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Review Paper

From Insurance to Climate Change: Mapping Five Decades of Risk Preference Research in Agricultural Finance (1975-2025)

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Abstract*— Risk preference in agricultural finance had become a critical research domain as farmers faced increasing exposure to market volatility, climate change, and systemic uncertainties. Research that specifically investigated risk behaviour and preference within agricultural finance remained fragmented and underexplored. Consequently, the intellectual structure, thematic development, and collaborative landscape of this emerging field had not yet been systematically mapped. The study aimed to identify the key contributors, dominant themes, and intellectual foundations. A bibliometric analysis was conducted using Biblioshiny 4.4.1 on 1,496 documents retrieved from the Scopus, covering the period 1975–2025 (24 April 2025). The results showed that publications expanded significantly after 2005, reaching a peak in 2023. Insurance, investment, and sustainability emerged as central research themes, while financial literacy, climate change, and pandemic-related risk appeared as emerging frontiers. Research on agricultural finance and risk preference developed into a multidisciplinary and globally interconnected domain, drawing insights from economics, environmental studies, and behavioral sciences. Future research on risk behaviour in agricultural finance should integrate behavioural insights with digital finance and climate risk modelling while expanding evidence from underrepresented regions such as Africa, Latin America, and Southeast Asia. Stronger linkages between farmer behaviour and policy innovations are essential to advance agricultural finance. Keywords— Farmer decision-making; Financial risk behaviour; Bibliometric analysis

I. INTRODUCTION

Agricultural financing remains a crucial and widely studied topic due to its fundamental role in enhancing farmers' productivity, ensuring sustainability, and strengthening the resilience of the agricultural sector [1] [2] [3]. Access to timely and sufficient financial resources enables farmers to invest in agricultural inputs, advanced technologies, infrastructure, and innovative practices [4][5]. These investments are vital for improving productivity, increasing operational efficiency, and promoting long-term sustainability in the agricultural sector [6] [7].

However, the agricultural sector is inherently exposed to high levels of uncertainty, driven by factors such as climate variability [8], market fluctuations [9], pest and disease outbreaks [10], as well as political and regulatory changes [11]. These unpredictable elements can significantly impact production outcomes and income stability, making risk a pervasive feature of agricultural activities [12] [13]. As a result, gaining a deep understanding of farmers' risk behaviour including how they perceive, assess, respond to, and manage various types of risk [14], has become a central and evolving focus in agricultural finance research [15] [16].

A growing body of literature highlights that farmers' risk behaviour constitutes a significant barrier to the effective adoption and utilization of technology [17] and agricultural finance instruments [15]. As such, insights into farmers' risk attitudes and the strategies they employ to mitigate uncertainty are crucial for designing financial products, insurance schemes, and policy interventions that are both context-sensitive and demand-driven[18]. These insights play a pivotal role in enhancing the resilience and long-term sustainability of farming systems, particularly in the face of increasing climate variability, market volatility, and institutional constraints.

Recent studies highlight the importance of understanding farmers' risk attitudes and behaviour in designing effective agricultural finance tools, insurance schemes, and policies. Study [19] emphasize that farmers' perceptions of risk significantly influence their adoption of technologies and financial instruments, making it crucial to align financial mechanisms with their risk profiles. Research [20] identify factors such as climate variability and market fluctuations that shape farmers' risk perceptions, underscoring the need for context-sensitive financial products. The UNDP IRFF in 2024 [21] report also stresses that understanding farmers' risk attitudes is essential for creating tailored financial products and policies that enhance resilience, especially in the face of climate-related challenges.

Over the last five decades, scholarly interest in risk behaviour in agricultural finance has grown significantly, reflecting the increasing complexity and uncertainty faced by stakeholders in the agricultural sector. This trend aligns with the evolving challenges related to climate variability, market volatility, and access to financial instruments that adequately account for farmers' risk profiles [22]. While numerous

bibliometric analyses have been conducted on agricultural finance in general [23] studies that specifically focus on risk behaviour within this domain remain limited. To date, most existing bibliometric reviews emphasize broader themes such as financial inclusion, access to credit, or technological innovation in agricultural finance [24]. This indicates a critical gap in the literature and presents an opportunity to explore the intellectual structure, influential works, and emerging trends specifically related to risk behaviour in agricultural finance.

To address this gap, the present study employs a bibliometric approach to uncover the structural patterns, thematic developments, and scholarly dynamics that characterize this field. Specifically, the study is guided by the following research question.

1. How has the research on risk behaviour in agricultural finance evolved over time, considering publication trends and types of scholarly output?
2. What are the dominant research themes and major scholarly contributions shaping the field of risk behaviour in agricultural finance?
3. Who are the leading contributors and collaborative networks in the study of risk behaviour in agricultural finance, in terms of authorship, institutional affiliation, and geographical distribution?

This study aims to uncover emerging themes, intellectual structures, and collaborative patterns in the literature. Mapping the evolution of risk behaviour studies in agricultural finance will provide scholars and policymakers with a clearer understanding of past developments, current focal areas, and future directions. This structured insight is particularly relevant for enhancing the design of financial instruments—such as credit schemes, crop insurance, and digital financial services—that are both responsive to farmers' risk perceptions and aligned with the broader goals of agricultural development..

II. METHOD

Bibliometric analysis has emerged as a powerful and increasingly utilized tool in quantitative research [25], enabling scholars to map scientific productivity, track citation impact, and identify emerging trends across disciplines. As demonstrated by [26], bibliometric methods provide a systematic approach to evaluate scholarly output by examining patterns in publications, authorship, and citations. Study reveals the growing popularity of bibliometric analysis, especially in applied sciences, and emphasizes its role in informing research policy, identifying influential works, and understanding the dynamics of knowledge production [27] (Donthu et al., 2021). This trend underscores the value of bibliometric techniques as a robust methodological framework in the landscape of modern quantitative research.

In this research, bibliometric analysis was conducted using the Biblioshiny 4.4.1, a widely recognized and open-source tool specifically designed for comprehensive science mapping and bibliometric studies [28].This software allows for advanced analysis of bibliographic data, including citation, co-citation, co-authorship, and keyword co-occurrence networks. The use of Biblioshiny enhances the reproducibility and transparency of the analysis process, enabling researchers to generate insightful visualizations and identify key patterns, trends, and influential contributors within the field of agricultural finance and risk behaviour.

