research Letters* (66 documents). China leads in terms of the number of publications (98), while the United Kingdom accounts for the highest number of citations, while international co-authorship stands at 44.59%. The intellectual structure integrates methodological foundations concerning volatility spillover with applied studies on cryptocurrencies. A thematic map identifies connectivity, spillover effects, and returns as "motor themes," while Bitcoin, volatility, and gold emerge as "basic themes." Recent trends point to a growing interest in stablecoins, tail risk, and non-fungible tokens (NFTs). The study offers a useful synthesis of the field and identifies future research directions, particularly regarding the role of stablecoins and decentralized finance (DeFi) in risk transmission.

Keywords: *Bibliometric Analysis, Digital Assets, Cryptocurrency, Connectedness, Volatility Spillovers, Stablecoins*

[1] PhD Student, "Eugeniu Carada" Doctoral School of Economic Sciences, University of Craiova, e-mail: stanciu.eugen.x6z@student.ucv.ro

[2] Associate Professor, PhD, Faculty of Economics and Business Administration, University of Craiova, e-mail: cristian.stanciu@edu.ucv.ro

1. Introduction and context of the study

Digital assets represent an expanding area of research within the financial literature, with a central focus on how returns, volatility, and risk are transmitted throughout this ecosystem. This dynamic is also evident in the dataset analyzed, where annual output grows from a single document in the year of 2017 to 99 documents written solely in 2026, a year for which the data is only partial.

The methodological foundations of this field include the propagation and connectivity measures proposed by Diebold and Yilmaz (2012, 2014), which were originally developed for traditional financial markets. When applied to cryptocurrencies, connectivity-based approaches have highlighted the influential role of Bitcoin (Koutmos, 2018; Ji, Bouri, Lau and Roubaud, 2019), as well as the contribution of less prominent coins to volatility transmission (Yi, Xu & Wang, 2018). Subsequent research has examined how connectivity varies over time (Antonakakis, Chatziantoniou & Gabauer, 2019), its behavior within the tails of the distribution (Bouri, Saeed, Vo & Roubaud, D, 2021), and the relationships between cryptocurrencies, NFTs, and DeFi tokens (Dowling, 2022; Karim, Lucey, Naeem & Uddin, 2022).

As this body of literature expands, a quantitative synthesis becomes useful to highlight its intellectual structure and the directions in which it is evolving. This study addresses this objective through a bibliometric analysis of 444 documents published between 2017 and 2026. Unlike the previous work by Stanciu and Stanciu (2025), which focused on the connections between digital assets and traditional finance, the present analysis concentrates on connectivity within the digital asset ecosystem itself.

The research aims to answer four questions:

- What are the primary sources, countries, institutions, and authors contributing to this field?
- Which works and references define its intellectual structure?
- What thematic clusters characterize research on digital asset connectivity?
- How have research themes evolved over time, and what emerging directions can be identified?

The study contributes by providing an integrated overview of the performance and structure of this field, combining bibliometric results with a qualitative interpretation of the identified themes. Consequently, this work can assist in identifying under-researched areas.

The paper is structured as follows. Section 2 presents the literature review, while Section 3 describes the methodology employed. Section 4 details the findings regarding publication performance, geographical distribution and scientific collaboration, intellectual structure, conceptual structure, and thematic trends. Section 5 summarizes the main conclusions, the study's limitations, and future research directions.

2. Literature review

The literature review is based on the ten most-cited documents from the studied corpus, which account for a total of 2,925 global citations. The documents were published between 2018 and 2022 in the *International Review of Financial Analysis*, *Finance Research Letters, Journal of International Financial Markets, Institutions and Money, Journal of Empirical Finance, and Economics Letters.* The studies can be categorized into three research streams: the transmission of shocks among cryptocurrencies, price relationships and tail risk, and the extension of analysis to non-fungible tokens (NFTs) and decentralized finance (DeFi) tokens.

The first stream examines the role of cryptocurrencies in the transmission of returns and volatility. Ji et al. (2019) own the work with the highest number of global citations (498), apply the Diebold-Yilmaz connectivity measures to six cryptocurrencies for the period from August 2015 to February 2018. Litecoin and Bitcoin occupy the center of the returns network. Connectivity is stronger through negative returns, and Bitcoin acts as the primary transmitter of volatility, followed by Litecoin. The authors demonstrate that an asset's importance within the network is not necessarily linked to its market size. Yi, Xu, and Wang (2018) find that the volatility of eight major cryptocurrencies is cyclically connected and that this connectivity has increased since the end of 2016. The LASSO-VAR model, applied to 52 cryptocurrencies, reveals tight interconnectedness: coins with very large market capitalizations transmit volatility shocks more easily. However, some less prominent coinsm, such as Maidsafe Coin, also serve as significant net transmitters. Koutmos (2018) analyzes 18 cryptocurrencies and identifies Bitcoin as the primary contributor to the spillover of returns and volatility. Spillover effects increase over time and peak around major news events, which the author interprets as growing interdependence and a higher risk of contagion. Antonakakis, Chatziantoniou, and Gabauer (2019) employ a TVP-FAVAR approach for the nine largest cryptocurrencies, alongside a market factor constructed from 45 other digital currencies. Total connectivity fluctuates significantly over time and tends to be higher during periods of heightened uncertainty. Bitcoin remains the most influential currency, although Ethereum has recently become the largest net transmitter. Katsiampa, Corbet, and Lucey (2019) apply bivariate BEKK models to pairs consisting of Bitcoin, Ether, and Litecoin, finding bidirectional volatility spillovers and time-varying conditional correlations that are largely positive.

A second line of research focuses on price relationships and extreme risk. Ciaian, Rajcaniova, and Kancs (2018) analyze 17 virtual currencies and two altcoin price indices, using daily data from the 2013–2016 period. Bitcoin and altcoin markets are interdependent, with the link being significantly stronger in the short term than in the long term. In the long term, macro-financial indicators influence altcoin prices more than Bitcoin does, while supply plays a limited role in price formation. Borri (2019) measures conditional tail risk using CoVaR for Bitcoin, Ether, Ripple, and Litecoin. These assets are highly exposed to tail risk originating within cryptocurrency markets, but not to that associated with US stocks or gold. Cryptocurrency portfolios reduce idiosyncratic risk and offer superior risk-adjusted returns. However, once liquidity is taken into account, the weight of these assets in an optimal portfolio remains low. Bouri et al. (2021) apply a quantile VAR model to seven cryptocurrencies for the period from August 2015 to December 2020. Connectivity in the tails of the distribution exceeds levels observed at the mean or median and intensifies with the magnitude of shocks, both positive and negative.

A third line of research focuses on more recent asset types. Dowling (2022) identifies limited volatility transmission between NFTs and cryptocurrencies, alongside co-movement as evidenced by wavelet coherence. The author suggests that cryptocurrency prices may help explain NFT prices, while NFTs themselves may represent a distinct asset class with low correlation. Karim et al. (2022) employ quantile connectivity analysis and find significant risk spillovers across blockchain-based markets. However, NFTs remain largely decoupled from other assets, offering greater potential for diversification.

Overall, these studies document the connectivity among cryptocurrencies, the influential role of Bitcoin, and the time-varying nature of relationships between assets, even under conditions of extreme risk.

3. Methodology

The study analyzes the structure and evolution of research concerning digital assets and their connectivity within the ecosystem, where the data was extracted from the Web of Science Core Collection database. The final dataset comprises 444 documents, published between 2017 and 2026 across 147 sources. The analysis was conducted using the Bibliometrix package in R, via R Studio and the performance analysis examined scientific output, citations, sources, authors, affiliations, and countries. Science mapping included collaboration networks, co-citation and keyword co-occurrence networks, a historiograph, a factorial map, a thematic map, and thematic trends. For the year 2026, the data are partial, as they include only those publications available at the time of export.

4. Results

4.1. Dataset overview & publication performance

Table No. 1. Main information

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2017:2026
Sources (Journals, Books, etc)	147
Documents	444
Annual Growth Rate %	66,62
Document Average Age	2,73
Average citations per doc	27,66
References	10474
DOCUMENT CONTENTS	
Keywords Plus (ID)	417
Author's Keywords (DE)	1232
AUTHORS	
Authors	984
Authors of single-authored docs	54
AUTHORS COLLABORATION	
Single-authored docs	60
Co-Authors per Doc	2,9
International co-authorships %	44,59
DOCUMENT TYPES	
article	417
article; book chapter	1
article; early access	24
review	2

The dataset comprises 444 documents, published between 2017 and 2026 in 147 sources, which corresponds to an average of approximately three documents per source. Articles are the main document type, with 417 papers (93.9% of the total), plus 24 early access articles, one book chapter and two review papers.

The annual growth rate of 66.62% should be interpreted with caution, as it starts from a single document in 2017 and includes the year 2026, for which the data is partial. The average age of 2.73 years indicates a relatively recent corpus, and the average of 27.66 citations per document reflects the accumulated impact of the included works. The analyzed documents total 10,474 references.

At the content level, 1,232 author keywords and 417 Keywords Plus terms were identified. The corpus brings together the contributions of 984 authors, of whom 54 sign individual documents. The 60 documents with a single author represent 13.5% of the total,

the rest being the result of works with several authors. The average number of 2.90 co-authors per document and the 44.59% share of international co-authorships highlight the important role of collaboration in this field.

