

Research Paper

## Optimizing Economic Management amid Globalization: A Bibliometric Review of the Emerging Trends (2020-2025)

Zahara Tussoleha Rony <sup>a,1\*</sup>, Musdirwan <sup>b,2</sup>, Loso Judijanto <sup>c,3</sup>, Ignatius Septo Pramesworo <sup>d,4</sup>, Yanti Setianti <sup>e,5</sup>

<sup>a</sup> Faculty of Economics and Business, Bhayangkara University Jakarta Raya, Indonesia

<sup>b</sup> Department of Agro-Industrial Logistics Management, ATI Polytechnic Padang, Indonesia

<sup>c</sup> Indonesia Palm Oil Strategic Studies Jakarta, Indonesia

<sup>d</sup> Faculty of Economics and Business, Perbanas Institute, Indonesia

<sup>e</sup> Faculty of Communication Science, Padjadjaran University, Indonesia

<sup>1</sup> [zahara.tussoleha@dsn.ubharajaya.ac.id](mailto:zahara.tussoleha@dsn.ubharajaya.ac.id), <sup>2</sup> [musdirwanedi@gmail.com](mailto:musdirwanedi@gmail.com), <sup>3</sup> [losojudijantobumn@gmail.com](mailto:losojudijantobumn@gmail.com),

<sup>4</sup> [ign.septo@perbanas.id](mailto:ign.septo@perbanas.id), <sup>5</sup> [yanti.setianti@unpad.ac.id](mailto:yanti.setianti@unpad.ac.id)

\*corresponding author

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### ABSTRACT

Amid increasing global interdependence and complex socioeconomic challenges, the need for effective and adaptive economic management has grown more urgent. Although academic interest in globalization and economic governance is rising, a comprehensive synthesis of current research trends remains limited. This study addresses that gap by systematically synthesizing how global developments are reshaping economic management discourse. Employing a bibliometric and conceptual review approach, the study examines 1,698 publications from major academic databases (e.g., Scopus, JSTOR, Google Scholar) between 2020 and 2025. A structured search strategy and rigorous screening criteria were applied to ensure relevance and quality. Thematic and bibliometric analyses were used to identify emerging trends in keyword usage, authorship patterns, international collaboration, and disciplinary focus. Key findings highlight sustainability, renewable energy, and public policy as dominant themes in contemporary economic management research. The study also reveals a growing emphasis on interdisciplinary and cross-border approaches, reflecting the complex realities of globalized economies. Notably, the persistent tension between economic growth and environmental protection indicates the need for adaptive, evidence-based policy frameworks.

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## Introduction

In the contemporary era marked by unprecedented interconnectivity and rapid change, economic management has emerged as a critical lever for steering national and global development. As globalization intensifies interdependencies among countries, managing economic systems effectively has become increasingly complex (Shahbaz, 2024; Vladoš, 2024). Economic management no longer pertains solely to domestic policy formulation but extends to navigating international trade networks, financial volatility, technological disruption, and sustainability imperatives (Elfaki & Ahmed, 2024; Uddin & Azam Khan, 2024). Molavi et al. (2024) argue that economic governance functions as a transformative force, shaping societal outcomes and determining the resilience and trajectory of economies. Against this backdrop, the need for coherent, adaptive, and evidence-based management frameworks is more urgent than ever (Heldt & Park, 2025). Hence, this study examines the evolving landscape of economic management through the lens of three critical, interrelated domains: globalization, sustainability, and adaptive policy. We argue these themes serve as fundamental pillars in shaping contemporary economic discourse and practice.