In this research, the Scopus database was exclusively selected for conducting the bibliometric analysis [29] [30], based on previous studies that emphasize its distinct advantages as the largest abstract and citation database, Scopus offers extensive international coverage and wide accessibility to scholarly journals and conference materials. Its stringent content selection process ensures data quality and reliability. These strengths position Scopus as a highly suitable resource for comprehensive bibliometric investigation.

In this research, to ensure transparency and reproducibility, we adopted a structured process comprising three main steps: (1) Data Collection, (2) Data Processing, and (3) Analysis and Visualization. In the data collection step, a single, comprehensive search query was formulated and executed in the Scopus database to obtain a broad and unbiased dataset suitable for bibliometric analysis. The search strategy combined various relevant keywords using a thesaurus focusing on risk behaviour in agricultural finance. No restrictions were applied to subject areas or document types, ensuring the inclusion of all potentially relevant studies. This approach aligns with the key principles of bibliometric analysis, which aims to summarize large volumes of literature to reveal research trends and structural patterns across a broad scope [31]. As a result, a total of 1,496 documents published between 1975 and 2025 were retrieved and exported in .csv format on 24 April 2025 for further analysis. The search query used is presented in Table 1.

TABLE 1. Query Development Process

Queries	Documents Obtained
(TITLE-ABS-KEY (risk* AND preferenc*) OR TITLE-ABS-KEY (risk* AND aver*) OR TITLE-ABS- KEY (risk* AND tak*) OR TITLE- ABS-KEY (risk* AND neutral) OR TITLE-ABS-KEY (risk* AND behav*) AND TITLE-ABS-KEY (agri* AND financ*))	1496

In this research, to ensure comprehensive coverage of the relevant literature, we constructed search queries that combined terms related to risk behaviour and agricultural finance. Specifically, we included keywords such as "risk preference", "risk aversion", "risk taking", "risk neutrality", and "risk behaviour" to capture the various dimensions of risk-related attitudes. These were then combined with terms such as "agricultural finance", "agribusiness finance", and "agricultural financing" using truncations like "agri* and finance*" to encompass a wide range of expressions used across different studies and geographical contexts. This inclusive approach was designed to reflect the diverse terminology found in the literature on farmers' financial decision-making under risk. Previous studies have emphasized the significance of these terms in understanding risk attitudes and their implications for access to and use of financial instruments in the agricultural sector.

In the second step, Data Processing, the raw data exported from Scopus in .csv format were imported into Biblioshiny.

This stage involved converting the data into a structured data frame, removing duplicates, and standardizing author names and institutional affiliations to ensure consistency and accuracy in the subsequent bibliometric analysis.

Metadata	Description	Missing Counts	Missing %	Status
AB	Abstract	0	0.00	Excellent
DT	Document Type	0	0.00	Excellent
LA	Language	0	0.00	Excellent
PY	Publication Year	0	0.00	Excellent
TI	Title	0	0.00	Excellent
TC	Total Citation	0	0.00	Excellent
SO	Journal	1	0.07	Good
AU	Author	37	2.47	Good
C1	Affiliation	77	5.15	Good
DI	DOI	206	13.77	Acceptable
DE	Keywords	315	21.06	Poor
RP	Corresponding Author	430	28.74	Poor
ID	Keywords Plus	666	44.52	Poor
CR	Cited References	1496	100.00	Completely missing
WC	Science Categories	1496	100.00	Completely missing

Fig. 1. Completeness of Metadata -- 1496 docs from Scopu

The dataset demonstrates high consistency and reliability, with the core bibliographic information such as abstract, document type, language, publication year, title, and total citation being fully complete (0.00% missing). These fields provide a solid foundation for conducting descriptive and collaborative analyses. Moreover, metadata related to journals, authors, and affiliations also show excellent coverage, with only minimal omissions (below 5%), ensuring accurate mapping of research productivity and institutional collaboration.

Although some auxiliary fields, including DOI, keywords, and corresponding author, exhibit partial unavailability, these elements are supplementary and do not compromise the analytical depth or validity of the study. The fields “Cited References” (CR) and “Science Categories” (WC) were not included in the exported dataset, as the present research primarily focuses on publication trends, co-authorship networks, and institutional linkages rather than citation-based or disciplinary analyses. Consequently, the dataset remains robust and well-suited for achieving the intended research objectives.

III. RESULTS AND DISCUSSIONS

A. Evolution of Research on Risk Behaviour in Agricultural Finance

The scholarly interest in risk behaviour within the domain of agricultural finance has experienced substantial growth over time. Between 1965 and the early 2000s, the number of publications on this topic remained relatively low fewer than ten per year. This limited output reflects the dominance of traditional agricultural economics, which primarily focused on production efficiency and market structures rather than behavioural or financial risk aspects (Binswanger, 1980).