Figure No. 1. Annual scientific production

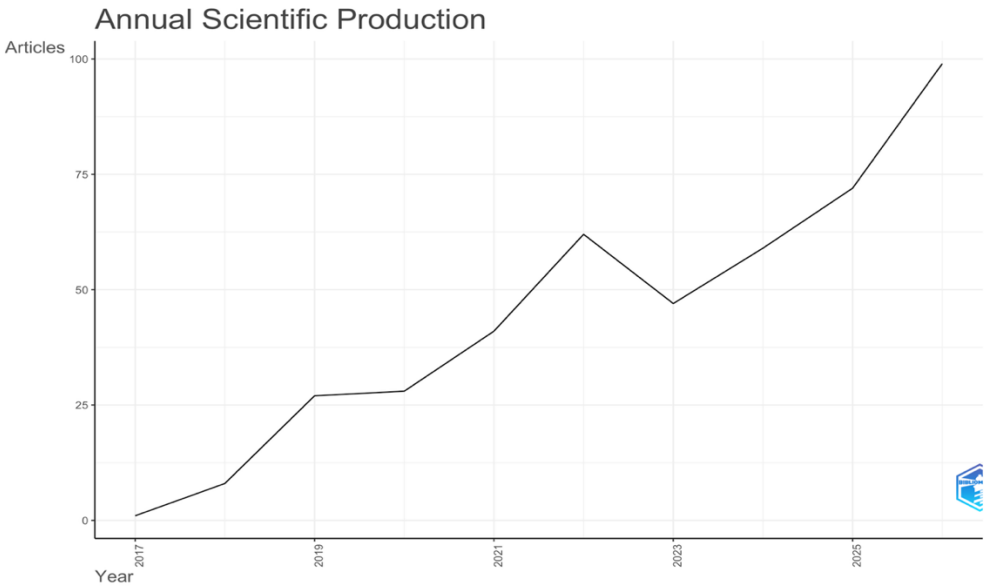


Figure No. 2. Average citations per year

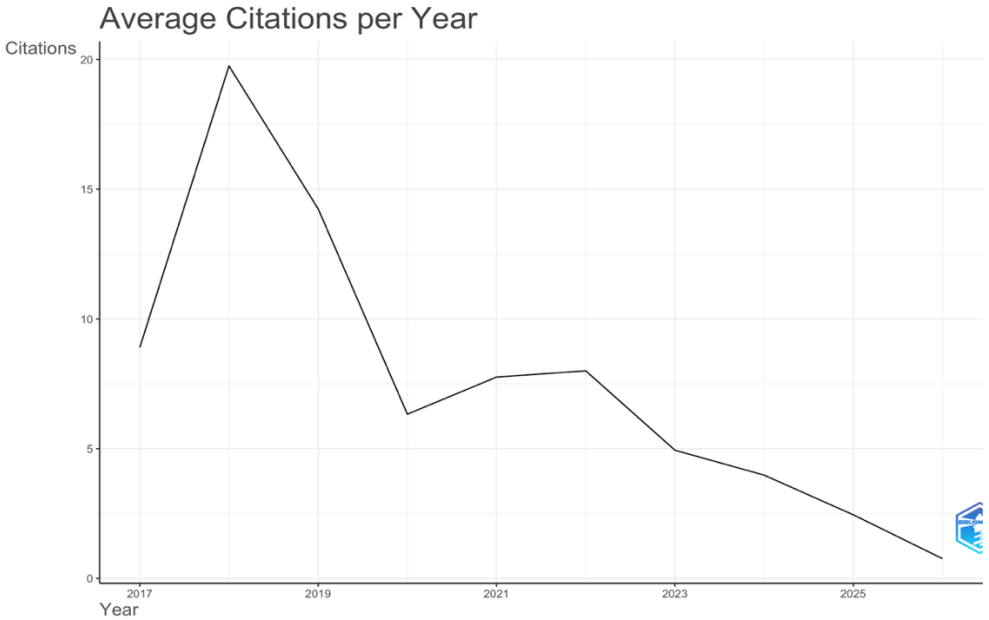


Figure 1 highlights an increase in scientific output, from a single document in 2017 to 99 documents in 2026, the peak for the period analyzed, though the data for the final year are partial. Following an increase from 8 documents in 2018 to 27 in 2019, the output remained nearly constant in 2020 (28 documents), then rose to 41 documents in 2021 and 62 in 2022. The only annual decline occurred in 2023, when the number of documents dropped to 47, followed by a recovery to 59 documents in 2024 and 72 in 2025. The 2022–2026 period accounts for 339 documents—76.4% of the corpus—confirming its recent nature.

Figure 2 presents a different trend. The average number of citations per year reaches its peak in 2018 (approximately 19.7), after which it declines to about 14.2 in 2019 and 6.3 in 2020. There is a slight recovery in 2021 and 2022 (approximately 7.8 and 8.0, respectively), followed by a continuous decline to about 0.8 by 2026. These figures should be interpreted with caution: the years of 2017 and 2018 are based on a small number of documents (1 and 8, respectively), while more recent works have had less time to accumulate citations.

A comparison of the two figures shows that the years with the highest output do not coincide with the years that have the highest average number of citations.

Figure No. 3. Most relevant sources

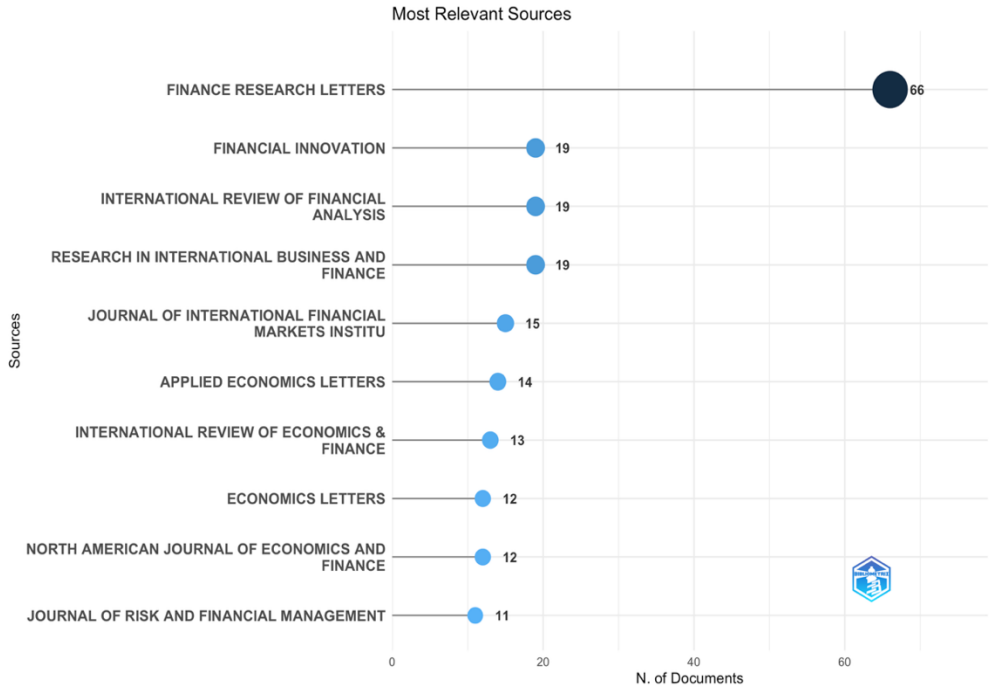
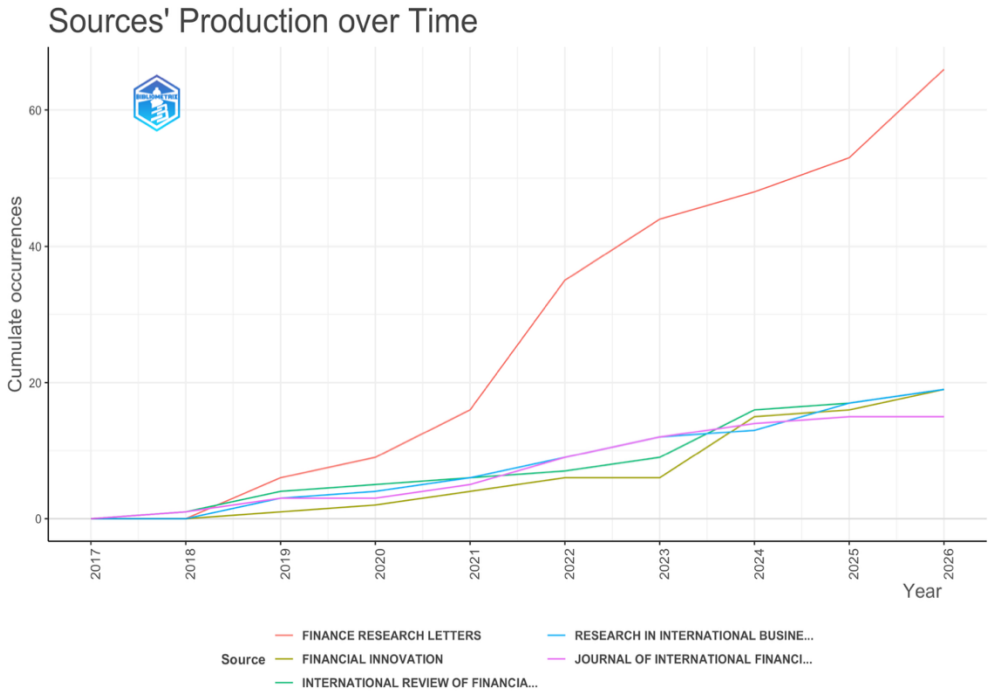


Figure No. 4. Source dynamics



Analysing the most relevant sources, the analysis shows that the top ten sources out of the 147 identified account for 200 documents, representing 45% of the corpus. *Finance Research Letters* ranks first with 66 documents (14.9% of the total)—a figure more than three times higher than that of the next sources. *Financial Innovation, International Review of Financial Analysis,* and *Research in International Business and Finance* each contribute 19 documents, accounting for 4.3% of the corpus apiece. These are followed by *Journal of International Financial Markets, Institutions and Money* (15), *Applied Economics Letters* (14), *International Review of Economics & Finance* (13), *Economics Letters* (12), *North American Journal of Economics and Finance* (12), and *Journal of Risk and Financial Management* (11).