Globalization, as conceptualized by Zhang et al. (2022) in *"The Great Convergence"*, transcends physical borders and fosters deep integration among nations through trade, technology, capital flows, and information exchange. This interconnectedness fundamentally alters the economic landscape, giving rise to a globalized economy where production chains are dispersed across continents, financial markets operate instantaneously across time zones, and even local consumer preferences are influenced by international trends (Anam et al., 2024). For economic management, this means traditional domestic policy tools, while still important, now operate within a much larger and more volatile ecosystem. Decisions made by one nation can have ripple effects worldwide, impacting supply chains, currency valuations, and investment flows in seemingly distant economies (Karimova et al., 2025). The rise of multinational corporations, the prevalence of cross-border mergers and acquisitions, and the increasing reliance on international trade agreements all indicate how deeply national economies are now woven into a single global fabric. While this integration creates new opportunities for growth, innovation, and specialization, it simultaneously exposes economies to external shocks, systemic risks, and competitive pressures (Adjel et al., 2024; Bi et al., 2024). Historical accounts by Awosusi et al. (2024) have documented the transformative effects of globalization on economic structures, labor markets, and governance. These transformations necessitate a recalibration of economic management strategies, ones that are both domestically relevant and globally responsive.

A review of existing literature reveals a significant body of work addressing the various impacts of globalization. Key strands of inquiry include the relationship between trade liberalization and financial development, the evolution of international monetary systems (Uddin & Azam Khan, 2024), and the role of technology in reshaping economic governance (Raihan et al., 2024; Suprunenko et al., 2024). For instance, scholars have examined how global trade agreements and the fluid movement of capital challenge conventional regulatory mechanisms and blur the lines between national economic autonomy and supranational constraints (Altay, 2025; Imran et al., 2024). Similarly, technological innovations such as blockchain, artificial intelligence, and the Internet of

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Things have revolutionized market dynamics and administrative capabilities, yet they introduce new layers of risk and ethical concerns (Khatoon & Velidandi, 2025; Raihan et al., 2024).

Furthermore, public policy remains an essential axis of economic governance in the global era. As highlighted by Sun et al. (2024), the efficacy of monetary, fiscal, and industrial policies hinges not only on technical design but also on institutional credibility and international alignment. The interplay between national policymaking and global economic forces demands sophisticated governance models that prioritize sustainability, inclusivity, and cross-sector collaboration (Golpe et al., 2023; Sun et al., 2023). Mariotti (2024) further emphasizes the need for adaptable policy frameworks that can reconcile theoretical elegance with real-world complexity, especially as societies confront climate change, inequality, and geopolitical tensions.

Despite this growing body of knowledge, the literature is fragmented and lacks a systematic synthesis of how global economic management has evolved in response to emerging challenges, particularly between 2020 and 2025, a period marked by the COVID-19 pandemic, technological acceleration, and heightened awareness of sustainability. While individual studies offer valuable insights, they often operate in disciplinary silos, making it difficult to draw holistic conclusions or to identify integrative trends. Moreover, few reviews explicitly map the intersection of sustainability, globalization, and policy innovation within the broader discourse of economic management. Existing studies tend to focus on isolated dimensions, such as fiscal policy, digital transformation, or trade relations, without situating these within a unified analytical framework. As a result, there remains a lack of clarity regarding how these interrelated factors collectively shape contemporary economic governance, leaving scholars and policymakers without a comprehensive roadmap to navigate increasingly complex global realities.

The present study seeks to fill that gap by offering a comprehensive bibliometric and conceptual review of recent scholarship on economic management in the context of globalization. Through the analysis of 1,698 academic publications published between 2020 and 2025, this study aims to uncover prevailing themes, track emerging trends, and evaluate the extent of interdisciplinary and international collaboration. By applying bibliometric techniques to identify keyword co-occurrence, authorship patterns, and citation networks, the study provides empirical insights into the structure and direction of academic discourse. The conceptual component complements this by synthesizing theoretical and policy-related contributions, enabling a deeper understanding of the evolving paradigms in economic management.

The novelty of this study lies in its integrated methodological approach and its focus on a critical yet underexplored intersection: how globalization, sustainability, and economic governance converge in contemporary scholarship. While previous reviews have addressed aspects of globalization or specific policy areas, few have employed a bibliometric lens to examine the collective intellectual landscape. This approach enables the identification of dominant research clusters and intellectual gaps, offering a roadmap for scholars, policymakers, and practitioners seeking to navigate and contribute to the discourse. This study captures the broader conceptual evolution of economic management as reflected in global academic outputs from 2020 to 2025. Furthermore, the study is distinct in its temporal focus on the post-pandemic recovery period, a critical phase that has witnessed accelerated digitalization, climate urgency, and institutional recalibration.

