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Major Global Events and World Stock Markets: A Bibliometric Review and Research Agenda

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Abstract

This study systematically maps the intellectual, conceptual, and social structure of research on how major global events affect stock markets worldwide, and derives a structured agenda for future enquiry. A bibliometric review of 16,076 documents published between 2000 and 2026, retrieved from Scopus and the Web of Science Core Collection and screened following PRISMA 2020, was conducted using performance analysis and science mapping (Donthu et al., 2021) in the bibliometrix R package. Output has grown at 11.31% per year and is concentrated in finance and energy-economics journals, led by China in volume and the United States in citation impact. The three knowledge structures converge on a tripartite identity, in which volatility-connectedness econometrics forms the methodological core, economic policy and geopolitical uncertainty the conceptual core, and the COVID-19 shock the empirical core. Thematic evolution reveals a cumulative, event-paced trajectory that runs from Asian-crisis and econophysics roots, through global-financial-crisis consolidation around uncertainty and connectedness, to a COVID-dominated present in which machine learning is emerging as a new methodological front. In contrast to existing reviews that examine single crises in isolation, this study offers a cross-event synthesis of the global-shock–equity-market literature and translates the identified gaps into a Theory–Context–Characteristics–Methodology research agenda.

Keywords – Stock markets; Global events; Financial crises; Bibliometric analysis; Science mapping; Systematic literature review

1. Introduction

Major global events, including financial crises, pandemics, geopolitical conflicts, and policy shocks, transmit rapidly to equity markets, reshaping returns, volatility, and cross-market linkages. The global financial crisis of 2008 and, more recently, the COVID-19 pandemic each triggered a surge of research on how such shocks propagate to stock markets, and the resulting literature has expanded to the point where its overall structure is difficult to apprehend through narrative review alone. A systematic, quantitative mapping of this body of work is therefore both timely and necessary.Prior reviews, however, have remained narrow in

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scope. Most synthesise a single event, overwhelmingly COVID-19 (e.g., Anggraini et al., 2022; Alshater et al., 2022; Stephen et al., 2025), or a single transmission mechanism, such as volatility spillovers (Chen & Yang, 2021; Harikumar & Muthumeenakshi, 2024), financial contagion (Ballester et al., 2019), market integration (Patel et al., 2022), macroeconomic determinants (Verma & Bansal, 2021), or specific analytical lenses such as chaos theory (Ergüzel, 2025). Even the closest syntheses stop short of a cross-event view: Goyal and Soni (2025) review stock-market volatility during crises but treat crises generically rather than by event type, and Tan et al. (2024) map multi-source uncertainty around types of uncertainty rather than the events that strike equity markets, drawing on a single database. No review to date synthesises the global-event–stock-market literature across the full range of major shocks, namely financial crises, pandemics, geopolitical conflicts, and policy-uncertainty episodes. Table 1 situates the present study against the closest existing reviews.

Table 1. The present review in relation to the closest existing reviews

Review	Scope (event / mechanism)	Approach	Corpus, databases, period
Ballester et al. (2019)	Financial contagion, emerging markets	Systematic review	Multi-crisis; stock/bond/FX/CDS
Chen & Yang (2021)	Cross-market volatility spillovers	Bibliometric	WoS
Verma & Bansal (2021)	Macroeconomic variables and stock performance	Systematic review	Developed vs. emerging markets
Anggraini et al. (2022)	COVID-19 and stock markets	Systematic review (co-word)	89 articles; Scopus
Patel et al. (2022)	Financial market integration	Bibliometric + content	260 articles; 1981–2021
Alshater et al. (2022)	COVID-19 business & economics research	Bibliometric + content	477 articles
Harikumar & Muthumeenakshi (2024)	Volatility-spillover measurement models	Bibliometric	Spillover-model focus
Tan et al. (2024)	Multi-source uncertainty	Systematic + bibliometric	2,230 articles; WoS; 2000–2023
Goyal & Soni (2025)	Stock-market volatility during crises	Bibliometric (PRISMA)	1,283 articles; Scopus; 1994–2022
Stephen et al. (2025)	Stock-market connectedness, COVID-19	Bibliometric (PRISMA)	481 articles; Scopus; 2020–2024
Ergüzel (2025)	Chaos theory; crises & bubbles	Systematic review	WoS
This study	Global events (crises, pandemics, geopolitical, policy uncertainty) × world stock markets	Performance + science mapping + Theory–Context–Characteristics–Methodology (TCCM) agenda	16,076 documents; Scopus + WoS; 2000–2026

Source: Authors' compilation

This leaves open a set of basic questions about the field as a whole: how large and how fast-growing it is, which works and communities anchor it, how its themes have reorganised as successive shocks arrived, and where it is heading. This study addresses that gap through a

bibliometric review of the global-event–stock-market literature, guided by four research questions:

1. RQ1. What are the publication trends, and which sources, authors, institutions, and countries are most influential in the field?
2. RQ2. What is the intellectual structure of the field, including its foundational works and current research fronts?
3. RQ3. What is the conceptual structure, and how have the field's themes evolved across major global events?
4. RQ4. What gaps emerge, and what agenda should guide future research?

To answer these questions, the study analyses 16,076 documents from Scopus and the Web of Science Core Collection using the performance-analysis and science-mapping toolkit of Donthu et al. (2021). It contributes a cross-event synthesis of a literature usually studied one shock at a time, and translates its findings into a structured future-research agenda. The remainder of the paper is organised as follows: Section 2 describes the methodology; Section 3 reports the performance analysis; Section 4 presents the science mapping of the intellectual, conceptual, and social structures; Section 5 discusses and triangulates the findings; Section 6 sets out the research agenda; and Sections 7 and 8 present limitations and conclusions.

2. Methodology

2.1 Methodological approach

A bibliometric methodology was adopted, combining performance analysis and science mapping as articulated by Donthu et al. (2021); see also Zupic and Čater (2015) and Mukherjee et al. (2022). The review protocol followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement (Page et al., 2021) for identification, screening, and inclusion, complemented by established systematic-review guidance (Tranfield et al., 2003; Snyder, 2019) and the SPAR-4-SLR framework (Paul et al., 2021) for assembling, arranging, and assessing the corpus.

2.2 Data sources and search strategy

Two databases, Scopus and the Web of Science Core Collection, were queried to maximise coverage and enable cross-database validation. Both databases were searched on 15 January 2026. The search combined a stock-market concept block with a global-event concept block in the title, abstract, and keyword fields:

```
TS = ( ( ( stock OR equity OR share ) NEAR/3 ( market* OR return* OR price* OR volatilit* ) ) AND ( "financial crisis" OR pandemic* OR COVID* OR war OR "geopolitical risk*" OR terroris* OR "trade war*" OR sanction* OR Brexit OR "policy uncertainty" OR "black swan" OR "natural disaster*" OR "exogenous shock*" ) )
```

The string above is shown in Web of Science syntax; the equivalent Scopus query used the TITLE-ABS-KEY field with the proximity operator W/3 in place of NEAR/3. The event block deliberately targeted financial crises, pandemics, wars and geopolitical risk, terrorism, trade wars and sanctions, Brexit,

policy uncertainty, and natural disasters; dedicated climate- and environmental-event terms (for example, climate risk, carbon, or transition risk) were not included, so climate-finance work enters the corpus only where it intersects these searched events. This is a deliberate scope boundary, and the limited visibility of climate and environmental events in the results should be read partly in that light; widening the event universe to climate and environmental shocks is identified as a future direction in Section 6.