Figure 4 illustrates the cumulative output of the top five sources. *Finance Research Letters* stands out from 2020 onwards, recording its sharpest growth between 2021 and 2022, rising from approximately 16 to 35 documents and reaching a total of 66 documents by 2026. The other four sources show a slower, more closely aligned growth trajectory. *Financial Innovation* and *International Review of Financial Analysis* exhibit a more pronounced increase in 2024, while *Research in International Business and Finance* also reaches a total of 19 documents by 2026. *Journal of International Financial Markets, Institutions and Money* shows no additional documents for 2026, although the data for this year are incomplete. The results indicate that publications are concentrated around a single dominant source, alongside a group of journals with more modest contributions.

4.2. Geographic distribution & scientific collaboration

Figure No. 5. Most relevant countries

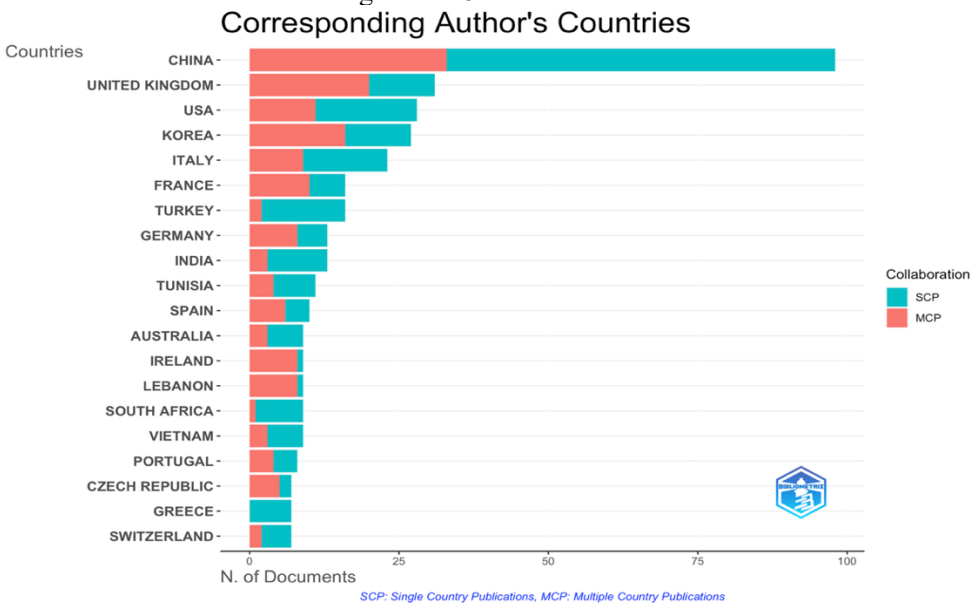
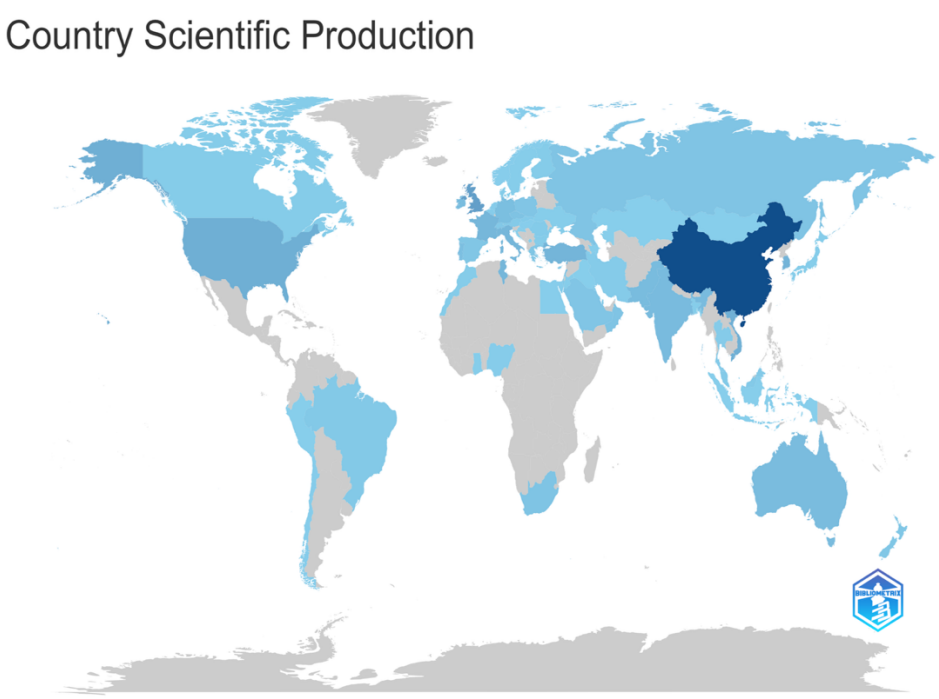


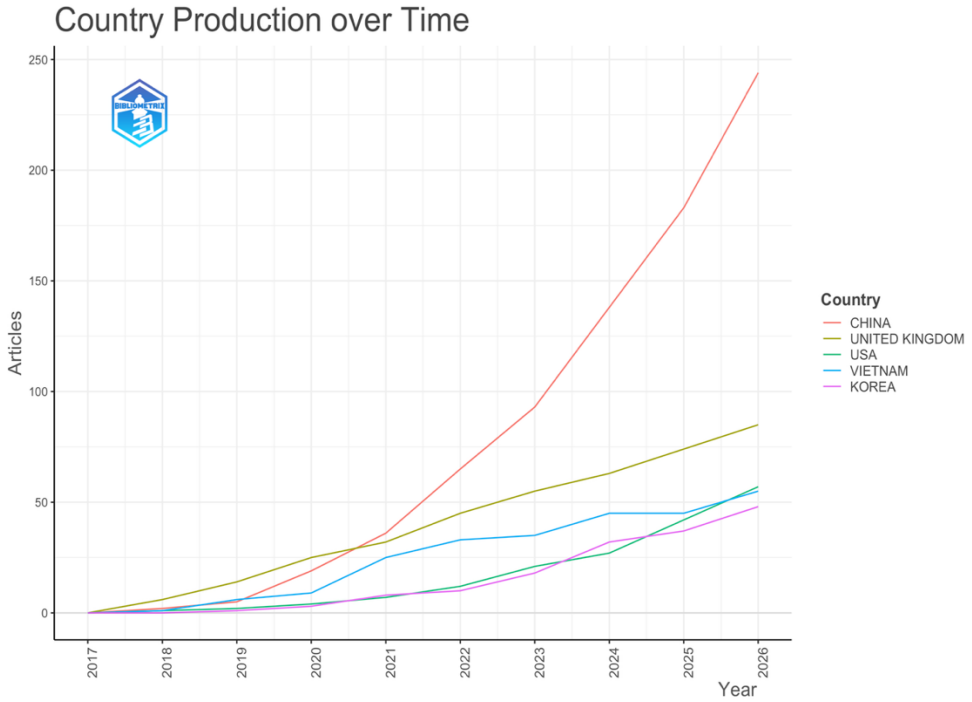
Figure No. 6. Country scientific production



China ranks first in terms of the corresponding author's country, with 98 documents, followed by the United Kingdom (31), the USA (28), Korea (27), and Italy (23). In the case of China, single-country publications predominate, with 33 documents (33.7%) produced through international collaboration. In contrast, the United Kingdom (20 out of 31) and Korea (16 out of 27) have more collaborative publications than purely national ones.

As shown in Figure 5 and 6, China shows the highest intensity, followed by the United Kingdom and the USA. Contributions are present across Europe, Asia, North America, and Oceania, while much of Africa remains unrepresented.

Figure No. 7. Country over time



The temporal analysis reveals an acceleration in scientific output after 2020, with China experiencing the most significant expansion in absolute terms. Its count rises from 19 cumulative occurrences in author affiliations in 2020 to 244 by 2026, surpassing the United Kingdom in 2021. During the same period, the United Kingdom's figures grow from 25 to 85, at a more moderate pace. The USA and South Korea start from low baselines of 4 and 3 occurrences, respectively reaching 57 and 48. Vietnam progresses from 9 to 55 occurrences, though its trajectory is less consistent, with the cumulative total remaining unchanged between 2024 and 2025. These trends point to an expansion of research in Asia - with China standing out in particular, though the figures for 2026 remain partial