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By bridging disciplinary boundaries and integrating diverse scholarly perspectives, the research advances a more unified and forward-looking framework for rethinking economic governance in the 21st century.

Moreover, this study situates economic management not as a static administrative function, but as a dynamic and adaptive practice shaped by shifting global forces. In doing so, it reframes economic governance as a systems-level challenge that requires multidimensional responses, combining empirical rigor, theoretical insight, and normative orientation. The emphasis on sustainability, in particular, reflects a growing consensus that economic growth must be pursued without compromising environmental and social well-being. Concepts such as carbon neutrality, circular economy, and green finance are increasingly central to policy discourse and academic inquiry alike, signaling a paradigmatic shift in how economic success is conceptualized and measured (López-Serrano et al., 2023; Ma, 2024).

This review is also motivated by the recognition that effective economic management in a globalized world cannot be achieved in isolation. The findings emphasize the importance of cross-border collaboration, as reflected in the high rate of international co-authorship and the global dispersion of research outputs. These patterns reinforce the view that complex economic challenges, ranging from climate change to financial instability, require collaborative, interdisciplinary solutions that transcend national and disciplinary boundaries. In terms of contribution, this study contributes to the existing literature by providing a comprehensive, data-driven overview of how economic management is being theorized and practiced in an increasingly interconnected and uncertain world. It advances a novel analytical framework that captures the interplay of sustainability, globalization, and governance, and it offers strategic insights for advancing more resilient and inclusive economic systems. By drawing on both quantitative and qualitative dimensions of academic discourse, the research aims to inform future studies, policy designs, and institutional reforms.

The present study aims to systematically investigate the evolving landscape of global economic management by identifying key themes, emerging patterns, and research gaps within scholarly literature published between 2020 and 2025. Specifically, the study aims to map how academic discourse has addressed the multidimensional challenges and opportunities posed by globalization, particularly in relation to sustainability, technological transformation, and economic policy innovation. The findings are expected to carry important theoretical and practical implications. Theoretically, the study contributes to the development of a holistic framework that bridges disciplinary boundaries and redefines the conceptual foundations of economic management. Practically, the insights generated can inform evidence-based policymaking, guide institutional reforms, and support transnational collaboration among governments, academics, and international organizations in designing responsive and resilient economic strategies fit for the complexities of the 21st century.

## Method

This study adopts a conceptual and bibliometric review design, an approach well-suited for synthesizing large bodies of interdisciplinary literature while simultaneously mapping scholarly trends over time (Donthu et al., 2021). The rationale for employing this

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dual design lies in the complexity of the research topic, economic management amid globalization, which spans economics, public policy, sustainability, and technology. A conceptual review was chosen to extract, interpret, and integrate theoretical insights and frameworks, while bibliometric analysis enabled the identification of research patterns, keyword evolution, and scholarly collaboration. This combined approach provides both qualitative depth and quantitative breadth, aligning with the study's objective to explore emerging themes and gaps in global economic governance discourse from 2020 to 2025.

The data for this study comprised 1,698 peer-reviewed publications retrieved from established academic databases, including Scopus, JSTOR, and Google Scholar. Our primary data sources were Scopus and Web of Science, which together provided comprehensive coverage of high-impact journals and conference proceedings. Initial searches also utilized JSTOR and Google Scholar to broaden the scope and identify relevant articles, with duplicates removed during the refinement phase. The selection of databases ensured a wide coverage of disciplines and reputable indexing standards. A structured keyword search strategy was developed using terms such as "economic management," "globalization," "international trade," "financial systems," "sustainability," "technological transformation," and "economic policy." These keywords were chosen to reflect core thematic areas relevant to the study's scope. Initial search results were filtered using predefined inclusion and exclusion criteria, focusing on publications written in English, published between 2020 and 2025, and directly addressing the intersection of economic governance and globalization-related phenomena. Studies that lacked academic rigor, were non-peer-reviewed, or fell outside the thematic scope were excluded. The final dataset was curated to ensure quality, relevance, and diversity of perspectives.