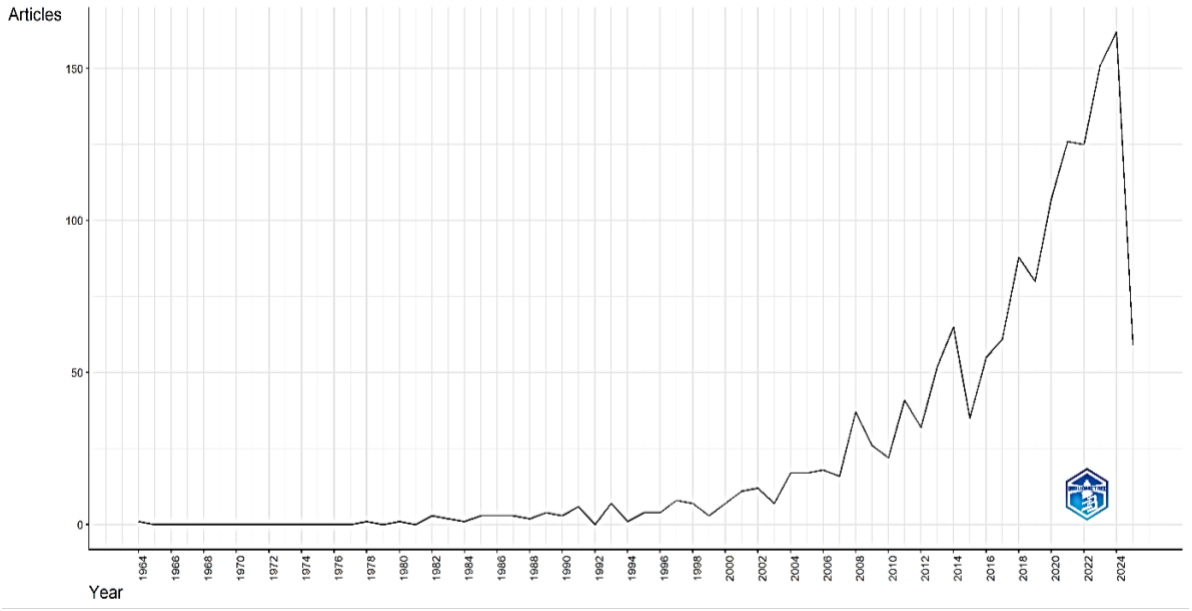

Fig. 2. Annual Scientific Production

Agradual increase in publication activity began after 2005, as global concerns about systemic risks including climate change, market volatility, and credit access, became more evident. The rise of microfinance, weather-index insurance, and value-chain finance also diversified the research landscape, connecting behavioural studies with applied agricultural finance [32] [33]. After 2015, there was a marked acceleration in research output, driven by the digital transformation of financial services. Innovations in fintech, mobile banking, and digital credit scoring reshaped the way smallholder farmers manage financial risk [34][35]. These studies emphasize financial inclusion as a crucial mechanism for risk mitigation and sustainable agricultural development.

The peak in annual scientific production occurred in 2023, when over 150 articles were indexed globally reflecting the field's growing interdisciplinary nature. The sharp decline observed in 2024 should not be interpreted as a real reduction in research activity. Instead, it is likely attributable to data incompleteness and indexing delays inherent to bibliometric databases such as Scopus [28]. As most journals publish their final issues at the end of the year, many 2024 articles may still be in press or awaiting metadata updates. Therefore, the downward trend at the end of the curve primarily reflects a temporal data bias rather than a substantive decrease in scholarly output.

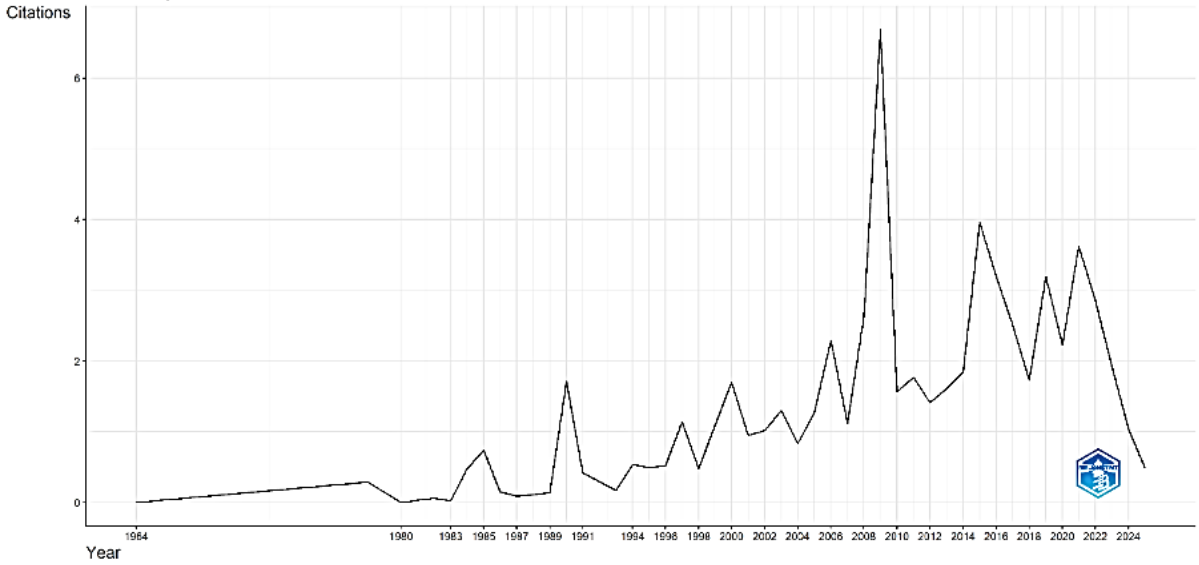

Fig. 3. Average Citation per Year

In addition to the increasing volume of publications, it is important to examine the scholarly impact of research on risk behaviour in agricultural finance. The citation peak observed between 2008 and 2010 (with an average exceeding six citations per article) likely corresponds to the publication of several influential works that integrated risk management, behavioural economics, and financial inclusion within the agricultural finance discourse. This period marked a turning point when global attention to systemic agricultural risks intensified following the 2007–2008 global food and financial crises [32].

Key studies published around this time introduced index-based insurance and microfinance innovations as risk mitigation tools for smallholder farmers, laying the groundwork for subsequent research [36]These seminal contributions substantially advanced both theoretical and applied frameworks in agricultural risk behaviour and are frequently cited as foundational in later bibliometric mappings. Following the 2010 citation peak, the average annual citation rate shows a gradual decline with intermittent rebounds (2015, 2018, and 2021). This decline is partly attributable to the citation time lag, as recent publications require several years to accumulate visibility [28]. However, the intermittent spikes reflect renewed interest driven by emerging themes, including climate resilience [37], digital finance adoption[14], and behavioural insights in agricultural decision-making [38].

The journal Agricultural Finance Review emerges as the leading outlet, with 44 published documents, underscoring its specialized focus and strong alignment with themes related to agricultural credit, rural finance, and farm-level risk decision-making. Its dominance indicates that it serves as a central platform for discourse within this niche domain. Other multidisciplinary and high-impact journals also appear prominently, including Sustainability (Switzerland) (28 documents) and PLOS ONE (17 documents), both of which reflect the growing interdisciplinary interest in agricultural risk issues—particularly those intersecting with environmental sustainability, behavioural sciences, and socio-economic resilience.