2.3 Screening and PRISMA

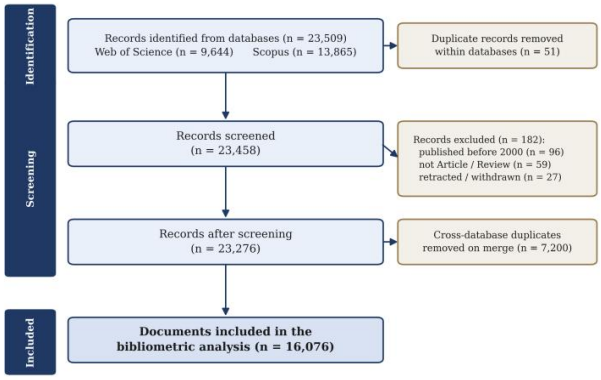
Records were de-duplicated, restricted to journal articles and reviews, and limited to the period 2000–2026. Table 2 summarises the screening funnel. The full study-selection process is shown in the PRISMA 2020 flow diagram (Figure 1).

Table 2. PRISMA screening funnel across the two databases.

Stage	Web of Science	Scopus	Combined
Records identified	9,644	13,865	23,509
Duplicates removed (within database)	13	38	51
Excluded (published before 2000)	96	0	96
Excluded (non-Article/Review document types)	59	0	59
Excluded (retracted/withdrawn/corrected)	27	0	27
After per-database screening	9,449	13,827	23,276
Cross-database duplicates removed (merge)	n/a	n/a	7,200
Records included in analysis	n/a	n/a	16,076

Source: Authors' compilation following PRISMA 2020 (Page et al., 2021).

Figure 1. PRISMA 2020 flow diagram of the study-selection process.



Source: Authors' compilation following PRISMA 2020 (Page et al., 2021)

2.4 Analytical corpus and routing

Because cited-reference metadata was complete only in the Scopus-indexed records, analyses were routed by data requirement. Reference-based intellectual-structure analyses (co-citation, historiograph, bibliographic coupling) were performed on the Scopus subset (13,827 documents; the 2,249 Web-of-Science-unique documents, about 14% of the corpus, therefore do not enter these analyses), while conceptual-structure keyword co-occurrence, thematic mapping and evolution) and social-structure (collaboration) analyses used the full merged corpus of 16,076 documents to maximise coverage.

2.5 Analytical tools

Analyses were conducted in R using the bibliometrix package (Aria & Cuccurullo, 2017) and its Biblioshiny interface, with VOSviewer (van Eck & Waltman, 2010) used to render large

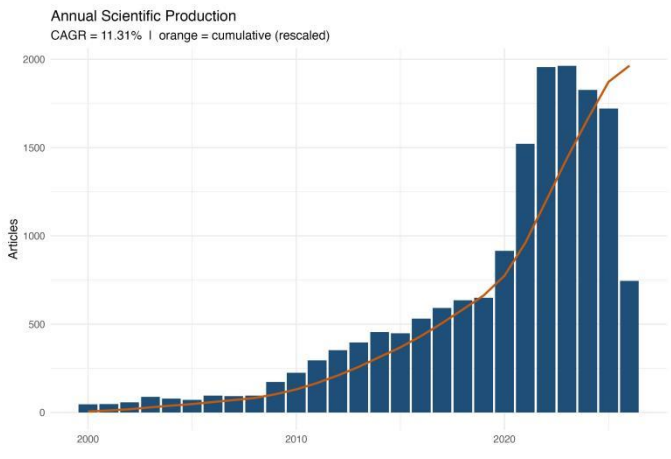
networks. Co-citation, bibliographic-coupling, and keyword co-occurrence networks were constructed in bibliometrix; clusters were detected using the Louvain algorithm at default resolution, retaining nodes above the minimum occurrence/citation thresholds reported with each network, and VOSviewer was used to render and lay out the largest networks. Cross-database validation consisted of confirming that the leading sources, authors, and thematic clusters recovered independently from the Scopus and Web of Science subsets were mutually consistent before the corpora were merged. Thematic evolution was examined across three event-defined sub-periods: 2000–2008 (pre-GFC), 2009–2019 (post-GFC), and 2020–2026 (COVID-19 onward).

3. Performance Analysis

This section profiles the corpus by volume, growth, and the most influential sources, documents, authors, institutions, and countries. The analysis covers 16,076 documents published between 2000 and 2026 across 2,614 sources, authored by 21,476 researchers, attracting an average of 23.71 citations each, with 2.8 co-authors per document.

3.1 Annual scientific production

Output has grown at a compound annual rate of 11.31% (Figure 2). Production was modest through the 2000s, rarely exceeding 100 articles per year, before accelerating sharply from the mid-2010s: from roughly 530 articles in 2014 to over 900 in 2020, then past 1,500 in 2021 and a peak near 1,950 in 2022. This trajectory tracks the field's defining shocks, with the steep 2020–2022 spike reflecting the explosion of COVID-19 research. The apparent decline in the final year reflects incomplete indexing of recent publications rather than a genuine downturn.



Source: Authors' compilation based on Scopus and Web of Science data.

Figure 2. Annual scientific production (bars) and cumulative output (line), 2000–2026

3.2 Most influential sources

Output is concentrated across the 2,614 sources. A Bradford's law (Bradford, 1934) analysis (Figure 3; $R^2 = 0.99$) identifies a core of just 32 journals accounting for roughly a third of all articles. Finance Research Letters is the most prolific outlet (449 articles), followed by the International Review of Financial Analysis (378), Energy Economics (276), Applied Economics (271), and Physica A (259). Ranked by local impact, Energy Economics records the highest h-index (79), ahead of Finance Research Letters (73) and the International Review of

Financial Analysis (67), indicating that the energy-finance literature is the most consistently cited within the field (Table 3).

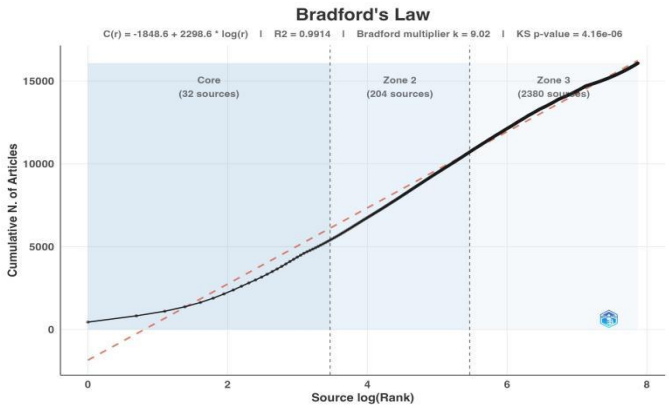
Table 3. Most relevant sources by article count, with local impact. Dashes (–) indicate sources for which h-index, total citations, and start year were not retrieved from the local-impact computation

Source	Articles	h-index	TC	Start
Finance Research Letters	449	73	19,272	2005
International Review of Financial Analysis	378	67	16,906	2001
Energy Economics	276	79	17,885	2009
Applied Economics	271	–	–	–
Physica A	259	47	7,013	2003
North American J. of Economics & Finance	258	–	–	–
Research in International Business & Finance	257	–	–	–
International Review of Economics & Finance	237	47	7,136	2008

Source: Authors' compilation based on Scopus and Web of Science data

3.3 Most globally cited documents

Figure 3. Bradford's law: distribution of articles across source zones.



Source: Authors' compilation based on Scopus and Web of Science data.

The most cited works are predominantly methodological and crisis-defining contributions (Table 4). Baker, Bloom and Davis (2016), introducing the Economic Policy Uncertainty index, is the most cited document by a wide margin (7,672 citations). The connectedness framework of Diebold and Yilmaz appears three times (2012, 2014, 2009), and Abadie and Gardeazabal's (2003) synthetic-control study provides a causal-inference foundation. Crisis-specific works follow, including Brunnermeier (2009), Baur and Lucey (2010) on gold as a safe haven, and the COVID-19 studies of Sharif et al. (2020) and Baker et al. (2020). The dominance of methods papers indicates a field organised as much around analytical apparatus as around the events themselves. To enable fair comparison across documents published at different times, the final column reports citations per year, computed as total citations divided by the number of years since publication (through 2026). On this age-normalised basis the more recent works rise relative to older ones: Lins, Servaes and Tamayo (2017) and the 2020 COVID-19 studies of Sharif et al. and Baker et al. accumulate citations markedly faster than their raw totals alone suggest, whereas the standing of Baker, Bloom and Davis (2016) is confirmed on both the raw and the per-year measures.