Figure No. 8. Most relevant affiliations

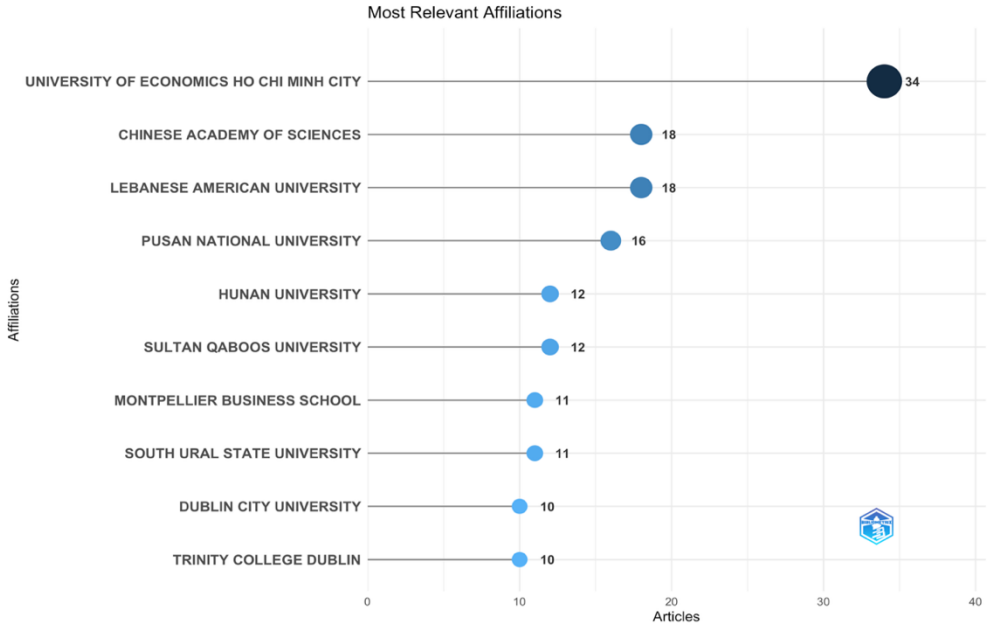
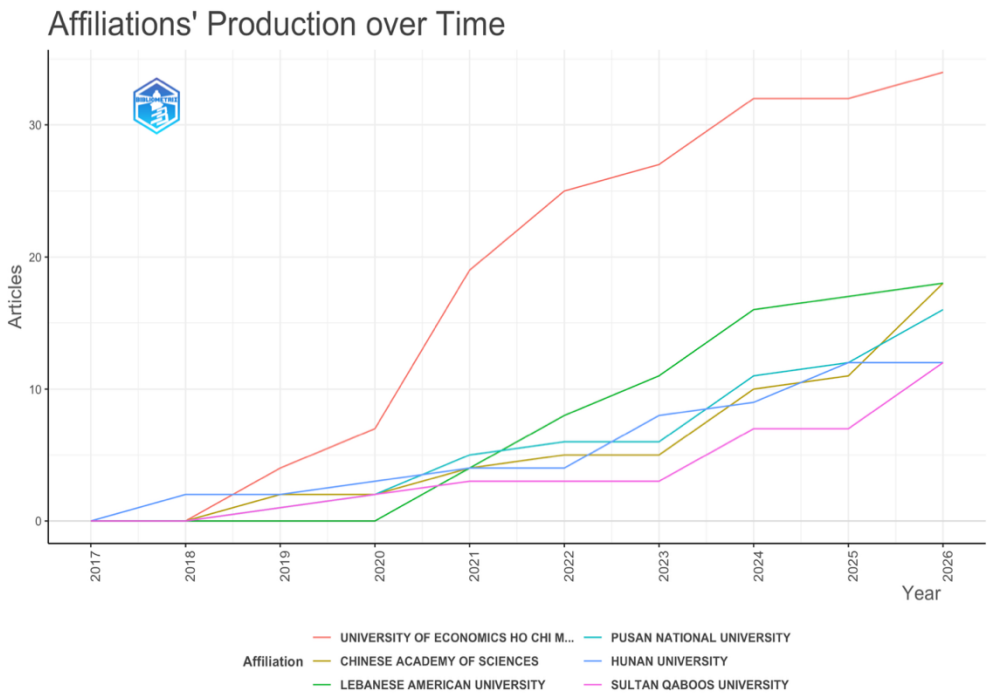


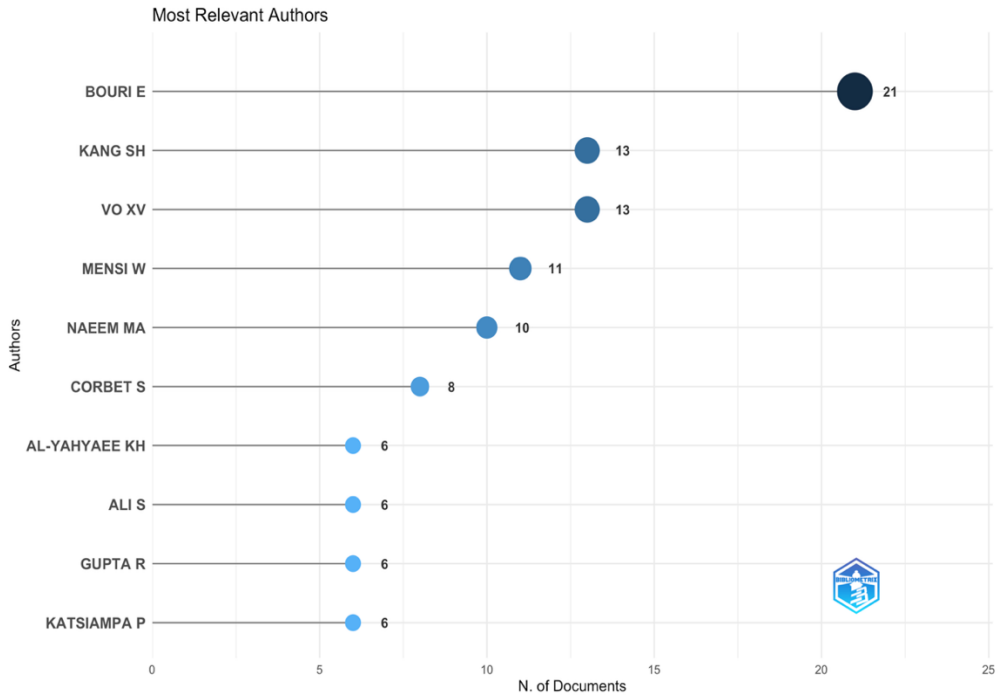
Figure No. 9. Affiliation over time



University of Economics Ho Chi Minh City ranks first among affiliations, with 34 articles and it is followed by the Chinese Academy of Sciences and the Lebanese American University, with 18 articles each. Other mentions include Pusan National University with 16 and Hunan University and Sultan Qaboos University, with 12 articles each.

University of Economics Ho Chi Minh City strengthens its position through a sharp increase between 2020 and 2021, from 7 to 19 articles, reaching a total of 34 by 2026. The Lebanese American University, which had no articles prior to 2020, reaches 18 by 2026, while The Chinese Academy of Sciences climbs from 11 to 18 articles in the final year alone, although the data for 2026 is partial at the date of the study. Hunan University records the earliest contributions among these institutions, starting in 2018, but its total remains at 12 articles from 2025 onwards.

Figure No. 10. Most productive authors



The most productive author in the corpus is Bouri, with 21 documents, followed by Kang and Vo with 13 each, Mensi with 11, and Naeem with 10. Corbet has 8 documents, while Al-Yahyaee, Ali, Gupta, and Katsiampa have 6 each.

Figure No. 11. Country collaboration map

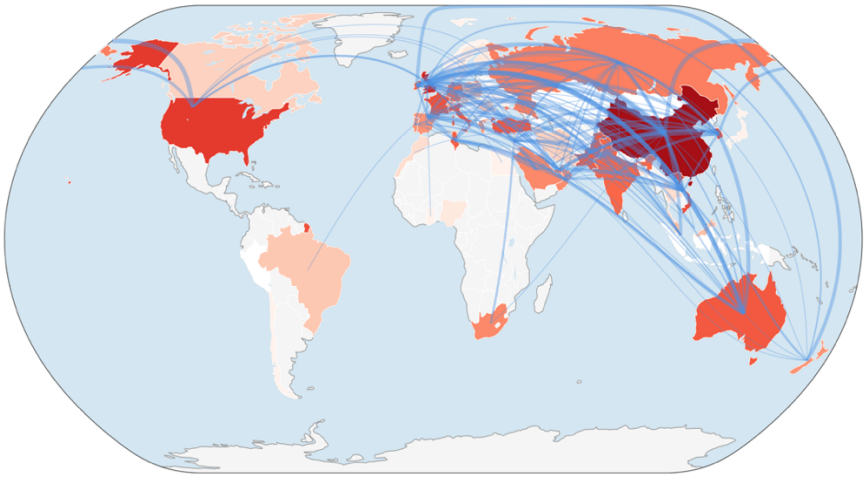
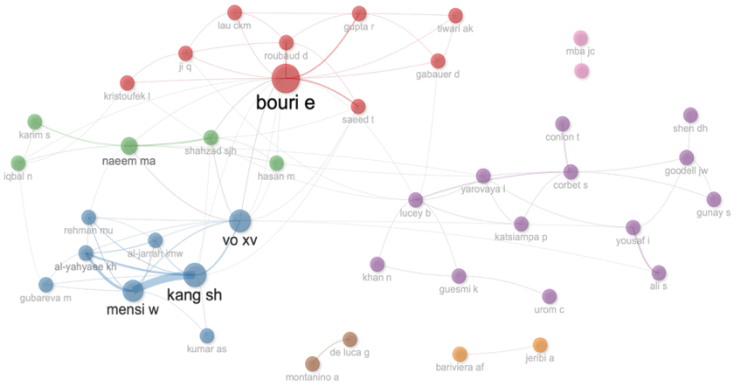


Figure No. 12. Collaboration network



The figures 11 and 12 indicate a dense international network between Europe and Asia, in which the United Kingdom and China emerge as central nodes of collaboration. Visible links also extend to the USA, Australia, and New Zealand, whereas South America and Africa are poorly represented in this network.

Seven clusters of authors are highlighted in the analysis. Bouri occupies a central position in a group that includes Roubaud, Ji, and Gupta, while Vo, Kang, and Mensi form another core, with the Kang-Mensi link being the strongest in the network. Naeem is at the center of a smaller group, alongside Karim and Shahzad, while Corbet, Lucey, Yarovaya, and Katsiampa belong to a more extensive structure. The three isolated pairs indicate that some collaborations remain outside the main network.