Agricultural Systems (24 documents) and the International Journal of Environmental Research and Public Health (14 documents) highlight the integration of systemic and public health approaches in studying risk-related behaviours in agriculture, such as farmer responses to climate-induced stressors or financial shocks. Notably, general environmental and land use journals—such as Journal of Environmental Management, Land Use Policy, and IOP Conference Series: Earth and Environmental Science—also feature as relevant publication venues. This indicates a diffusion of agricultural finance risk research into broader discussions on land governance, sustainability transitions, and environmental risk mitigation. Collectively, these sources demonstrate that the field is supported by both specialized and interdisciplinary journals, contributing to its academic visibility and cross-sector relevance.

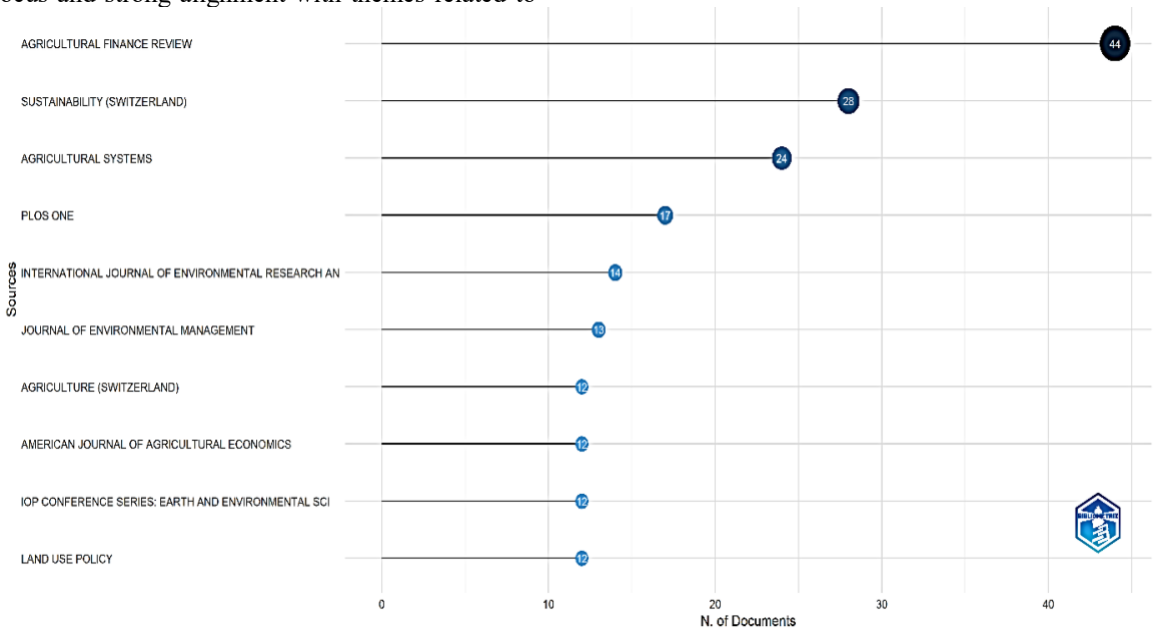

Fig. 4. Most Relevant Source

B. *Dominant Themes and Scholarly Contributions in Risk Behaviour Research within Agricultural Finance*

The analysis of trend topics over time provides critical insights into the thematic evolution of research on risk behaviour in agricultural finance. As shown in the Figure 5, the field has undergone a significant diversification in research focus, particularly from the early 2000s onward. Early studies were primarily centered on foundational economic themes such as cost–benefit analysis, risk assessment, and agricultural insurance, reflecting the sector's initial efforts to understand

financial risk at the farm level through conventional economic lenses.

From 2010 onwards, there is a visible shift towards interdisciplinary and policy-relevant topics, such as climate change, financial inclusion, and sustainability, signalling the growing concern with external shocks and long-term resilience in agriculture. This period also coincides with the emergence of risk management strategies that go beyond traditional insurance mechanisms, incorporating market-based instruments and behavioural approaches.

Recent years, particularly post-2020, have seen the rise of themes closely aligned with contemporary global events, such as coronavirus disease, credit constraints, financial literacy, and supply chain disruption, reflecting the field's responsiveness to real-world challenges. This suggests that the discourse around risk behaviour is no longer isolated within micro-level financial decisions but now intersects with macroeconomic uncertainty, health crises, and digital financial services.

Notably, the recurring presence of terms such as insurance, investment, and sustainability across multiple years indicates their central role in the literature, both as research anchors and as evolving constructs that adapt to new analytical frameworks and policy paradigms. The trend topic map thus highlights a dynamic field marked by both continuity in core themes and innovation in response to global changes, supporting the idea that agricultural finance is increasingly informed by multi-dimensional risk analysis and the integration of socio-economic, environmental, and technological factors.