Table 4. Most globally cited documents (selected)

Document	Source	Year	Citations	Citations/year
Baker, Bloom & Davis	Quarterly Journal of Economics	2016	7,672	697.5
Diebold & Yilmaz	Int. Journal of Forecasting	2012	4,221	281.4
Diebold & Yilmaz	Journal of Econometrics	2014	3,419	263.0
Abadie & Gardeazabal	American Economic Review	2003	2,667	111.1
Diebold & Yilmaz	Economic Journal	2009	2,545	141.4
Lins, Servaes & Tamayo	Journal of Finance	2017	2,471	247.1
Sharif, Aloui & Yarovaya	Int. Review of Financial Analysis	2020	1,092	156.0
Baker et al.	Review of Asset Pricing Studies	2020	1,056	150.9

Source: Authors' compilation based on Scopus and Web of Science data

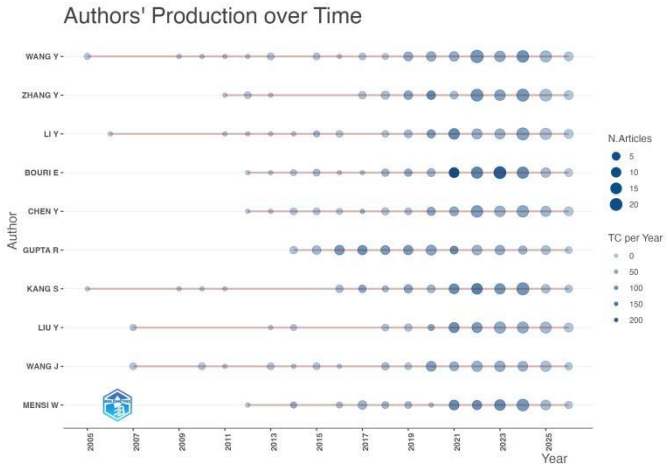
3.4 Most productive and influential authors

Authorship follows the concentration predicted by Lotka's law (Lotka, 1926): 71.7% of the 21,476 authors contributed a single document. The most prolific authors are Wang Y (127 documents), Zhang Y (117), and Li Y (108). Ranked by impact, Gupta R records the highest h-index (41), followed by Bouri E (39), Hammoudeh S (36), Kang S (35), and Mensi W (33) (Table 5). This impact-leading group is closely associated with the energy-finance and volatility-connectedness literature, foreshadowing one of the field's principal intellectual communities; authors' production over time (Figure 4) confirms most became active or intensified output after 2018.

Table 5. Most productive and most influential authors

By production	Articles	By impact	h-index	Total cites
Wang Y	127	Gupta R	41	5,563
Zhang Y	117	Bouri E	39	4,728
Li Y	108	Hammoudeh S	36	3,931
Bouri E	102	Kang S	35	4,066
Chen Y	102	Mensi W	33	3,691
Gupta R	102	Naeem M	31	3,233

Source: Authors' compilation based on Scopus and Web of Science data.



Source: Authors' compilation based on Scopus and Web of Science data.

Figure 4. Authors' production over time (node size = articles; shade = citations per year)

3.5 Institutions and countries

Institutional output is led by the University of Sfax, Tunisia (102 documents), followed by Chinese universities (Southwest Jiaotong, Central South, Hunan) and the University of Delhi (48). Geographically, China is by far the most productive country (2,955 articles,

20.6% of the corpus), ahead of the USA (1,758), the United Kingdom (839), and India (813). Citation impact diverges from volume, however: the USA leads on average citations per article (48.76), roughly double China's (23.23), while India, fourth by volume, records the lowest average among leading producers (15.16) (Table 6). International (multi-country) co-authorship reaches 31.4% of documents, a pattern examined in Section 4.3.3.

Table 6. Leading countries by production and citation impact

Country	Articles	Share	Total cites	Avg/article
China	2,955	20.6%	68,630	23.23
USA	1,758	12.3%	85,723	48.76
United Kingdom	839	5.9%	24,686	29.42
India	813	5.7%	12,324	15.16
Australia	550	3.8%	16,342	29.71
France	416	2.9%	15,398	37.01

Source: Authors' compilation based on Scopus and Web of Science data.

4. Science Mapping

The intellectual structure was examined through co-citation analysis (Small, 1973), a historical direct-citation network (Garfield, 2004), and bibliographic coupling (Kessler, 1963), performed on the Scopus-indexed subset.

4.1 Co-citation analysis

The cleaned co-citation network (Figure 5) resolves into two broad communities, namely a methods-and-foundations community (uncertainty, asset-pricing and connectedness econometrics) and an empirical, applications community (the COVID-19 studies with the event-study and volatility apparatus), which, on a closer reading of their constituent works, comprise four intellectual schools (Table 7). The first is a body of uncertainty and asset-pricing foundations, comprising Fama's efficient-markets and three-factor work (1970, 1993), Baker, Bloom and Davis's policy-uncertainty index (2016), Pástor and Veronesi (2012, 2013), Caldara and Iacoviello on geopolitical risk (2022), and Amihud on liquidity (2002). The second is a methodological engine of connectedness and contagion econometrics, comprising Diebold and Yilmaz (2009, 2012, 2014), the generalised vector autoregression (VAR) apparatus of Koop et al. (1996) and Pesaran and Shin (1998), Baruník and Křehlík (2018), Forbes and Rigobon (2002), Engle (2002), and Baur and Lucey (2010). The third is a tightly bound COVID-19 market-impact community of 2020–2021 studies (e.g., Zhang et al., 2020; Corbet et al., 2020; Goodell, 2020; Topcu & Gulal, 2020; Mazur et al., 2021). The fourth is a small generalised autoregressive conditional heteroskedasticity (GARCH)-family modelling foundation (Bollerslev, 1986; Nelson, 1991). The field thus rests on two methodological pillars and two substantive pillars (Table 7).

Table 7. Co-citation clusters and their foundational works

Co-citation cluster	Foundational works	Role
Uncertainty & asset-pricing foundations	Fama (1970, 1993); Baker, Bloom & Davis (2016); Pástor & Veronesi (2012, 2013); Caldara &	Theoretical base

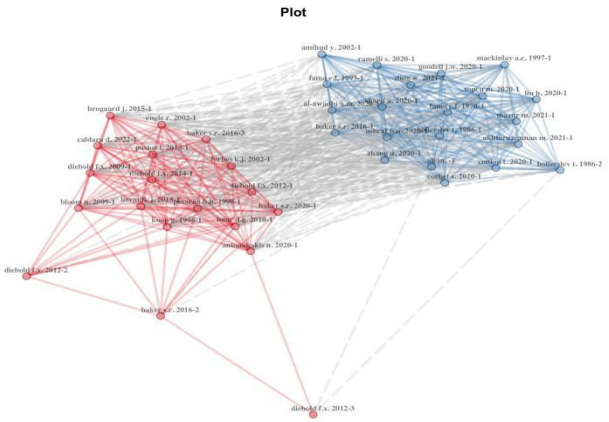
	Iacoviello (2022); Amihud (2002)	
Connectedness & contagion econometrics	Diebold & Yilmaz (2009, 2012, 2014); Koop et al. (1996); Pesaran & Shin (1998); Baruník & Křehlík (2018); Forbes & Rigobon (2002); Engle (2002); Baur & Lucey (2010)	Methodological engine
COVID-19 market impact	Zhang et al. (2020); Corbet et al. (2020); Goodell (2020); Topcu & Gulal (2020); Mazur et al. (2021); Al-Awadhi et al. (2020); Ashraf (2020); Sharif et al. (2020); Ramelli & Wagner (2020); Akhtaruzzaman et al. (2021)	Recent empirical core
GARCH-family volatility modelling	Bollerslev (1986); Nelson (1991)	Modelling foundation