The study followed a systematic procedure consisting of five key stages. First, the research scope was clearly defined, and a thematic boundary was established to ensure coherence throughout the review. Second, the literature search and data collection phase involved the application of the structured search terms across multiple databases. Third, a rigorous screening process was conducted, where each publication was evaluated against the inclusion criteria. Fourth, selected articles underwent quality appraisal using established academic standards such as citation relevance, methodological soundness, and publication credibility. Finally, a detailed data extraction phase was conducted to record bibliographic information, thematic keywords, and author affiliations, which were later subjected to bibliometric mapping and thematic synthesis.

The data analysis employed a combination of thematic coding and bibliometric techniques. For the bibliometric analysis, tools such as VOSviewer and Bibliometrix (R-package) were used to generate keyword co-occurrence networks, collaboration maps, and citation analyses. VOSviewer was primarily utilized for constructing and visualizing bibliometric networks, including co-occurrence maps of keywords to reveal thematic clusters, and co-authorship networks to illustrate collaboration patterns. Bibliometrix facilitated quantitative analyses, such as co-citation analysis to identify influential papers and intellectual structures, and descriptive statistics on publication trends and highly cited journals. These visualizations allowed the identification of high-frequency terms, research clusters, and trends in authorship and international cooperation. Concurrently, a thematic analysis was conducted to identify recurring conceptual themes across the literature, including sustainability, energy policy, financial resilience, digital transformation, and global institutional dynamics. This dual-layered approach facilitated a nuanced

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understanding of the structure and evolution of economic management discourse during the specified time frame.

To ensure coherence and analytical depth, a conceptual framework was constructed based on the synthesized findings. This framework was designed using a systems methodology, combining aspects of both soft systems thinking (interpretive and discursive insights from qualitative themes) and hard systems logic (empirical patterns derived from bibliometric data). The framework served as an organizing device to structure the interplay between globalization, economic policy, sustainability, and technological innovation. Consistency checks and inter-researcher reviews were performed throughout to ensure the reliability of interpretations and minimize subjective bias. All methodological steps were documented in detail to enhance the study's transparency and replicability, in line with best practices in systematic review methodology.

## Results

### *Bibliometric Landscape of Economic Management Research*

This section presents the findings of the bibliometric analysis conducted on 1,698 academic publications related to economic management and globalization from 2020 to 2025. The results provide a comprehensive overview of the publication trends, authorship patterns, collaboration metrics, and thematic diversity observed in the selected dataset. These findings help uncover key dynamics in contemporary research discourse and highlight shifts in academic focus during a period marked by global disruptions and economic transformation.

As shown in [Table 1](#), a total of 1,698 documents were retrieved from 165 distinct sources, including peer-reviewed journals and scholarly books. These publications span the defined five-year period, yet the annual growth rate of publications reveals a significant decline of -54.77%, indicating a sharp reduction in research output over time. This downward trend may reflect disruptions caused by global events, most notably the COVID-19 pandemic, which temporarily redirected academic priorities, restricted fieldwork and collaboration, and shifted institutional funding ([Casagrande & Dallago, 2024](#); [Patidar et al., 2024](#)). Nevertheless, the average age of documents is 1.85 years, signifying the recentness and continued relevance of the studies in this field. The average citation rate per document, standing at 15.8 citations, underscores a relatively high level of scholarly engagement and impact across the research community.

The analysis of document contents further reveals the breadth and thematic diversity of the selected literature. A total of 8,245 Keywords Plus and 5,334 author-supplied keywords were identified, reflecting the interdisciplinary nature of economic management studies. This rich set of descriptors illustrates that scholars are approaching the topic from multiple angles, ranging from environmental economics and global trade to public policy, technological innovation, and fiscal systems. Such a wide spread of thematic focus indicates that economic management in the global era is inherently multifaceted and increasingly informed by interconnected global phenomena.

In terms of authorship, the dataset comprises 4,468 contributing authors, yet only 234 of these individuals produced single-authored publications. This trend points to a high degree of collaborative authorship, with an average of 3.35 co-authors per

document. Such collaboration not only enhances research quality but also reflects the collective effort required to tackle the complex, transdisciplinary nature of globalization-related economic issues (Kroetz et al., 2020). Notably, 36.1% of the publications involve international co-authorship, suggesting a strong and growing emphasis on cross-border academic cooperation. This finding reinforces the idea that global economic challenges demand globally coordinated research efforts, particularly in fields that intersect with climate policy, digital transformation, and financial governance.