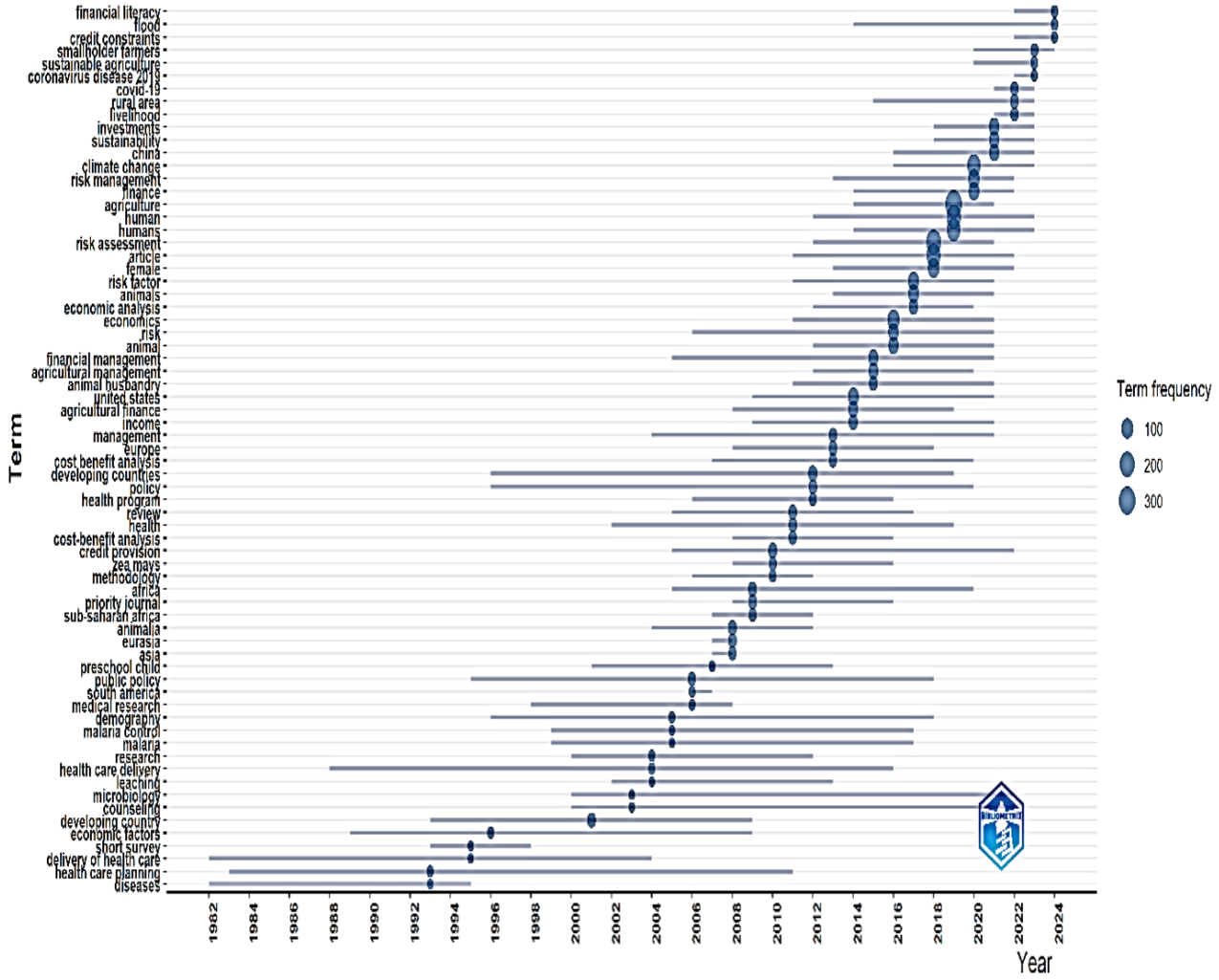

Fig. 5. Trend Topics

The co-occurrence network of keywords highlights the semantic structure of the literature on risk behaviour in agricultural finance, revealing two major clusters that dominate the research landscape. The first cluster (blue nodes) centers around socio-demographic and occupational dimensions, featuring keywords such as human, agriculture, agricultural worker, female, male, economics, and financial management. This grouping reflects a strong focus on individual and household-level risk behaviour, particularly among farming populations. The prominence of terms like perception, income,

and risk factor suggests a behavioural economics lens applied to understanding how farmers, differentiated by gender and age, respond to financial uncertainty and risk exposure.

The second cluster (red nodes) is more structurally and policy-oriented, composed of terms like climate change, risk assessment, decision making, agricultural production, financial markets, investments, and sustainable development. This thematic grouping indicates an increasing integration of systemic risk factors—including environmental and market-related uncertainties—into the discourse. The presence of agricultural robots, crop production, and drought further implies growing attention toward technological adaptation and climate resilience strategies in managing agricultural risks.

The node size and inter-cluster connections between these two areas suggest that while the field has traditionally examined risk behaviour through a micro-level lens, there is a gradual convergence toward macro-level and structural considerations, such as institutional frameworks, policy instruments, and climate-induced disruptions. For instance, risk assessment serves as a bridge node, linking behavioural studies to more systemic evaluations of agricultural vulnerability.

Overall, the keyword co-occurrence map demonstrates that contemporary research on risk behaviour in agricultural finance is evolving into a multi-scalar and interdisciplinary domain, blending insights from human behaviour, agricultural economics, climate policy, and technological innovation.

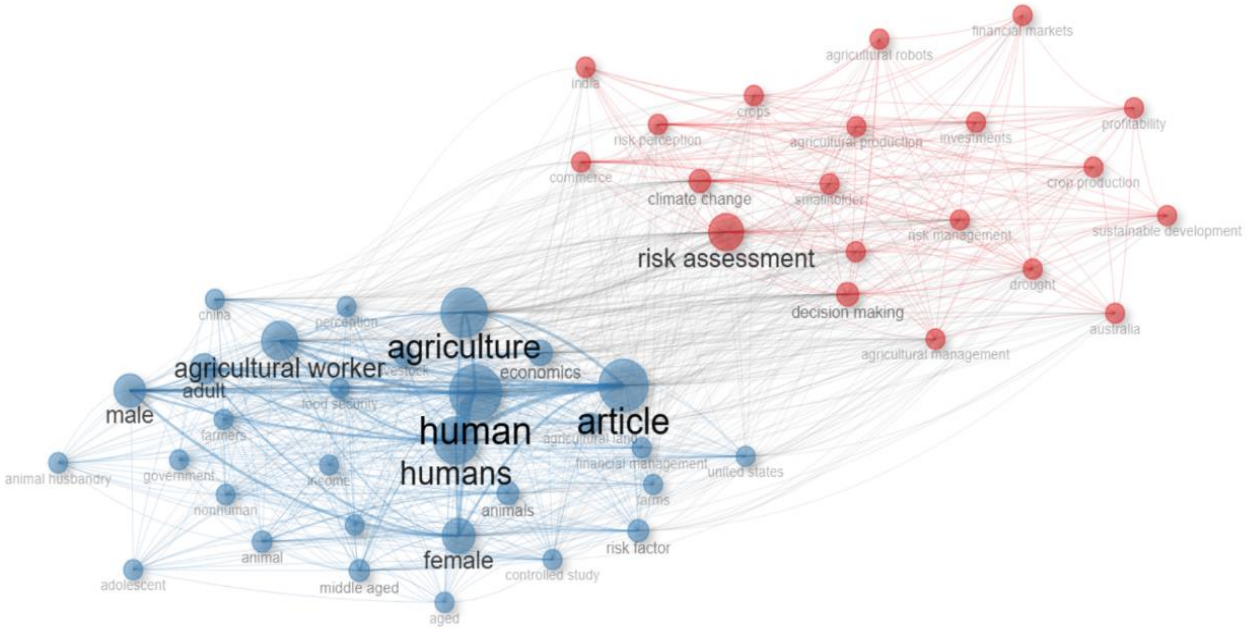

Fig. 6. Co-occurrence Networks

Thematic mapping through a strategic diagram offers a structured perspective on the intellectual architecture and maturity of research in agricultural finance risk behaviour. The diagram categorizes themes into four quadrants based on their centrality (relevance degree) and density (development degree), yielding insight into their positioning within the broader scientific discourse [39].