Source: Authors' compilation

4.2 Historical direct-citation network

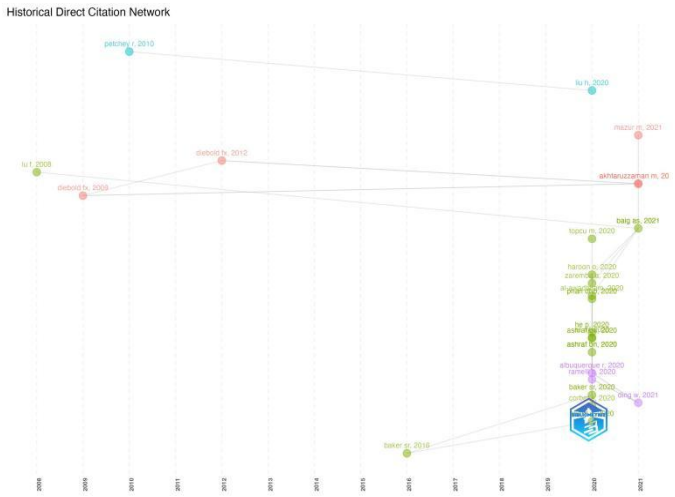
The historiograph (Figure 6) is anchored by Baker, Bloom and Davis (2016), the most locally cited work (local citation score, LCS = 1,267), and by Diebold and Yilmaz (2012, LCS = 1,043; 2009, LCS = 561). From these roots descends a dense cohort of 2020–2021 pandemic studies, namely Al-Awadhi et al. (2020; LCS = 601), Baker et al. (2020; LCS = 566), Ashraf (2020; LCS = 545), Sharif et al. (2020; LCS = 476), Ramelli and Wagner (2020; LCS = 450), and Akhtaruzzaman et al. (2021; LCS = 385), showing the empirical front consolidating almost entirely within the COVID-19 burst, built methodologically on connectedness measurement and conceptually on the quantification of policy uncertainty.

Figure 5. Co-citation network (two communities, four schools)



Source: Authors' compilation based on Scopus and Web of Science data.

Figure 6. Historical direct-citation network

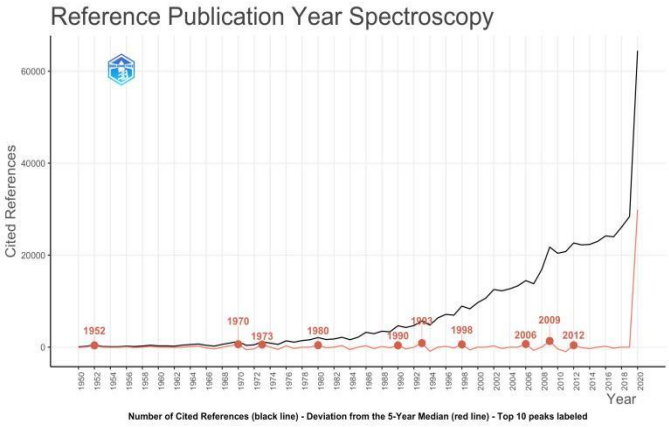


Source: Authors' compilation based on Scopus and Web of Science data.

Complementing the historiograph, a reference publication year spectroscopy (RPYS) locates the field's historical foundations (Figure 7). Pronounced peaks of cited work coincide with the discipline's canonical contributions, namely the efficient-markets era around 1970, factor- and volatility-modelling milestones across 1990–1993, and the connectedness and policy-uncertainty contributions of the late 2000s and early 2010s (notably

1998, 2009 and 2012), together with isolated early roots as far back as 1952. The overwhelming mass of cited references nonetheless falls after 2016, confirming quantitatively that the field rests on a small set of older methodological anchors while its substantive citation base is overwhelmingly recent.

Figure 7. Reference publication year spectroscopy (cited-reference counts and deviation from the five-year median; top peaks labelled)



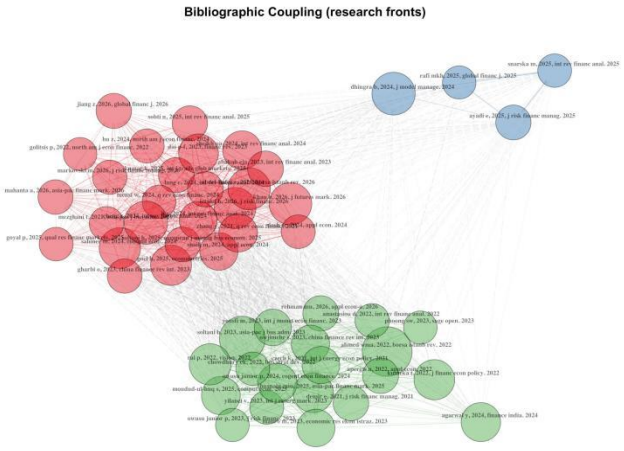
Source: Authors' compilation based on Scopus and Web of Science data

4.3 Bibliographic coupling

Bibliographic coupling identifies the field's current research fronts (Figure 8). Three emerge: a dominant volatility-connectedness and spillover-modelling front (Mensi, Shaik, Lang, Abakah, Sahiner, and colleagues; 2021–2026); an emerging-market and policy-uncertainty front (Czech, Demir, Ahmed, Yilanci, Owusu Junior); and a small, clearly nascent machine-learning and modelling front (Dhingra, Ayadi, Rafi, Snarska). The coupling map (Figure 9) confirms the hierarchy: the connectedness front occupies the high-centrality, high-impact quadrant (centrality = 0.22; mean normalised local citation score = 3.04), marking it the dominant current front, while the machine-learning front remains peripheral. The intellectual structure thus shows both continuity, in that the connectedness paradigm grounding the base remains the leading front, and transition, signalled by the emerging machine-learning front.

Figure 9. Coupling map: research fronts by centrality and impact.

Figure 8. Bibliographic coupling network (three research fronts).

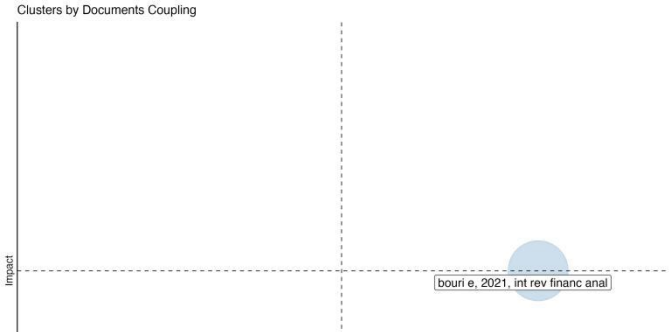


Source: Authors' compilation based on Scopus and Web of Science data.

Source: Authors' compilation based on Scopus and Web of Science data.

4.4 What the schools argue: a qualitative synthesis

The co-citation and coupling analyses identify which works cluster together; this section synthesises what each cluster actually argues and how the schools interlock, moving from the map of the field to its substance.



The first school supplies the field's theoretical scaffolding and its key explanatory constructs. Its base is the efficient-markets proposition (Fama, 1970) and the factor-pricing framework (Fama & French, 1993), which together justify the field's central empirical move: if prices impound information rapidly, a market's response to an event is an informative, near-instant repricing of expected cash flows and risk. Onto this base the school grafts the measurement of uncertainty. Baker, Bloom and Davis (2016) operationalise economic policy uncertainty as a newspaper-based index and argue that elevated policy uncertainty depresses investment and raises volatility; Caldara and Iacoviello (2022) construct the analogous geopolitical-risk index; and Pástor and Veronesi (2012, 2013) supply the theory, showing that uncertainty about government policy commands a risk premium that rises in fragile conditions. Amihud (2002) adds the liquidity channel through which stress is priced. The school's collective claim is that global events move markets not only by changing fundamentals but by changing uncertainty and required returns, and, crucially, it furnishes the policy-uncertainty and geopolitical-risk regressors that the rest of the field uses as its explanatory variables.