4.3. Citation analysis & intellectual structure

Figure No. 13. Most global cited documents

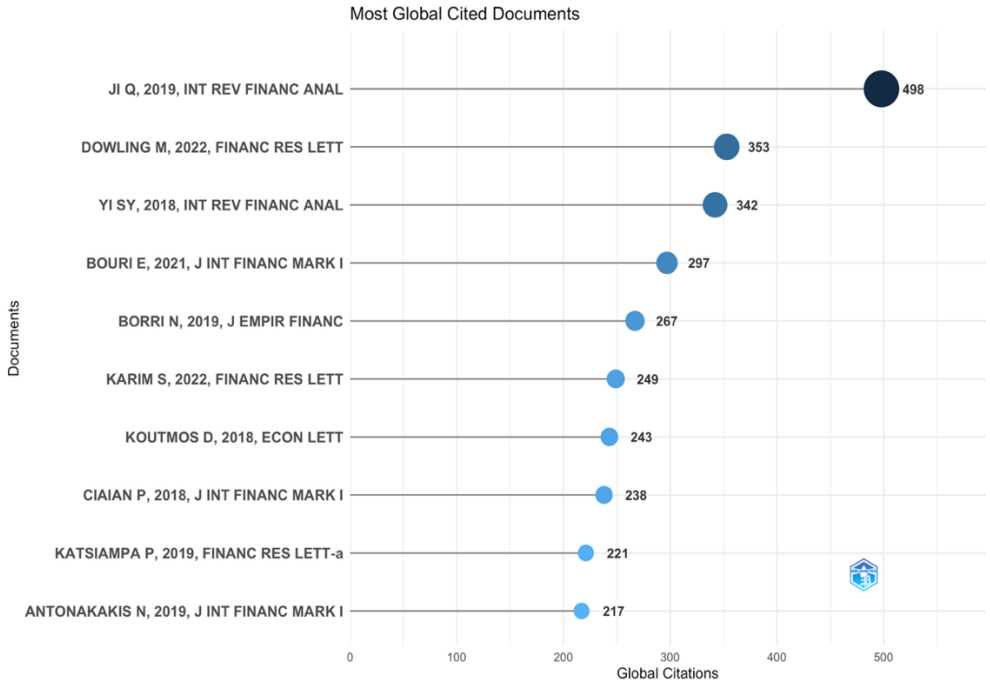
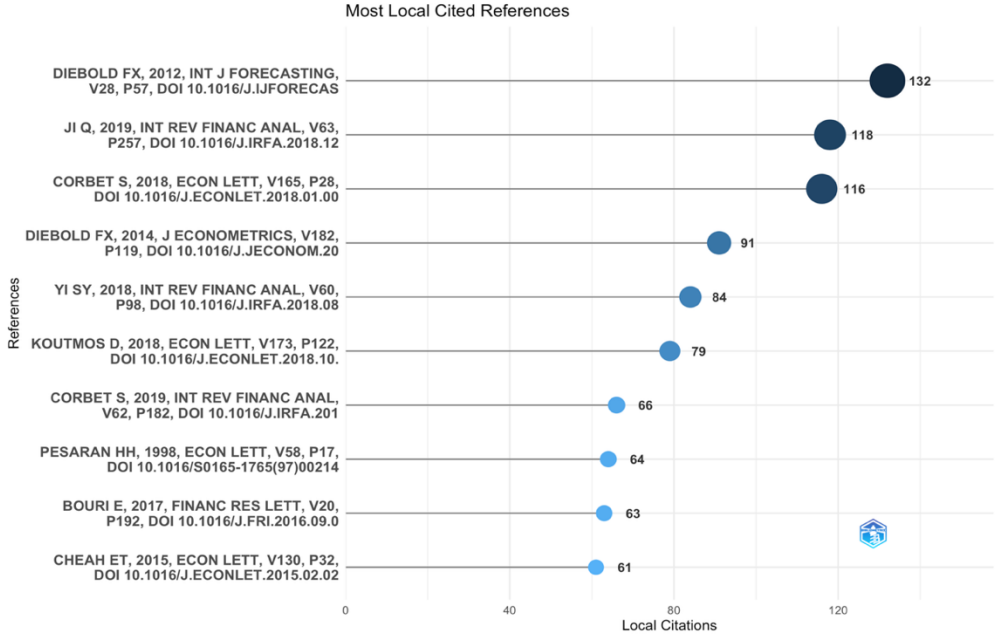


Figure No. 14. Most local cited reference

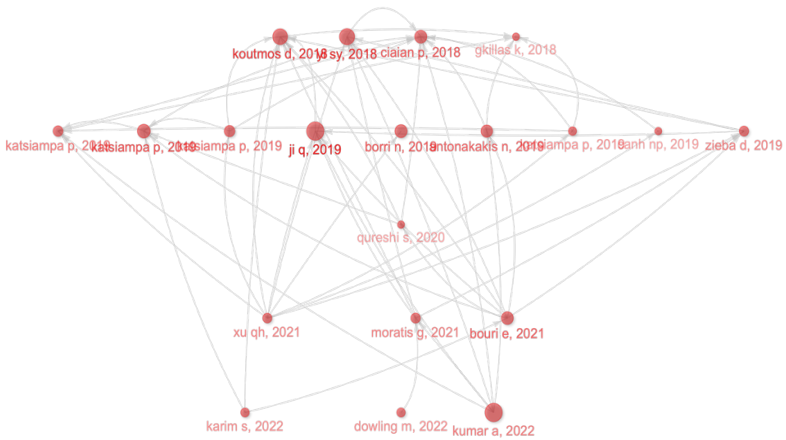


The analysis shows that Ji et al. (2019) is the most-cited document globally, with 498 citations. The study applies the Diebold-Yilmaz measures to six cryptocurrencies and identifies Bitcoin as the primary transmitter of volatility. Next is Dowling (2022), with 353 citations, which finds limited volatility transmission between NFTs and cryptocurrencies, alongside evidence of co-movement. In third place, Yi, Xu, and Wang (2018), with 342 citations, highlight strong volatility connectivity within a network of 52 cryptocurrencies.

The analysis futher indicates that, at the local level, the work of Diebold and Yilmaz (2012) is the most prominent, with 132 citations. This paper proposes measures for total and directional volatility spillover, tested on four U.S. markets. Ji et al. (2019) ranks second with 118 citations, while Corbet, Meegan, Larkin, Lucey & Yarovaya, L. (2018), with 116 citations, find that cryptocurrencies are relatively isolated from traditional assets. Diebold and Yilmaz (2014), with 91 citations, define connectivity measures based on variance decomposition and link them to weighted, directed networks.

Thematically, the top-cited works globally analyze relationships within the digital asset ecosystem. Local references, however, combine studies on cryptocurrencies with methodological foundations developed for traditional financial markets. The common theme remains the transmission of shocks and the connectivity between markets.

Figure No. 15. Historiograph



The historiograph in Figure 15 allows us to trace the development of this research field between 2018 and 2022, through 20 works linked by direct citations. The starting point consists of studies such as Koutmos (2018) and Yi, Xu, and Wang (2018), with the progression continuing through Ji et al. (2019). Subsequently, the network expands to include works on quantile connectivity (Bouri et al., 2021) and NFTs (Dowling, 2022; Karim et al., 2022)

Figure No. 16. Co-citation network

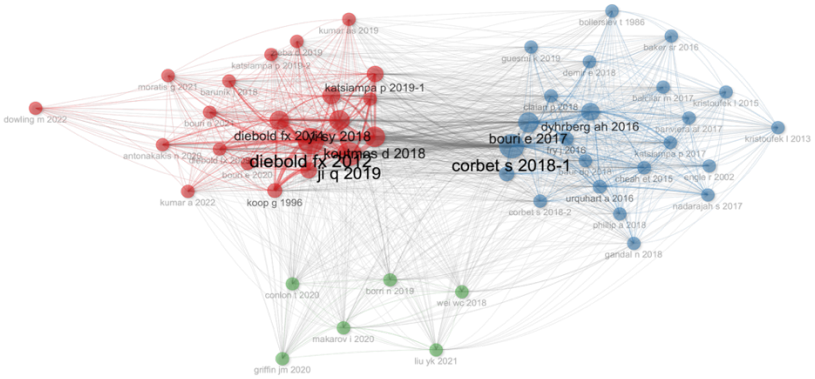
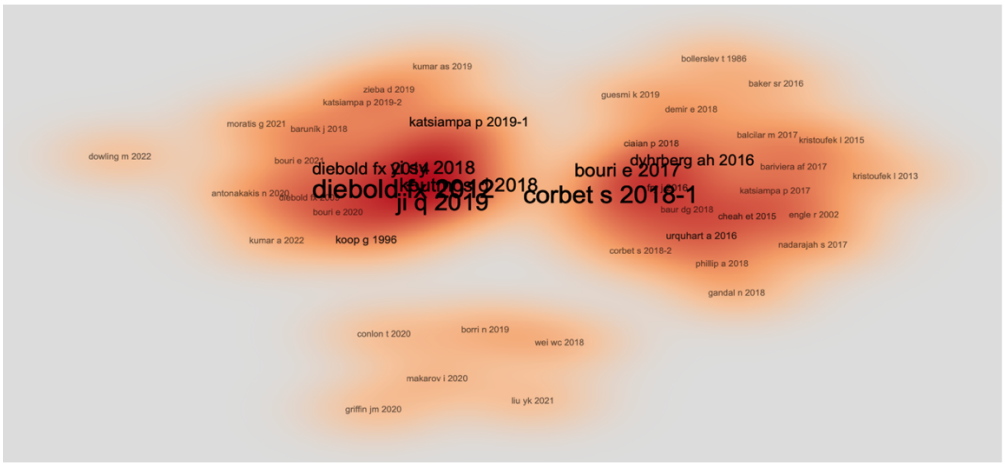


Figure No. 17. Co-citation network density



The co-citation network complements this picture and delineates three clusters of papers. The first focuses on connectivity and volatility spillover (Diebold and Yilmaz, 2012, 2014; Yi, Xu, and Wang, 2018; Ji et al., 2019), while the second centers on the relationship between cryptocurrencies and other assets (Bouri, Molnár, Azzi, Roubaud & Hagfors, 2017; Corbet et al., 2018). The third cluster is smaller and more peripheral, comprising six papers, including Borri (2019). The dense connections between the first two clusters suggest that they are frequently cited together.