1. Basic Themes (High Centrality, Low Density)

Located in the lower-right quadrant, themes such as agriculture, economics, and United States are foundational and recurrent in the literature. Despite their lower thematic density, their high centrality suggests they function as essential pillars of discourse, acting as conceptual anchors across multiple subfields. These topics remain central to empirical analysis, especially in studies involving financial decision-making, risk behaviour, and agricultural systems in developed economies. Their classification as basic themes indicates they are widely applicable but not currently undergoing rapid conceptual development.

2. Niche Themes (High Density, Low Centrality)

In the upper-left quadrant, terms such as human, article, and humans emerge as niche themes. These clusters are conceptually well-developed but relatively isolated from broader thematic structures. Their high density reflects intensive investigation—likely from medical, demographic, or psychological perspectives—but their limited centrality implies lesser influence on the integrative framework of agricultural finance risk. Their presence may also stem from standardized indexing across interdisciplinary databases (e.g., PubMed or Scopus health-based repositories).

3. Emerging or Declining Themes (Low Centrality, Low Density)

Themes like risk assessment, climate change, and decision making appear in the lower-left quadrant. This classification

indicates either emerging interests yet to be fully integrated or declining topics losing traction. However, given global attention toward climate change and its financial implications, these themes are more likely in a transitional phase, possibly shifting toward centrality as climate-induced risks become more embedded in agricultural finance literature. These themes warrant closer monitoring for future research trajectories

Interestingly, the upper-right quadrant (motor themes) remains unpopulated. This suggests a lack of a dominant, rapidly evolving research front that simultaneously drives and integrates various thematic domains. The absence of motor themes may indicate the field is fragmented, still evolving, or in need of unifying conceptual frameworks and cross-thematic integration-potentially through interdisciplinary approaches involving policy, behavioural economics, and climate adaptation.

4. Absence of Motor Themes (High Centrality, High Density)

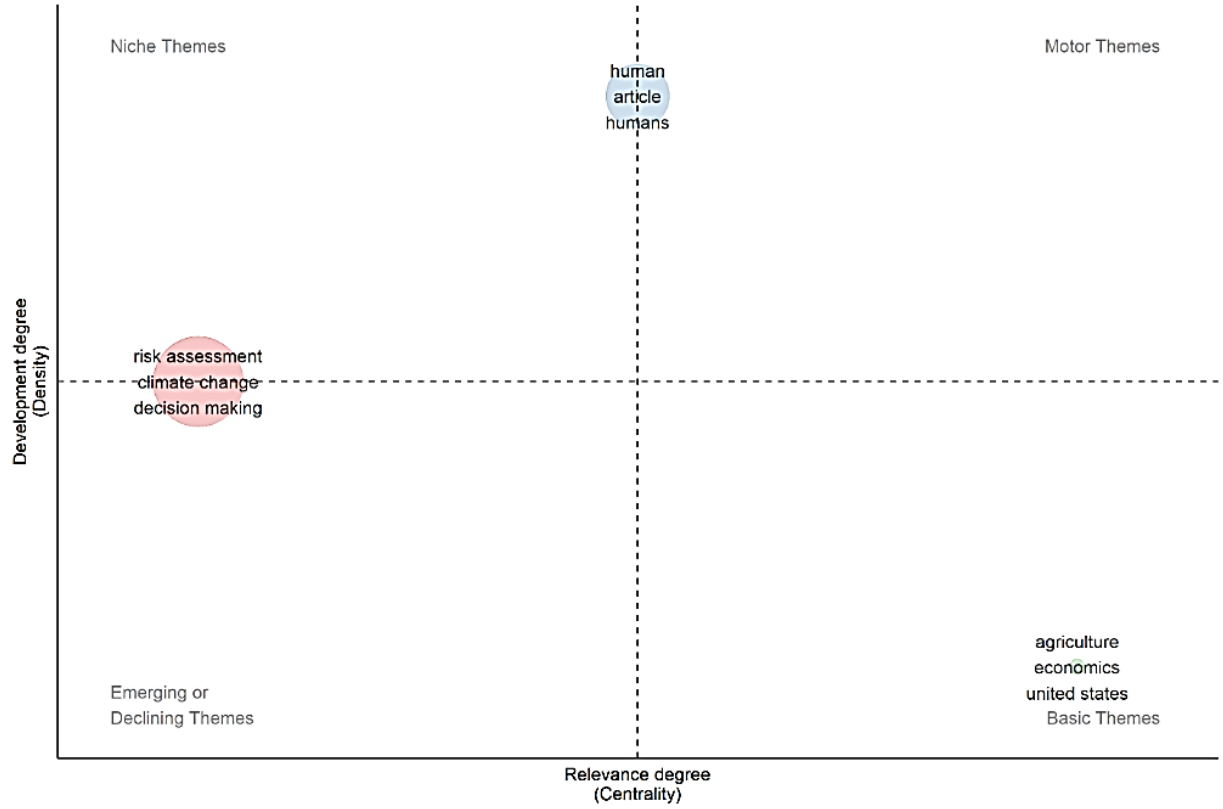

Fig. 7. Strategic Diagram Thematic Mapping

C. Leading Contributors and Collaborative Networks in Agricultural Finance and Risk Behaviour Research

To further understand the intellectual structure of the field, an author-level analysis was conducted to identify the most prolific scholars contributing to the literature on agricultural finance and risk behaviour. Figure 8 highlights the top contributors based on the number of documents published.

Turvey C.G. emerges as the most productive author, with a total of 10 publications. His consistent contributions to literature underscore his influential role in advancing empirical and theoretical insights on agricultural risk management, farm-level decision-making under uncertainty, and the development of financial instruments such as weather-indexed insurance.