The second school is the field's methodological engine: it asks how shocks travel between markets and supplies the tools to measure it. Its core is the connectedness framework of Diebold and Yilmaz (2009, 2012, 2014), which uses forecast-error variance decompositions to quantify the direction and intensity of return and volatility spillovers and, in its 2014 form, casts the system as a network of net transmitters and receivers. The framework rests on the order-invariant generalised-VAR machinery of Koop et al. (1996) and Pesaran and Shin (1998), and has been carried into the frequency domain by Baruník and Křehlík (2018) to separate short- from long-run transmission. Forbes and Rigobon (2002) provide the school's central caution, that once correlations are corrected for crisis-period volatility, much apparent contagion is better described as ordinary interdependence, while Engle (2002) contributes the dynamic-conditional-correlation model for time-varying comovement and Baur and Lucey (2010) the safe-haven and hedge distinctions. The school argues that the market impact of a global event is fundamentally a transmission phenomenon, measurable as quantifiable spillovers across assets and economies.

A compact fourth school underpins the estimation in both of the above: the GARCH family. Bollerslev's (1986) generalised ARCH model captures the volatility clustering characteristic of returns, and Nelson's (1991) exponential GARCH adds the asymmetry by which negative shocks raise volatility more than positive ones of equal size. Though small as a citation cluster, this school is load-bearing, since it provides the workhorse specifications through which the field measures how events change the risk, or second moment, of returns.

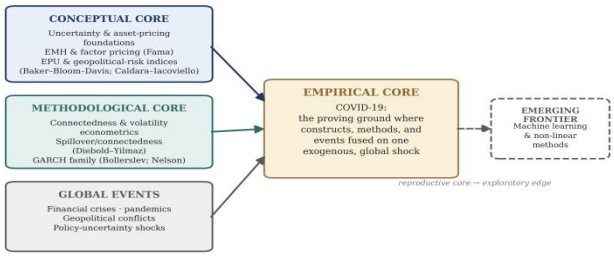
The third school is the field's empirical proving ground. The dense 2020–2021 cohort of pandemic studies (e.g., Baker et al., 2020; Al-Awadhi et al., 2020; Ashraf, 2020; Sharif et al., 2020; Ramelli & Wagner, 2020; Akhtaruzzaman et al., 2021) treated COVID-19 as a rare, exogenous, globally synchronous shock and, in doing so, fused the other schools: it deployed

the uncertainty constructs of the first school and the connectedness and volatility machinery of the second and fourth to document how rapidly and unevenly markets repriced, how policy responses mattered, and how cross-market spillovers intensified during stress. Its rapid consolidation, visible as the dominant historiograph lineage, explains why the field's centre of gravity shifted so sharply after 2020.

Read together, the four clusters form a coherent intellectual stack rather than four separate literatures. The first supplies the theory and the measured uncertainty constructs; the second and fourth supply the econometrics of transmission and volatility; and the third applies the whole apparatus to the defining shock of the period. This architecture accounts for the field's most distinctive feature, namely that it is organised around analytical apparatus and constructs as much as around the events themselves, and clarifies why methodological papers dominate its most-cited works.

The bibliographic-coupling fronts show this inheritance in motion. The dominant connectedness-and-spillover front carries the Diebold–Yilmaz and Baruník–Křehlík apparatus into new settings, such as time-varying and quantile connectedness, and asset classes such as cryptocurrencies, green bonds and energy, while the emerging-market and policy-uncertainty front extends the policy-uncertainty and geopolitical-risk constructs to markets and questions beyond the developed-market core. The nascent machine-learning front marks the field's first methodological departure from this lineage, applying predictive and non-linear techniques the founding schools did not use. The intellectual structure is thus reproductive at its centre and exploratory only at its edge. Figure 10 summarises this architecture, namely the conceptual, methodological, and event inputs that converge on the COVID-19 empirical core, and the machine-learning frontier branching from it.

Figure 10. The field's tripartite intellectual identity: conceptual, methodological, and event inputs converging on the COVID-19 empirical core, with the emerging machine-learning frontier



Source: Authors' compilation.

4.5 Keyword co-occurrence network

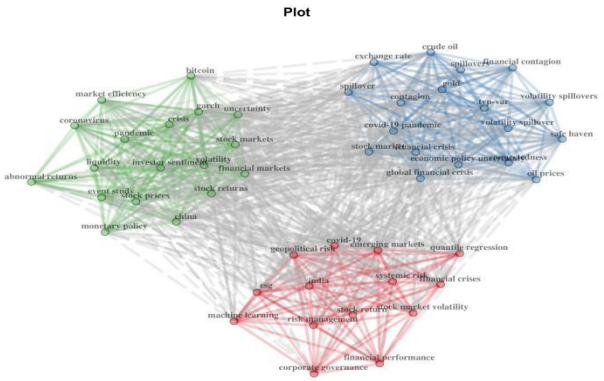
The co-occurrence network (Figure 11; Callon et al., 1991) resolves into three communities. The first gathers market-efficiency and event-response concepts, namely market efficiency, event study, abnormal returns, investor sentiment, liquidity, stock prices and returns, volatility and GARCH, with bitcoin and monetary policy attached The second is an energy-finance connectedness community, comprising spillovers, contagion, connectedness, volatility spillovers, time-varying-parameter vector autoregression (TVP-VAR), safe haven, gold, crude oil, economic

policy uncertainty, and the global financial crisis. The third is a newer, methodologically diverse community organised around emerging markets and risk, comprising geopolitical risk, emerging markets, systemic risk, quantile regression, machine learning, environmental, social and governance (ESG), corporate governance, and financial performance. The network thus separates the asset-pricing and event-response tradition, the connectedness-and-uncertainty mainstream, and an emerging methods-and-markets front.

Figure 11. Keyword co-occurrence network (three communities)

4.6 Thematic map

On the strategic diagram (Figure 12, Table 8; Cobo et al., 2011), the field's themes cluster around the centre, describing a literature whose core concerns are highly relevant yet still developing. Three basic themes anchor it, namely "financial crisis–stock markets–contagion", "COVID-19–stock market–event study", and "economic policy uncertainty–stock returns–geopolitical risk", each highly central but below the median on development, marking them as transversal concerns that are repeatedly invoked but not yet densely theorised. The more developed themes are methodological or specialised rather than central: a "volatility–GARCH–spillover" modelling theme and a "COVID-19 pandemic–gold–volatility-spillover" safe-haven theme occupy the upper, high-density region, while "finance" sits as an isolated niche. The diagram thus places uncertainty and crisis at the centre of the field's attention while showing that these central themes remain comparatively underdeveloped.



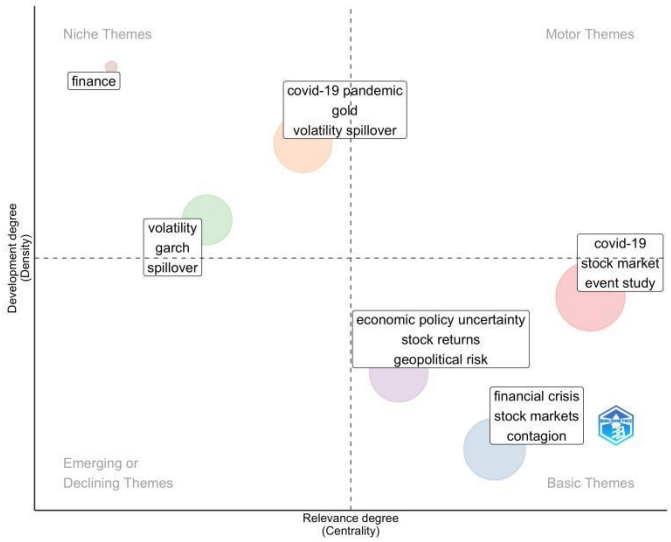
Source: Authors' compilation based on Scopus and Web of Science data