4.4. Conceptual structure & content analysis

Figure No. 18. Most relevant words

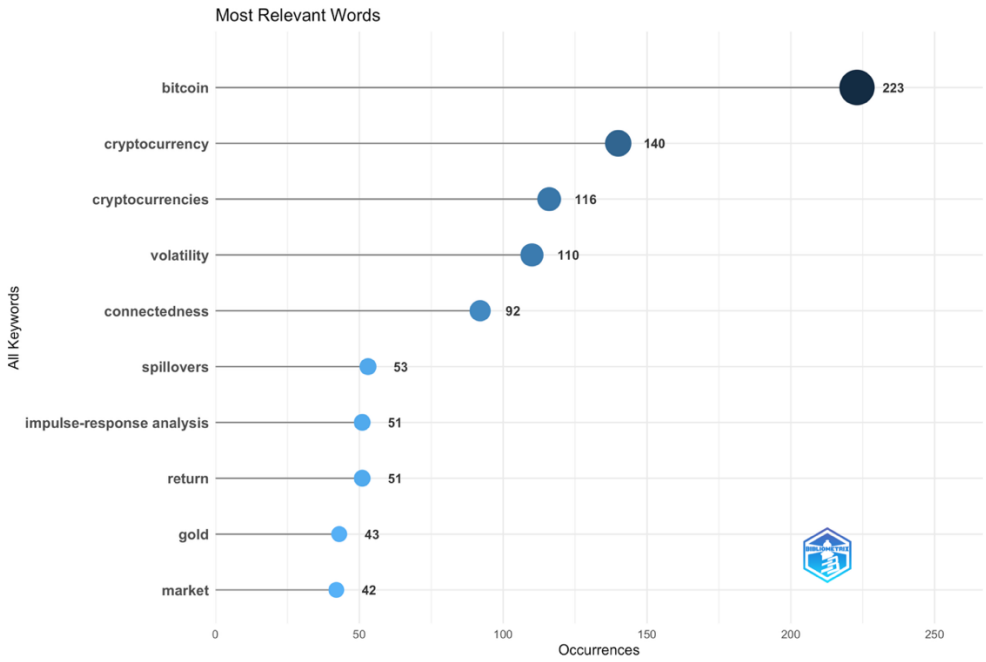


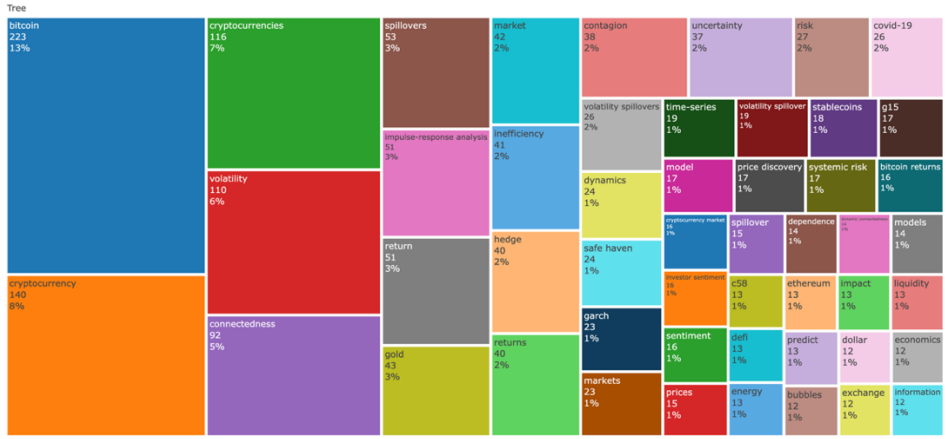
Figure No. 19. Word cloud



Lexical analysis shows that “bitcoin” is the most frequent term, with 223 occurrences, followed by “cryptocurrency” (140), “cryptocurrencies” (116), “volatility” (110), and “connectedness” (92). Taken together, the two forms of the term for

cryptocurrencies would total 256 occurrences, surpassing "bitcoin." The terms "spillovers" (53), "impulse-response analysis" (51), and "return" (51) complete the ranking, alongside "gold" (43) and "market" (42).

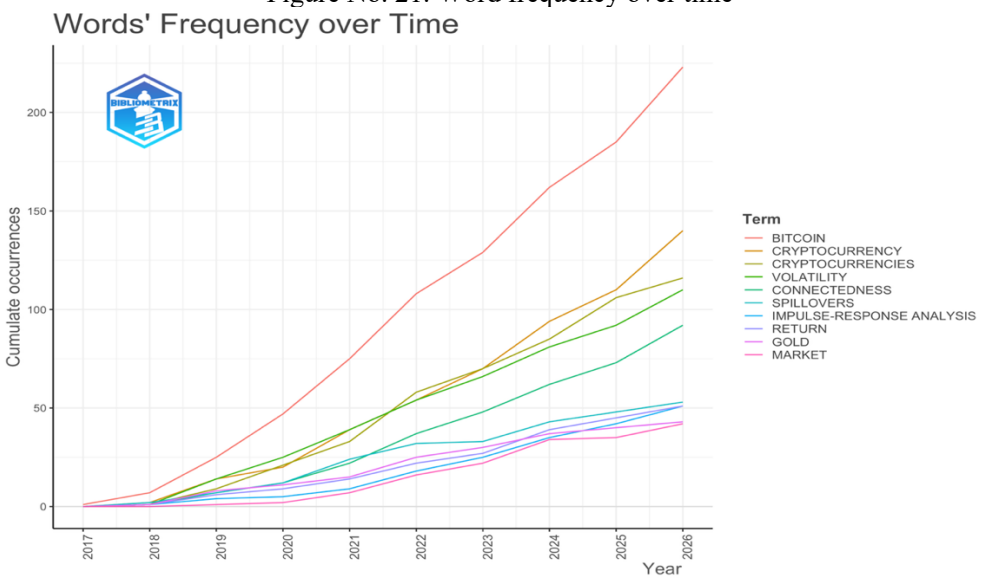
Figure No. 20. Treemap



The treemap provides a broader view of this distribution, with the top five terms account for 13%, 8%, 7%, 6%, and 5% of the total, respectively, while most of the other terms have a weight of no more than 3%. The figure also highlights less frequent terms, such as *contagion* (38), *uncertainty* (37), "COVID-19" (26), "stablecoins" (18), "systemic risk" (17), and "DeFi" (13).

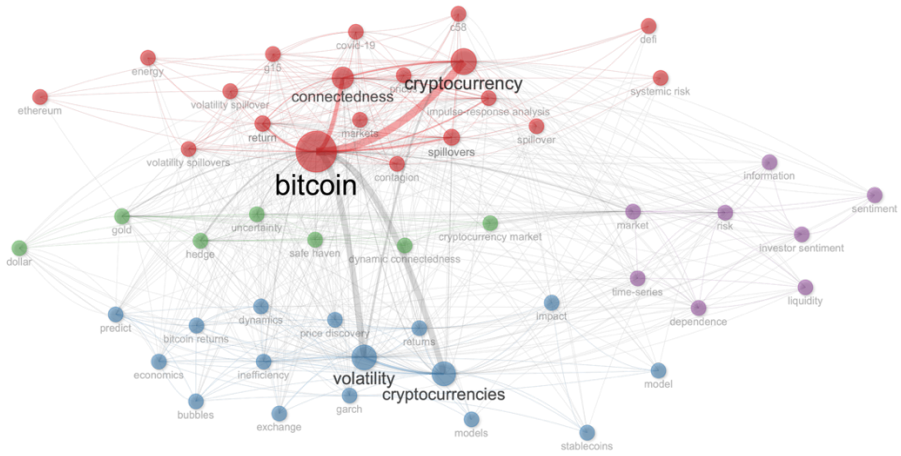
The word cloud in figure no. 19 visually confirms the central position of the terms "bitcoin", "cryptocurrency", "cryptocurrencies", "volatility", and "connectedness" within the vocabulary of this field.