Closely following is Musshoff O. with 9 documents, reflecting sustained research output particularly in behavioural agricultural economics and decision science. Wang J., Wang Z., and Zhang Y. each have 8 documents, indicating growing contributions from scholars likely engaged in studies from China or Asia more broadly—regions experiencing a rapid rise in agricultural transformation and financial risk exposure.

Other notable authors include Finger R. and Li J., each with 6 publications, who are known for their work in risk perception, insurance modelling, and climate-related uncertainties in farming systems. Additionally, Mushtaq S., Jiang Y., and Kong R. contribute to a diverse set of research areas, from irrigation finance and water scarcity risk to market and institutional responses to agricultural risk.

This authorship profile illustrates the interdisciplinary nature of the field, combining expertise from agricultural economics, environmental sciences, behavioural finance, and rural development. It also reflects an increasingly global scholarly network, with prominent contributors from both the Global North and Global South.

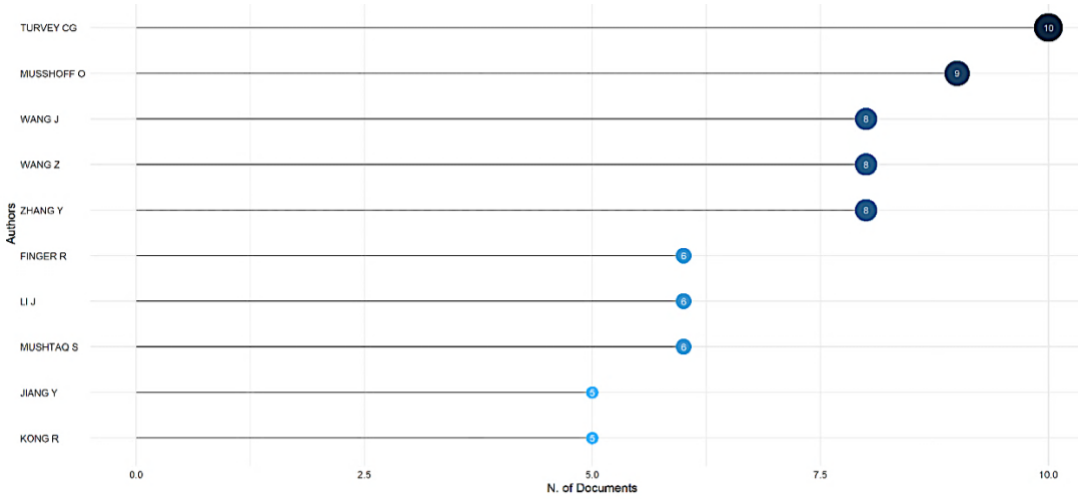

Fig. 8. Most Relevant Author

Figure 9 presents the most relevant institutional affiliations based on the number of published documents in the field of risk behaviour in agricultural finance. The distribution reflects a geographically diverse and globally engaged scholarly community. Sichuan Agricultural University leads with 42 publications, indicating a dominant institutional role, particularly in advancing research on agricultural risk management, rural credit systems, and behavioural economics in the context of Chinese agriculture. The prominence of this institution suggests a growing body of work originating from China, where agricultural modernization and financial inclusion are critical development priorities.

University College London (UCL) follows with 28 articles, reflecting contributions at the intersection of environmental risk, finance, and sustainable development. Likewise, Michigan State University, Wageningen University, and Wageningen University and Research (each with 26 articles) show strong engagement, particularly in interdisciplinary research spanning agricultural economics, food systems, and environmental science.

University of Southern Queensland also contributes substantially (25 publications), highlighting research excellence in risk perception, climate variability, and financial resilience in Australian and global farming systems. The category labeled "Not Reported" (22 articles) suggests incomplete metadata in bibliographic records but nonetheless underscores that a notable portion of research originates from unidentified or collaborative institutions.

Other universities—such as Chiang Mai University, Cornell University, and Ghent University—further demonstrate the international scope of this research area. Their inclusion reflects both region-specific studies (e.g., Southeast Asia) and high-impact theoretical or empirical contributions from globally recognized research centers. This institutional mapping illustrates how agricultural finance and risk behaviour research is supported by a mix of specialized agricultural institutions and comprehensive research universities across multiple continents, fostering cross-border knowledge production and interdisciplinary collaboration.

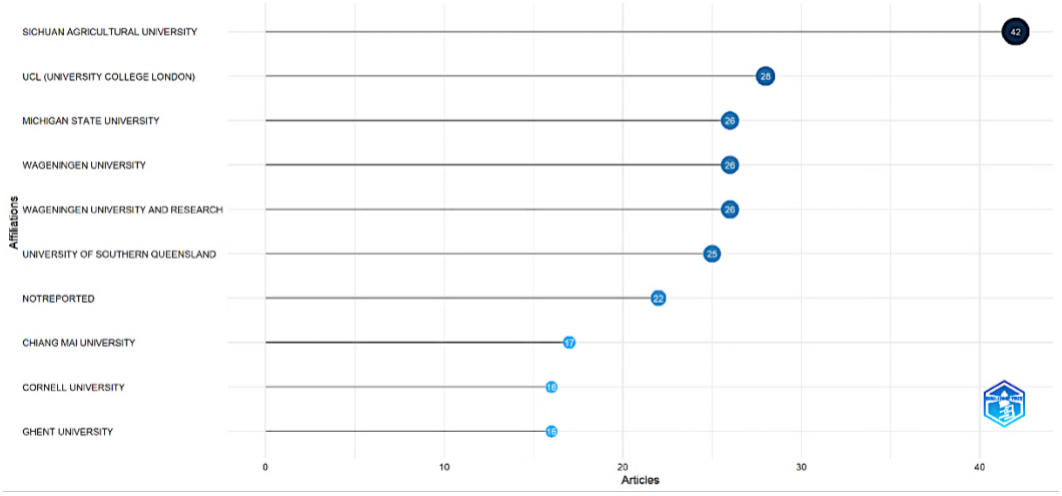

Fig. 9. Most Relevant Affiliations

Figure 10 displays the distribution of publications based on the corresponding authors' countries, distinguishing between Single Country Publications (SCP) and Multiple Country Publications (MCP). This analysis reveals both the global reach and collaborative intensity in the field of agricultural finance and risk behaviour. The United States ranks highest in terms of publication output, followed closely by China. Both countries demonstrate a significant volume of internationally co-authored publications (MCPs), suggesting strong global engagement and knowledge exchange. This collaborative nature is indicative of the complex, transboundary nature of agricultural risk, which often requires multi-contextual and comparative research.