Table 1. Bibliometric Summary of Economic Management Publications (2020–2025)

Description	Results
Information about the Data	
Timespan	2020:2025
Sources (Journals, Books, etc.)	165
Documents	1698
Annual Growth Rate %	-54.77
Document Average Age	1.85
Average citations per doc	15.8
References	0
Document Contents	
Keywords Plus (ID)	8245
Author's Keywords (DE)	5334
Authors	
Authors	4468
Authors of single-authored docs	234
Authors Collaboration	
Single-authored docs	245
Co-Authors per Doc	3.35
International co-authorships %	36.1
Document Types	
Articles	1681
Article articles	17

Furthermore, the document type distribution shows that the overwhelming majority, 1,681 out of 1,698, were classified as standard scientific articles, while 17 were ambiguously categorized as "article articles." The latter may be the result of misclassification or duplication within the database. Nonetheless, the dominance of peer-reviewed journal articles confirms the scholarly nature and credibility of the dataset (Pérez & Claveria, 2020). Despite the observed decline in total publication volume, the substantive quality and international orientation of the research suggest a robust and impactful academic engagement with economic management during the post-pandemic recovery period (Madhou et al., 2020). Thus, the descriptive bibliometric indicators presented in Table 1 demonstrate that, while the frequency of publications has declined, the scholarly influence, interdisciplinary engagement, and international collaboration have intensified. This reflects a shifting paradigm in economic management research, where depth, diversity, and global relevance take precedence over volume alone.

In terms of the popularity of the topics, Figure 1 illustrates the top academic sources

contributing to the discourse on economic management and globalization, as measured by the number of publications within the dataset from 2020 to 2025. The most prominent source is Resource Policy, which alone accounts for 404 documents, substantially higher than other sources. This overwhelming representation highlights the centrality of resource economics, particularly energy and environmental governance, in shaping current academic inquiry. Journals such as Renewable and Sustainable Energy Reviews, Energy Economics, and Journal of Cleaner Production also appear prominently, further highlighting the increasing scholarly attention toward sustainability, renewable energy, and climate-related economic strategies.