Figure No. 21. Word frequency over time



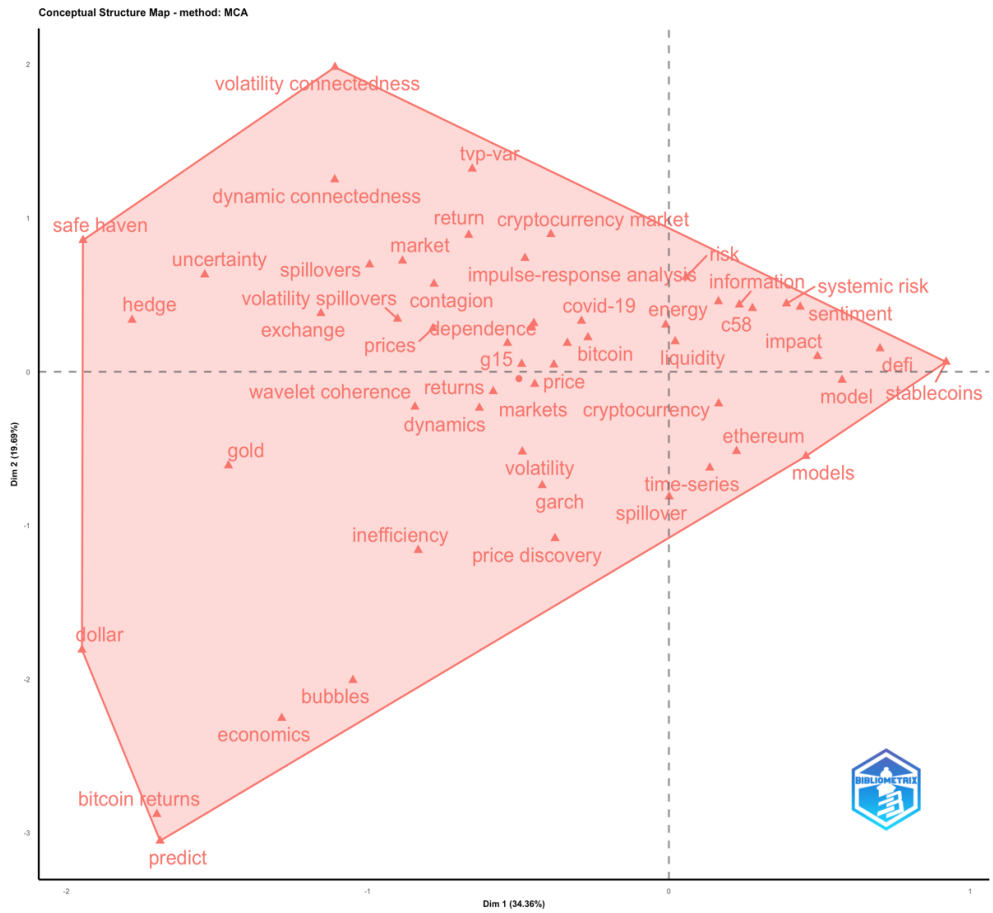
The analysis of lexical dynamics reveals that the term "bitcoin" remained in the top position throughout the studied period, with its cumulative frequency increasing from 47 occurrences in 2020 to 223 in 2026. The term "connectedness" also shows a significant trend, rising from 22 occurrences in 2021 to 92 in 2026. By comparison, between 2022 and 2026, the latter grew from 37 to 92 occurrences, whereas "gold" increased more gradually, from 25 to 43.

Figure No. 22. Co-occurrence network



The conceptual structure of the field is detailed by the co-occurrence network, which outlines four thematic clusters. The largest of these, comprising 19 terms, brings together "bitcoin", "cryptocurrency," "connectedness," "spillovers," "contagion," and "DeFi." The second cluster, consisting of 16 terms, includes "volatility," "cryptocurrencies," "GARCH," "inefficiency," and "stablecoins." The smaller clusters group, on one hand, the terms "gold," "hedge," "safe haven," and "uncertainty," and on the other, "market," "risk," "investor sentiment," and "liquidity." The strongest links in the network originate from "bitcoin" toward "cryptocurrency," "connectedness," "volatility," and "cryptocurrencies," confirming the central position of this term.

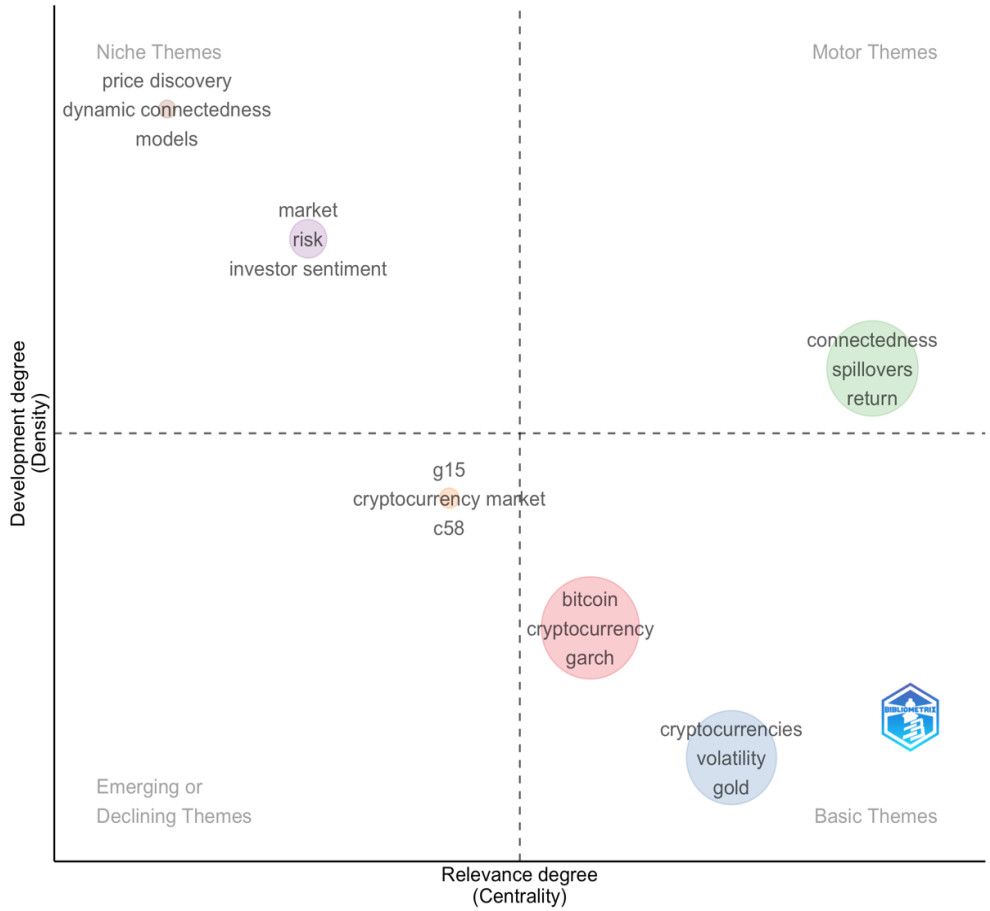
Figure No. 23. Factorial map



The factorial map, derived from multiple correspondence analysis, complements these findings. Together, the two dimensions account for 54.05% of the variance (34.36% and 19.69%, respectively). The terms “stablecoins” and “DeFi” are positioned at the far right of the map, “gold,” “hedge,” and “safe haven” on the left, and “dynamic connectedness” and “TVP-VAR” in the upper area. This arrangement suggests the existence of distinct research directions within the field.

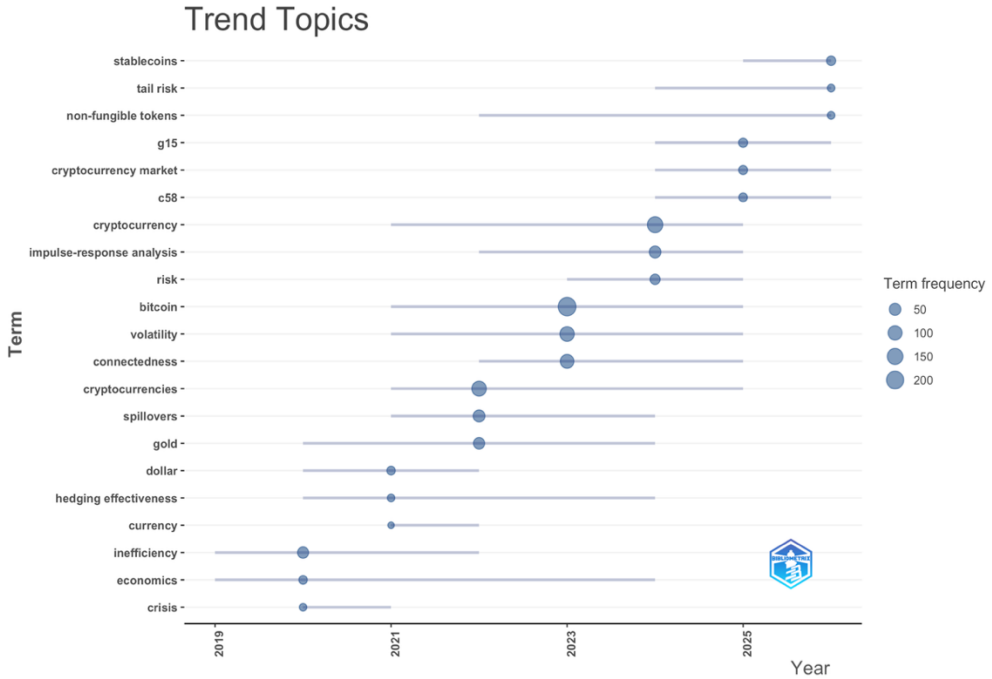
4.5. Thematic analysis & emerging trends

Figure No. 24. Thematic map



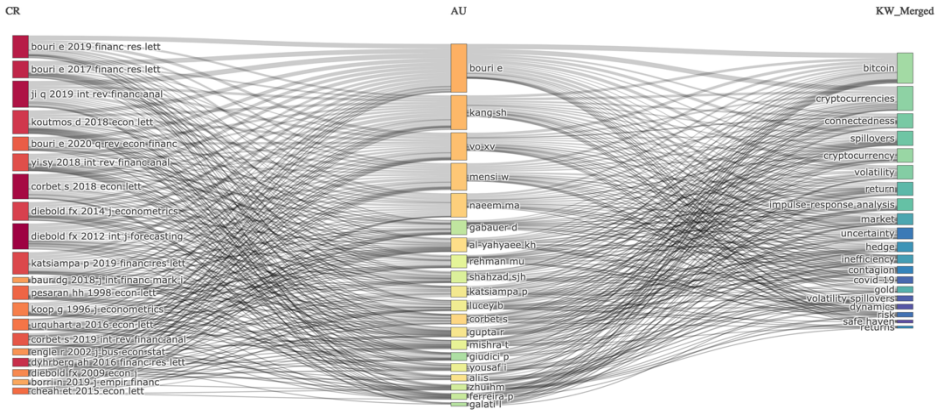
The thematic map classifies research themes based on centrality and density. The terms "connectedness," "spillovers," and "return" occupy the quadrant of driving themes, which are characterized by high relevance and a high degree of development. Basic themes - important to the field but less developed - comprise two clusters: "bitcoin," "cryptocurrency," and "GARCH," as well as "cryptocurrencies," "volatility," and "gold." Conversely, niche themes, well-developed but of lower relevance, include "price discovery," "dynamic connectedness," and "models," along with "market," "risk," and "investor sentiment." The quadrant for emerging or declining themes contains "cryptocurrency market" and the JEL codes G15 and C58.