Table 8. Thematic clusters and strategic-diagram quadrant

Theme	Representative keywords	Strategic-diagram quadrant
Financial crisis & contagion	financial crisis, stock markets, contagion	Basic (central, developing)
COVID-19 & event study	COVID-19, stock market, event study	Basic (central, developing)
Uncertainty & geopolitical risk	economic policy uncertainty, stock returns, geopolitical risk	Basic (central, developing)
Volatility modelling	volatility, GARCH, spillover	Niche (developed, specialised)
Safe haven	COVID-19 pandemic, gold, volatility spillover	Developed (high density)
Finance	finance	Niche (isolated)

Source: Authors' compilation based on Scopus and Web of Science data

Figure 12. Thematic map: relevance (centrality) versus development (density)

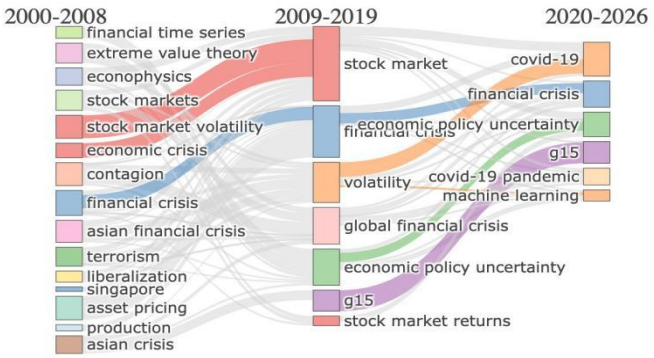


Source: Authors' compilation based on Scopus and Web of Science data.

4.7 Thematic evolution

Across 2000–2008, 2009–2019, and 2020–2026 (Figure 13; Cobo et al., 2011), the field's themes evolve in step with its shocks. The earliest period, covering econophysics, extreme value theory, stock-market volatility, contagion, the Asian financial crisis, terrorism, and asset pricing, feeds a middle period that consolidates around stock market, financial crisis, volatility, the global financial crisis, and, newly, economic policy uncertainty. The most recent period reorganises around COVID-19, financial crisis, and economic policy uncertainty, with machine learning emerging as a distinct new theme. The strongest lineages run from stock-market volatility and economic crisis into volatility and the global financial crisis, and from contagion and asset pricing into the financial-crisis theme.

Figure 13. Thematic evolution across the three sub-periods



Source: Authors' compilation based on Scopus and Web of Science data

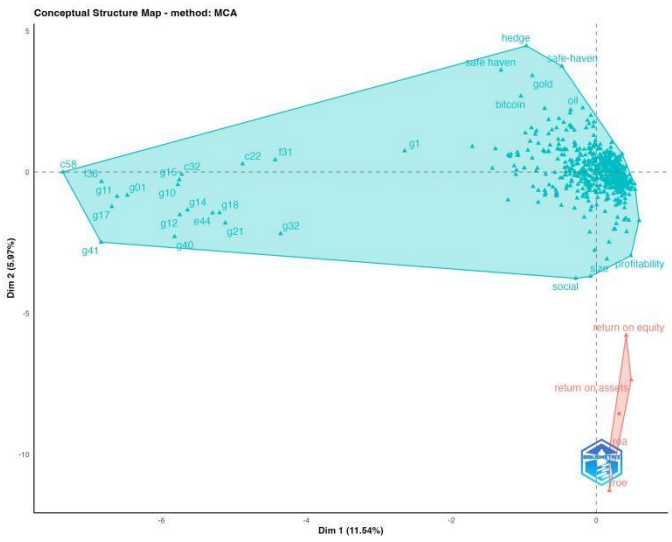
4.8 Conceptual structure map: multiple correspondence analysis (MCA)

The MCA factorial map (Figure 14) is dominated by a single conceptual cloud of market-and-event terms, within which a safe-haven region (hedge, gold bitcoin, oil) is distinct. Separated sharply from this cloud is a small cluster of firm-accounting terms, namely return on equity, return on assets, profitability, and size, revealing a structurally distinct firm-fundamentals strand largely disconnected from the dominant market-reaction literature.

This disconnect is substantively informative rather than incidental. The dominant market-reaction literature treats global events as exogenous shocks that strike aggregate index returns, volatility, and cross-market spillovers directly, whereas the small firm-accounting strand (return on equity, return on assets, profitability, and size) belongs to a corporate-finance

tradition relating firm characteristics to performance. That the two occupy separate regions of the factorial map, with few bridging terms, indicates that the field rarely models how a shock transmits through firm fundamentals to prices, modelling the shock instead as landing on returns without an intervening firm-level channel. The near-absence of a conceptual bridge between the firm-fundamentals cluster and the market-reaction cloud is, in effect, the bibliometric signature of a missing transmission-channel literature.

This observation connects directly to the firm-level transmission channels highlighted in the research agenda (Section 6, Characteristics dimension). Establishing whether events move prices by revising expected cash flows and fundamentals or by changing discount rates and risk premia requires firm-level, cross-sectional evidence in which heterogeneous exposure by size, leverage, profitability, and sector can be observed, and the prevailing focus on aggregate indices cannot separate these channels. Bringing the firm-fundamentals strand into contact with the market-reaction literature, both empirically and through theory linking firm characteristics to event responses, is therefore not merely a thematic gap but a structural one that the conceptual map makes visible, and it is the priority developed under the Characteristics and Theory dimensions of the TCCM agenda.



Source: Authors' compilation based on Scopus and Web of Science data.

Figure 14. Conceptual structure map (multiple correspondence analysis)

4.9 Co-authorship network

The co-authorship network (Figure 15) divides into two largely separate communities: a predominantly China-based group (Wang Y, Zhang Y, Li Y, Chen Y, Liu Y) and an internationally distributed energy-finance and connectedness collective (Bouri E, Gupta R, Mensi W, Hammoudeh S, Kang S, Vo X, Shahzad S, Naeem M), the latter being the same group that leads on citation impact. Bridging ties are sparse, indicating two parallel research collectives with limited cross-pollination.

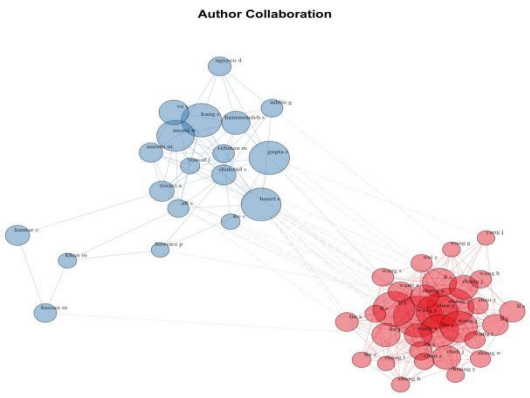


Figure 15. Author collaboration network (two communities)

4.10 Institutional collaboration

Institutional collaboration (Figure 16)

is
strongly regional, resolving into a Tunisian cluster (Sfax, Sousse, Monastir), a South-Asian/Australasian/Gulf cluster (Delhi, Massey, Bahrain, Al Ain, Amity, COMSATS, Southampton), a Malaysian cluster, a mixed Vietnam–Gulf–Africa cluster (Ho Chi Minh, Pretoria, Sultan Qaboos, Lebanese American, Drexel), and a small East-Asian cluster. The regional structure mirrors the author communities, underscoring that collaboration is organised more by geographic and institutional proximity than by global integration.