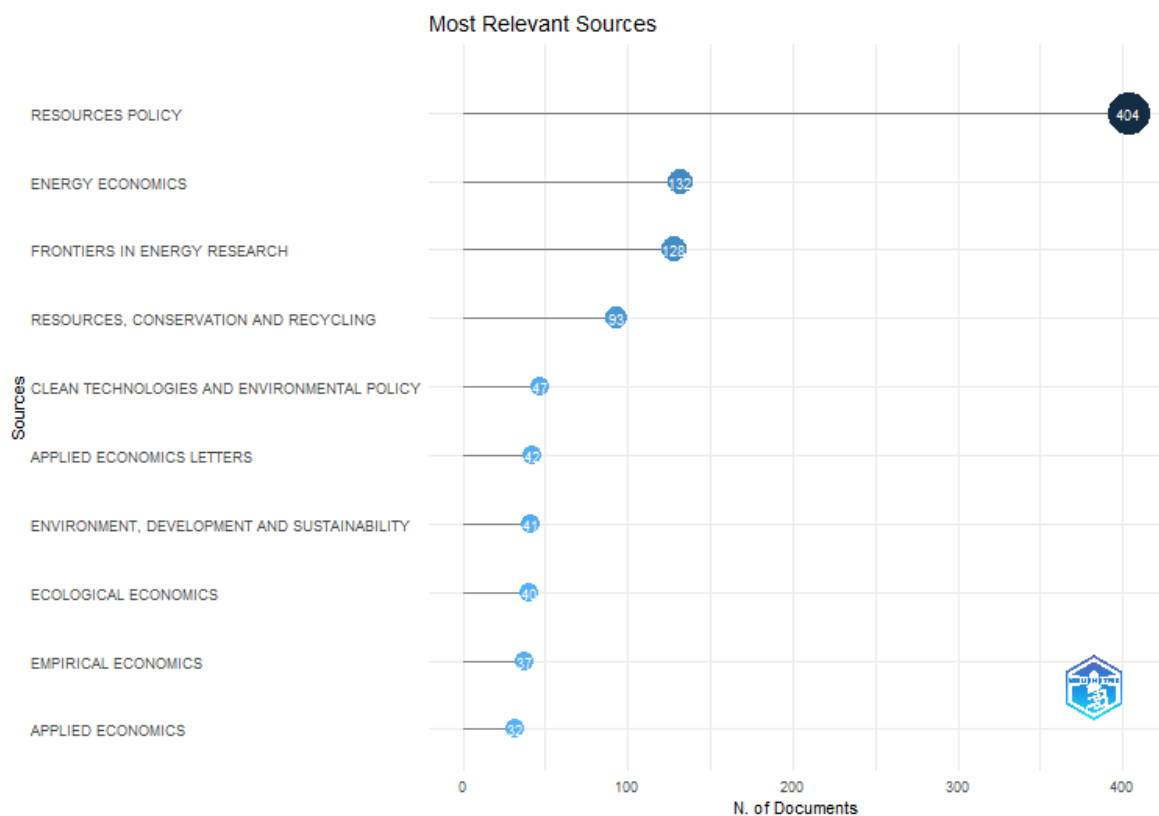


Figure 1. Most Popular Topics

The dominance of these journals suggests a paradigmatic shift in economic management research, one that prioritizes ecological sustainability alongside traditional macroeconomic indicators. It implies that modern economic governance frameworks are being re-evaluated through the lens of environmental stewardship, energy transition, and resource optimization. This trend reflects growing recognition that economic growth is unsustainable without integrating environmental and resource management considerations. The interdisciplinary nature of the sources also indicates that economic management is no longer confined to economics journals alone, but intersects with environmental science, public policy, and technological innovation. These insights reinforce the necessity for integrated, cross-sectoral approaches in both academic research and policymaking.



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### *Geographic Distribution of Research Output and Global Collaboration Patterns*

An analysis of the Country Scientific Production map (see [Figure 2](#)) reveals significant geographical disparities in research output on economic management and globalization. Countries with strong national investments in research, development, and innovation, particularly China and the United States, dominate scholarly contributions in this domain. Represented in dark blue on the map, these two countries exhibit the highest volume of published works, indicating their central role in shaping global academic discourse, especially in matters related to economic governance, financial systems, and sustainability strategies ([Sun, 2020](#)). Their prolific output positions them as intellectual anchors in the international economic policy landscape.