Figure No. 25. Trend topics



The longitudinal analysis in Figure 25, based on the median year for each term, reveals a gradual reconfiguration of the research agenda. The initial stage is defined by the terms “crisis”, “economics”, and “inefficiency” (2020), followed by “gold”, “spillovers”, and “cryptocurrencies” (2022). The subsequent period highlights the terms “bitcoin”, “volatility”, and “connectedness” (2023), as well as “cryptocurrency”, “impulse-response analysis”, and “risk” (2024). The most recent themes, ”stablecoins”, “tail risk”, and “non-fungible tokens” (2026), suggest an expansion of academic interests toward new categories of digital assets and extreme risks.

Figure No. 26. Three field plot



The three-field plot in Figure 26 correlates cited references, authors, and keywords, providing an integrated view of the intellectual foundations and thematic orientations of the field. In the first field, the works of Diebold and Yilmaz (2012), Corbet et al. (2018), and Ji et al. (2019) stand out. The central field highlights the contributions of Bouri, Kang, Vo, Mensi, and Naeem, while the keyword field is dominated by "bitcoin," "cryptocurrencies," "connectedness," and "spillovers." The dense flows between the fields indicate a strong connection among these references, authors, and themes.

Conclusions

This study mapped research on digital assets and their interconnectedness within the ecosystem, based on 444 documents published between 2017 and 2026 across 147 sources, with contributions from 984 authors. The findings describe an expanding field with a nascent knowledge base, as 76.4% of the documents have been published since 2022. Annual output grew from a single document in 2017 to 99 in 2026; however, this trend should be interpreted with caution, given the low starting point and the fact that the data for the final year is incomplete.

The performance structure reveals significant concentration. The top ten sources account for 45% of the corpus, with *Finance Research Letters* holding a dominant position, contributing 66 documents. Geographically, China leads in terms of the number of documents (98), while the United Kingdom garners the highest number of citations, demonstrating that output volume and academic influence do not necessarily align. The 44.59% share of international co-authorship, along with networks centered around authors such as Bouri, Kang, Mensi, and Vo, underscores the role of collaboration in the field's development.

From a qualitative perspective, the literature can be understood through four interdependent themes. The first, and most prominent, is the transmission of shocks among cryptocurrencies. The methodological framework developed by Diebold and Yilmaz (2012, 2014) for traditional financial markets has been adopted in the study of digital assets, including by Ji et al. (2019). The positioning of the terms "connectedness," "spillovers," and "return" within the quadrant of "driving themes" underscores the centrality of this research direction. While findings partially converge on the influential role of Bitcoin (Koutmos, 2018; Ji et al., 2019), the literature also reveals a more complex structure: market size does not fully account for an asset's importance within the network (Ji et al., 2019), less prominent coins can act as significant net transmitters (Yi, Xu, and Wang, 2018) and, at one point, Ethereum emerged as the largest net transmitter (Antonakakis, Chatziantoniou, and Gabauer, 2019).

The second theme concerns the relationship between digital assets and the broader financial system. Terms such as "gold," "hedge," and "safe haven" form a distinct conceptual cluster. The literature points to a relative isolation of cryptocurrencies from traditional assets (Corbet et al., 2018), as well as limited exposure to the tail risk associated with U.S. equities or gold (Borri, 2019). Nevertheless, the positioning of "bitcoin" and "gold" among the "basic themes", combined with the slower growth of the term "gold", suggests that this area is no longer the primary driver of the field.

The third theme focuses on extreme risk and the instability of relationships between assets. The literature indicates that connectivity varies over time, intensifying during periods of uncertainty (Antonakakis, Chatziantoniou, and Gabauer, 2019) and becoming more pronounced in the tails of the distribution (Bouri et al., 2021). This

perspective indicates that average-based measures can provide only a partial picture of risk transmission.

The fourth theme reflects an expansion into new segments of the ecosystem. Studies on NFTs and DeFi tokens point to limited volatility transmission and a relative decoupling of NFTs (Dowling, 2022; Karim et al., 2022), with terms such as "stablecoins," "tail risk," and "non-fungible tokens" emerging as recent trends. The relatively low frequency of the terms "stablecoins" and "DeFi" suggests that research in these areas is still in its early stages.

This study has certain limitations that should be noted. The analysis is based on documents included in the extracted dataset, while data for 2026 are incomplete, as the year has not ended at the time of the writing, and thematic interpretations are contingent upon the quality of the keywords used. Future research could further explore the role of stablecoins and DeFi in risk transmission, as well as the connections between these segments and traditional markets.

Authors' Contributions:

The authors contributed equally to this work.

References:

Antonakakis, N., Chatziantoniou, I. and Gabauer, D. (2019) 'Cryptocurrency market contagion: market uncertainty, market complexity, and dynamic portfolios', *Journal of International Financial Markets, Institutions and Money*, 61, pp. 37–51. https://doi.org/10.1016/j.intfin.2019.02.003

Borri, N. (2019) 'Conditional tail-risk in cryptocurrency markets', *Journal of Empirical Finance*, 50, pp. 1–19. https://doi.org/10.1016/j.jempfin.2018.11.002

Bouri, E., Molnár, P., Azzi, G., Roubaud, D. and Hagfors, L.I. (2017) 'On the hedge and safe haven properties of Bitcoin: is it really more than a diversifier?', *Finance Research Letters*, 20, pp. 192–198. https://doi.org/10.1016/j.frl.2016.09.025

Bouri, E., Saeed, T., Vo, X.V. and Roubaud, D. (2021) 'Quantile connectedness in the cryptocurrency market', *Journal of International Financial Markets, Institutions and Money*, 71, 101302. https://doi.org/10.1016/j.intfin.2021.101302

Ciaian, P., Rajcaniova, M. and Kancs, d'A. (2018) 'Virtual relationships: short- and long-run evidence from BitCoin and altcoin markets', *Journal of International Financial Markets, Institutions and Money*, 52, pp. 173–195.

Corbet, S., Meegan, A., Larkin, C., Lucey, B. and Yarovaya, L. (2018) 'Exploring the dynamic relationships between cryptocurrencies and other financial assets', *Economics Letters*, 165, pp. 28–34. https://doi.org/10.1016/j.econlet.2018.01.004

Diebold, F.X. and Yilmaz, K. (2012) 'Better to give than to receive: predictive directional measurement of volatility spillovers', *International Journal of Forecasting*, 28(1), pp. 57–66. https://doi.org/10.1016/j.ijforecast.2011.02.006

Diebold, F.X. and Yilmaz, K. (2014) 'On the network topology of variance decompositions: measuring the connectedness of financial firms', *Journal of Econometrics*, 182(1), pp. 119–134. https://doi.org/10.1016/j.jeconom.2014.04.012

Dowling, M. (2022) 'Is non-fungible token pricing driven by cryptocurrencies?', *Finance Research Letters*, 44, 102097. https://doi.org/10.1016/j.frl.2021.102097

Ji, Q., Bouri, E., Lau, C.K.M. and Roubaud, D. (2019) 'Dynamic connectedness and integration in cryptocurrency markets', *International Review of Financial Analysis*, 63, pp. 257–272. https://doi.org/10.1016/j.irfa.2018.12.002

Karim, S., Lucey, B.M., Naeem, M.A. and Uddin, G.S. (2022) 'Examining the interrelatedness of NFTs, DeFi tokens and cryptocurrencies', *Finance Research Letters*, 47, 102696. https://doi.org/10.1016/j.frl.2022.102696

Katsiampa, P., Corbet, S. and Lucey, B. (2019) 'Volatility spillover effects in leading cryptocurrencies: a BEKK-MGARCH analysis', *Finance Research Letters*, 29, pp. 68–74. https://doi.org/10.1016/j.frl.2019.03.009

Koutmos, D. (2018) 'Return and volatility spillovers among cryptocurrencies', *Economics Letters*, 173, pp. 122–127. https://doi.org/10.1016/j.econlet.2018.10.004

Yi, S., Xu, Z. and Wang, G.J. (2018) 'Volatility connectedness in the cryptocurrency market: is Bitcoin a dominant cryptocurrency?', *International Review of Financial Analysis*, 60, pp. 98–114. https://doi.org/10.1016/j.irfa.2018.08.012

Article Info

Received: October 05 2026
Accepted: November 08 2026

How to cite this article:

Stanciu, E. P., Stanciu, C. V. (2026). Mapping the digital assets and their connectedness within the ecosystem: A bibliometric analysis. *Revista de Științe Politice. Revue des Sciences Politiques,* no. 92, pp. 20 - 43.