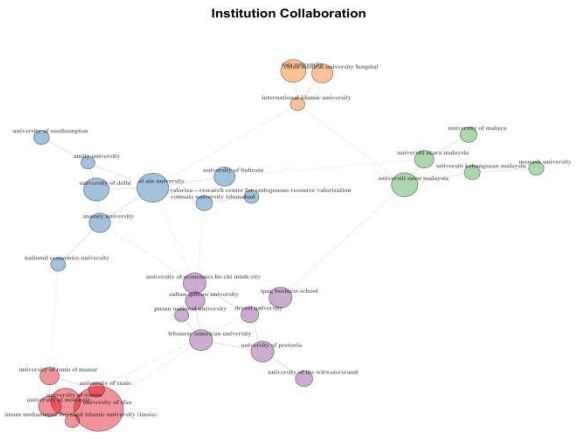
Figure 16. Institutional collaboration network (regional clusters)

4.11 Country collaboration

Assessed on the Scopus-indexed subset, where affiliation metadata supports reliable multi-country extraction, 31.4% of documents involve international (multi-country) co-authorship (Figure 17). The collaboration network (Figure 18) resolves into two principal blocs. The first is a developed-economy bloc anchored by the China–United States–United Kingdom axis and including Australia, Canada, Germany, Italy, Spain, Japan, the Netherlands and Greece; the China–United States tie is the single strongest collaborative link in the field. The second is an Asia–MENA and emerging-market bloc anchored by France and India and including Malaysia, Korea, Turkey, Tunisia, Pakistan, Indonesia and several Gulf states. A small third component links South Africa and Nigeria.

Source: Authors' compilation based on Scopus and Web of Science data

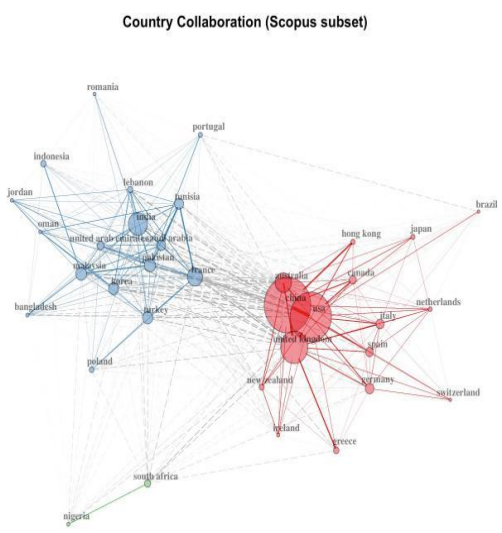
Source: Authors' compilation based on Scopus and Web of Science data



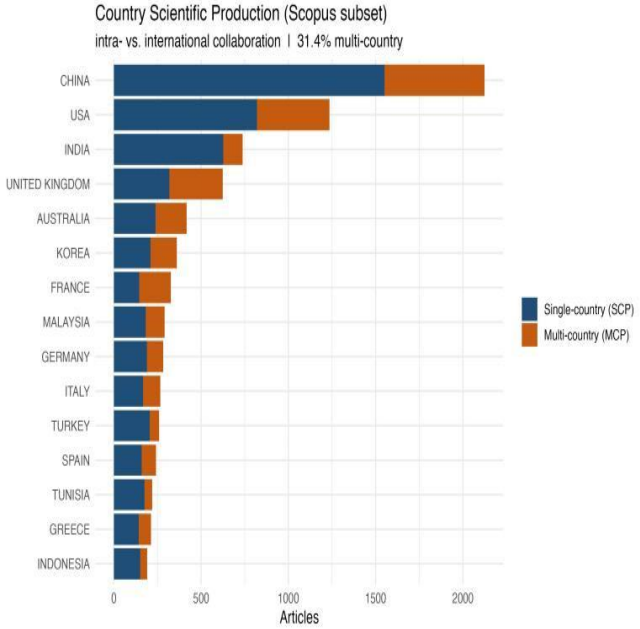
International orientation varies sharply across producers. France (55.2% multi-country), the United Kingdom (49.0%), Australia (42.9%) and Korea (41.7%) are the most internationally collaborative, whereas several high-volume producers publish predominantly within their own borders, notably India (14.9%), Tunisia (20.0%), Turkey (20.5%) and Indonesia (20.9%). China, despite leading output, has a below-average international rate (27.0%), while the United States is close to the field average (33.6%). The bloc structure and the inward orientation of several emerging producers reinforce the siloing observed in the author and institutional networks.

Figure 17. Country scientific production by collaboration type (single- vs. multi-country; Scopus subset).

Figure 18. Country collaboration network (two principal blocs; Scopus subset).



Source: Authors' compilation based on Scopus and Web of Science data.



Source: Authors' compilation based on Scopus and Web of Science data.

5. Discussion

Bringing the three knowledge structures together with the performance analysis allows the field to be characterised as a coherent whole. This section triangulates the structures, sets out the event-driven trajectory connecting them, and distils the gaps that motivate the agenda in Section 6.

5.1 A tripartite intellectual identity

Read across the three structures, the field converges on a stable tripartite identity. The methodological core is volatility connectedness and spillover econometrics, appearing as a foundational co-citation community, the dominant coupling front, and the defining method of the most-cited author community (Bouri, Gupta, Mensi, Hammoudeh). The conceptual core is uncertainty: economic policy uncertainty and geopolitical risk form the field's motor theme and rest on a co-citation foundation of their own (Baker, Bloom and Davis; Caldara and Iacoviello). The empirical core is the COVID-19 shock, which surfaces as a co-citation community, the dominant historiograph lineage, and a central basic theme. The same three paradigms recur, mutually reinforcing, across every analytical lens (Table 9).

Table 9. Triangulation of the three knowledge structures

Paradigm	Manifestation across structures	Reading
Connectedness & spillover econometrics	Co-citation foundation; dominant coupling front; core	The field's methodological engine, continuous from foundations to active

	method of the leading author community	fronts
Uncertainty (EPU & geopolitical risk)	Co-citation foundation; central (basic) theme on the thematic map; highly relevant but still developing	The field's conceptual core and primary growth direction
Crisis & pandemic empirics	COVID-19 co-citation community; dominant historiograph lineage; basic theme	The field's empirical core, consolidated within the COVID burst

Source: Authors' compilation

5.2 An event-driven, cumulative trajectory

The field's development is paced by external shocks. Output is near-flat through the 2000s and then accelerates, with the steepest rise coinciding with COVID-19, and the thematic evolution shows the same pattern qualitatively. Each successive shock adds a layer rather than displacing the previous one: the connectedness-and-uncertainty apparatus forged around the global financial crisis became the very toolkit through which the pandemic was studied. The field is thus both reactive, in that its volume and attention track events, and cumulative, carrying a stable methodological and conceptual through-line across three decades of crises.

5.3 Observations and emerging gaps

Several tensions define where the field is thin. First, it is empirically rich but theoretically light: its most central themes sit in the basic quadrant, and its active fronts are methodological and empirical rather than theory-building, while the efficient-markets and asset-pricing foundations are seldom advanced. Second, the conceptual map reveals a structural disconnect, in which a firm-fundamentals strand (return on assets and equity, profitability, size) sits apart from the dominant market-reaction literature, suggesting the firm-level transmission of global events remains weakly integrated with market-level work. Third, production and collaboration are concentrated and siloed: China leads on volume while the USA leads on impact, the co-authorship network divides into two weakly connected communities, institutional collaboration is strongly regional, and country collaboration splits into a developed-economy/China bloc and an Asia–MENA bloc in which several high-volume emerging producers (e.g., India, Tunisia) collaborate internationally far less than the field average, which, taken with the prominence of developed markets and the COVID event, signals under-coverage of emerging and frontier markets and of non-pandemic event types. Fourth, the methodological base is narrow: connectedness measures, GARCH models, and event studies (MacKinlay, 1997) dominate, while machine-learning, wavelet, quantile, and causal-inference approaches remain comparatively under-exploited, the nascent machine-learning front being the clearest sign of renewal.

5.4 Implications for practice and policy

The synthesised literature carries implications beyond the academy; the observations below summarise what the reviewed studies report rather than presenting new primary findings. For

investors and portfolio managers, the connectedness and contagion findings imply that diversification benefits tend to erode precisely when they are most needed: during global shocks, cross-market spillovers intensify and correlations rise, so portfolios that appear diversified in calm periods can become concentrated in stress. The safe-haven literature qualifies the conventional havens, since assets such as gold behave as havens only under particular conditions, suggesting that hedging is better treated as state-dependent than static. The recurrent finding that uncertainty itself, as captured by policy- and geopolitical-risk indices, moves prices implies that these measurable constructs carry information relevant to risk management.