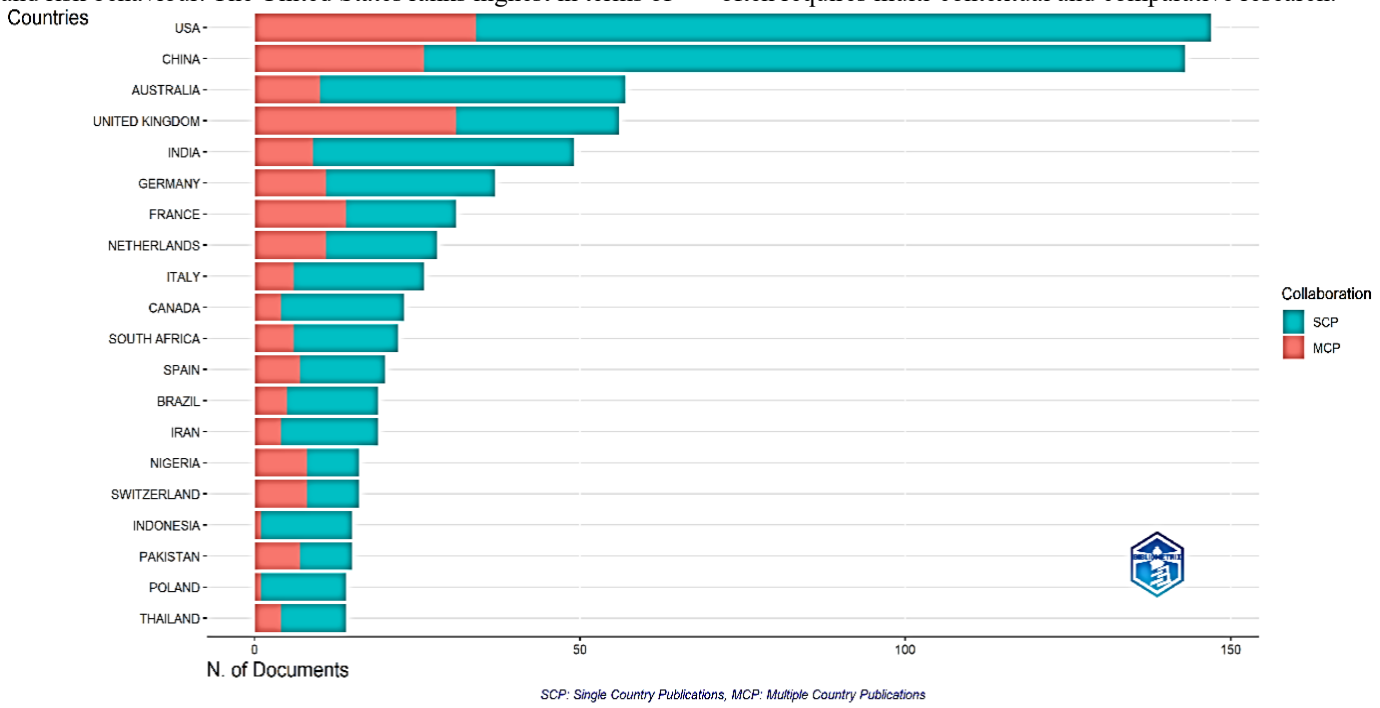

Fig. 10. Corresponding Author's Countries

Australia, United Kingdom, and India also emerge as prominent contributors, each exhibiting a balance of domestic and international collaboration. Notably, Australia's high level of international cooperation may reflect its strategic role in climate risk and agri-environmental research in the Asia-Pacific region. European nations such as Germany, France, Netherlands, and Italy also make substantial contributions, reinforcing the region's emphasis on sustainable finance, risk mitigation, and agricultural policy reform.

Countries such as South Africa, Brazil, Iran, Nigeria, and Indonesia represent key voices from the Global South, emphasizing emerging perspectives on agricultural vulnerability, financial access, and smallholder resilience. While their output is relatively modest, the presence of MCPs indicates a growing integration into global scholarly networks.

Overall, the data underscores a multi-polar and increasingly collaborative research landscape, where developed and developing countries are collectively shaping the discourse on risk behaviour in agricultural finance. This geographical and collaborative diversity enhances the robustness and applicability of research findings across varied agro-economic and institutional settings.

IV. SUMMARY AND CONCLUSIONS

Research on risk behaviour in agricultural finance has evolved from a niche focus into a multidisciplinary field of growing global relevance. The steady rise in publications since 2005, peaking in 2023, reflects increasing academic and policy interest in systemic agricultural risks, financial inclusion, and digital innovation. Although citation impacts show the typical delay of recent works, earlier influential studies continue to define the field's direction. The prominence of journals such as Agricultural Finance Review, Sustainability, and PLOS ONE indicates its expanding academic reach and integration into broader discussions on sustainability, behavioural economics, and rural resilience.

Thematic and network analyses show a shift from narrow economic inquiries to a more interdisciplinary and globally responsive field. Core themes—insurance, investment, and sustainability—remain central, while emerging topics such as climate change, financial literacy, and pandemic-related risks highlight adaptability to global challenges. Collaboration networks reveal both behavioural and structural orientations but remain fragmented, indicating the absence of a unified research front. Advancing the field requires stronger integration among research clusters, wider international collaboration, and frameworks linking behavioural insights with policy, environmental, and technological perspectives.

At the author, institutional, and country levels, the field displays strong global interconnectedness. Leading scholars such as Turvey C.G., Musshoff O., and Wang J., along with key

institutions including Sichuan Agricultural University, University College London, and Wageningen University, drive theoretical and applied progress. The dominance of the United States, China, and Australia, coupled with extensive international co-authorship, reflects a robust global collaboration culture. Engagement from both Global North and Global South institutions ensures diverse, context-sensitive contributions, enhancing the field's capacity to generate actionable insights for managing agricultural risks in an increasingly uncertain world.

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