For regulators and policymakers, the evidence that economic-policy and geopolitical uncertainty depress returns and raise volatility underscores that the clarity and predictability of policy communication is itself a determinant of market stability rather than merely a backdrop to it. The connectedness results, which identify net transmitters and receivers of shocks across economies, support systemic-risk surveillance that is cross-market and cross-border rather than confined to individual markets, and argue for coordination during the globally synchronous events that the COVID-19 studies document.

For researchers and data providers, the agenda in Section 6 indicates where effort is most needed: firm-level transmission channels, under-studied event types and emerging markets, and a broader methodological toolkit. The field's heavy reliance on a small set of constructs (policy- and geopolitical-risk indices) and measures (connectedness and GARCH models) also implies value in developing and validating alternative indicators of event-driven uncertainty.

6. Future Research Agenda

Drawing on the gaps identified above, future research directions are organised using the Theory–Context–Characteristics–Methodology (TCCM) framework (Paul & Rosado-Serrano, 2019), summarised in Table 10.

Theory. The field's empirical density is not matched by theoretical development. Beyond the efficient-markets and policy-uncertainty framing that dominate the co-citation base, future work could draw more explicitly on behavioural and investor-attention theory, network and contagion theory, and information-transmission frameworks, and could build theory linking firm-level fundamentals to market-level reactions rather than treating events purely as exogenous shocks to returns.

Context. Coverage is skewed toward developed markets and toward the COVID-19 and global-financial-crisis events. Emerging and frontier markets warrant systematic attention, as do event types that remain under-represented within the present scope, namely geopolitical conflicts, trade wars and sanctions, and terrorism. Climate and environmental shocks fell outside the event terms searched here (Section 2.2) and were not captured beyond incidental

natural-disaster references, so extending the event universe to climate and environmental risk, with a correspondingly widened search string, is a distinct priority for future syntheses. Explicitly comparative, cross-event designs that test whether transmission mechanisms generalise across shock types are also needed.

Characteristics. The literature centres on aggregate index returns, volatility, and spillovers. Promising directions include the firm-level transmission of shocks to fundamentals, the role of investor sentiment and attention, asymmetric and tail behaviour, and moderators such as governance and sustainability (ESG) characteristics that may condition market responses.

Methodology. The methodological base could be broadened beyond connectedness, GARCH, and event-study designs to incorporate machine-learning and natural-language-processing methods, wavelet and frequency-domain analysis, quantile and causal-inference techniques (synthetic control, difference-in-differences), and high-frequency data, supporting stronger identification and richer characterisation of dynamics.

Table 10. Future research agenda (TCCM framework)

Dimension	Observed in the corpus	Proposed future direction
Theory	EMH and asset-pricing foundations; policy-uncertainty framing; largely descriptive event studies	Behavioural/attention theory; network and contagion theory; theory linking firm fundamentals to market reactions
Context	Developed markets; COVID-19 and GFC; China (volume) and USA (impact)	Emerging and frontier markets; geopolitical, trade-war and terrorism events (searched but thin); climate and environmental events (beyond present search scope); cross-event comparative designs
Characteristics	Aggregate index returns, volatility, spillovers	Firm-level fundamentals transmission; sentiment and attention; tail/asymmetric effects; ESG and governance moderators
Methodology	Connectedness (TVP-VAR), GARCH family, event studies	Machine learning and NLP; wavelet/frequency-domain; quantile and causal inference; high-frequency data

Source: Authors' compilation

7. Limitations

Several limitations should be noted. Coverage is bounded by the two databases queried and by the English-language, Article/Review restriction. The reference-based intellectual-structure analyses rely on the Scopus-indexed subset, so the 2,249 Web-of-Science-unique documents (about 14% of the corpus) do not contribute to the co-citation and coupling results. This exclusion is unlikely to alter the reported cluster composition or coupling fronts: co-citation clusters are anchored by the most frequently co-cited foundational works and coupling fronts by dense clusters of recent documents, and in this corpus those anchor works (for example, the policy-uncertainty and connectedness references in Tables 4 and 7) are highly cited and indexed in both databases, whereas the Web-of-Science-unique records are disproportionately recent, lower-cited, and peripheral. The cross-database validation reported

in Section 2.5, which confirmed that the leading sources, authors, and thematic clusters recovered independently from the Scopus and Web of Science subsets were mutually consistent, offers further reassurance that the omitted records do not carry a distinct cluster structure. A formal re-estimation on the full corpus was precluded by the incomplete cited-reference metadata in the Web-of-Science-unique records, which is the reason these analyses were routed to the Scopus subset; the intellectual-structure results should therefore be read as robust to, though not formally re-tested against, the excluded 14%. Country-level collaboration was assessed on the Scopus-indexed subset, where affiliation metadata supports reliable multi-country extraction, because the merged corpus's harmonised affiliation field did not preserve multi-country information. Keyword-based mapping inherits author- and database-assigned indexing conventions, and a small number of network nodes reflect reference-matching or classification-code artefacts. Finally, the labelling and interpretation of clusters necessarily involve scholarly judgement.

8. Conclusion

This review set out to answer four research questions; Table 11 maps each to its principal findings before the broader conclusions are drawn.

Table 11. Research questions mapped to principal findings

Research question	Principal findings	Section
RQ1. Trends and influential entities	16,076 documents growing at 11.31% per year, concentrated in finance and energy-economics journals; China leads output and the USA citation impact; an energy-finance author group leads on impact.	§3
RQ2. Intellectual structure	Four interlocking schools (uncertainty/asset-pricing foundations, connectedness/contagion econometrics, COVID-19 empirics, and GARCH modelling), with three current fronts (connectedness dominant; emerging-market/EPU; nascent machine learning).	§4.1
RQ3. Conceptual structure and evolution	A keyword co-occurrence network resolving into three communities (market efficiency/event response, energy-finance connectedness, and an emerging methods-and-markets front); economic-policy and geopolitical uncertainty as the motor theme; an event-paced, cumulative thematic evolution; and, in the MCA map, a structurally detached firm-fundamentals strand.	§4.2
RQ4. Gaps and research agenda	A field that is empirically rich but theory-light, with a firm-fundamentals disconnect, geographic and collaborative siloing, and a narrow method base; a TCCM agenda addresses each gap.	§§5–6

Source: Authors' compilation

This review mapped the structure of research on how major global events affect world stock markets, synthesising 16,076 documents from Scopus and the Web of Science across 2000–2026. The field is young, fast-growing, and event-paced, expanding cumulatively as successive shocks, namely the Asian crisis, the global financial crisis, and COVID-19, each added a layer to a stable methodological and conceptual core. That core is tripartite: volatility-connectedness econometrics as the methodological engine, economic policy and geopolitical uncertainty as the conceptual motor, and the COVID-19 shock as the empirical anchor. The field is empirically rich but theoretically light, geographically concentrated and

collaboratively siloed, and methodologically narrow, with machine learning the clearest sign of renewal. By synthesising a literature usually examined one crisis at a time and translating its gaps into a structured TCCM agenda, the review offers both a map of where the field has been and a direction for where it might productively go.

Declarations

Contributor Roles Taxonomy (CRediT) authorship contribution statement. Author 1: Conceptualization, Supervision, Writing – review & editing. Author 2: Methodology, Validation, Writing – review & editing. Author 3: Software, Formal analysis, Data curation, Visualization, Writing – original draft. (Author identities withheld for double-blind review.)

Declaration of competing interest. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability. The study draws on bibliographic metadata retrieved from the Scopus and Web of Science Core Collection databases, which are proprietary and subject to subscription licences; the underlying records therefore cannot be redistributed. The screened record identifiers (DOIs) and the R scripts that reproduce the reported analyses are available from the corresponding author on reasonable request.

Ethics statement. Not applicable. The study analyses published bibliographic metadata and involves no human participants or animals.

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