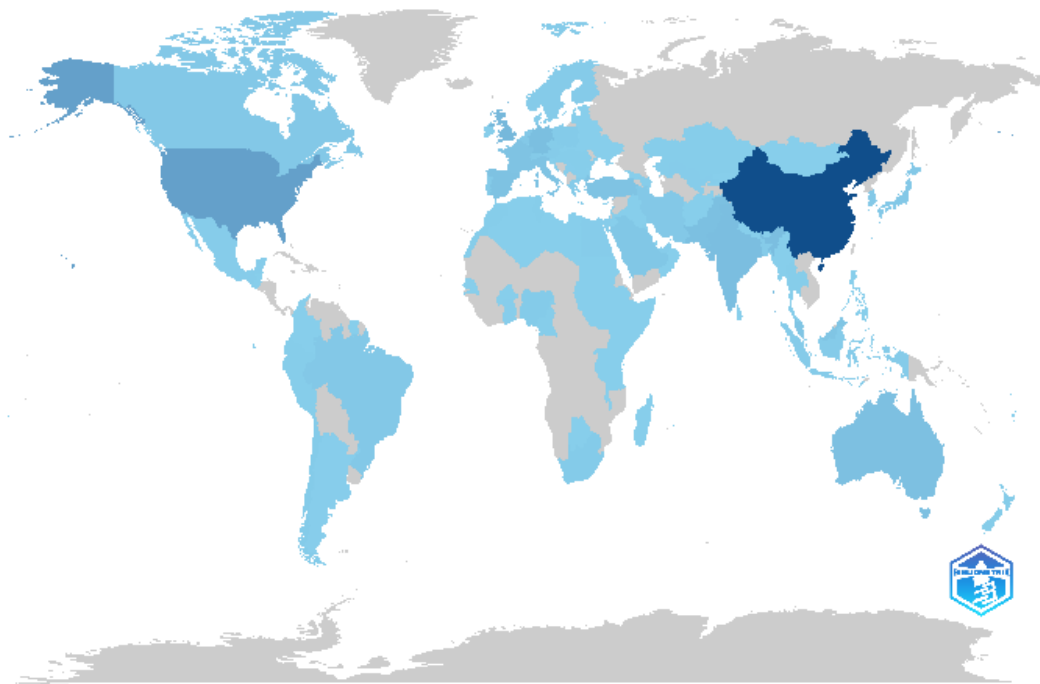


Figure 2. Distribution of the Publications on Economic Topics throughout the World

Other nations, especially in Europe and parts of Asia, also demonstrate moderate levels of publication activity, visualized in lighter shades of blue. This spatial distribution reflects the globalized nature of academic inquiry and highlights the emerging role of research hubs beyond the traditional Western core. Notably, countries such as Germany, the United Kingdom, Japan, and South Korea contribute actively, reflecting broader scientific engagement with economic complexity. Importantly, this geographic mapping also illustrates a growing inclusivity of scholarly participation. While many developing nations remain underrepresented, their presence, even if marginal, indicates a gradual integration into the global research ecosystem. This is particularly relevant in the context of economic management, where challenges such as trade policy, inflation, energy security, and sustainable development are inherently transnational. The evolving

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inclusion of Global South scholars reflects an encouraging trend toward a more pluralistic and balanced production of knowledge.

The implications of this spatial analysis are profound. First, the unequal distribution of research contributions underscores persistent disparities in global academic capacity and infrastructure. Second, the increase in international co-authorships, with nearly two-thirds of publications involving authors from different countries (Craighead, 2020), points to a strategic shift toward collaborative knowledge production. This trend aligns with the understanding that global economic problems, climate change, financial volatility, supply chain disruptions, require coordinated intellectual efforts that transcend national borders. Finally, the data indicates the necessity of strengthening cross-border academic partnerships to ensure that insights into economic management are not limited to a handful of dominant economies. Rather, effective responses to globalization-era challenges must integrate diverse regional perspectives and contextual knowledge. As Chudý et al. (2020) suggest, the emergence of more balanced scientific interaction signals not only broader participation but also an enhanced potential for generating inclusive, sustainable, and context-sensitive economic solutions.

### *The Most Relevant Keywords*

Figure 3 presents a visual representation of the most frequently occurring keywords within the analyzed literature on economic management in the context of globalization. A close examination reveals that the term "economic analysis" dominates the discourse, appearing 1,744 times, indicating that empirical and analytical approaches are foundational to scholarly investigations in this domain. This prominence suggests that researchers heavily rely on economic analysis techniques for diagnosing global challenges, evaluating policy alternatives, and proposing data-driven solutions (Chudý et al., 2020). In a globalized and increasingly uncertain world, such methods serve as essential tools for decision-making and strategic planning.

Other frequently cited terms include "sustainable development" (353 occurrences) and "economic growth" (344 occurrences), underscoring the dual objectives guiding much of the research: fostering prosperity while ensuring long-term environmental and social well-being. The recurrent appearance of "natural resources" (275 mentions) and "economic policies" (316 mentions) further reflects the literature's concern with resource optimization and regulatory frameworks as integral components of effective economic governance. These keywords highlight a shared recognition that global economic management must balance development goals with ecological stewardship and policy flexibility.

The findings from Figure 3 align closely with the overarching argument of this study, which asserts that economic management under globalization cannot be viewed through a purely financial or growth-centric lens. Instead, it must incorporate systems-level thinking that considers sustainability, resource management, and strategic policymaking as interdependent variables. The frequent citation of terms like "economic policies," "sustainable development," and "economic growth" reflects an emerging scholarly consensus around the need for holistic and adaptive economic strategies,

particularly in response to the complexities introduced by globalization (López-Serrano et al., 2023).

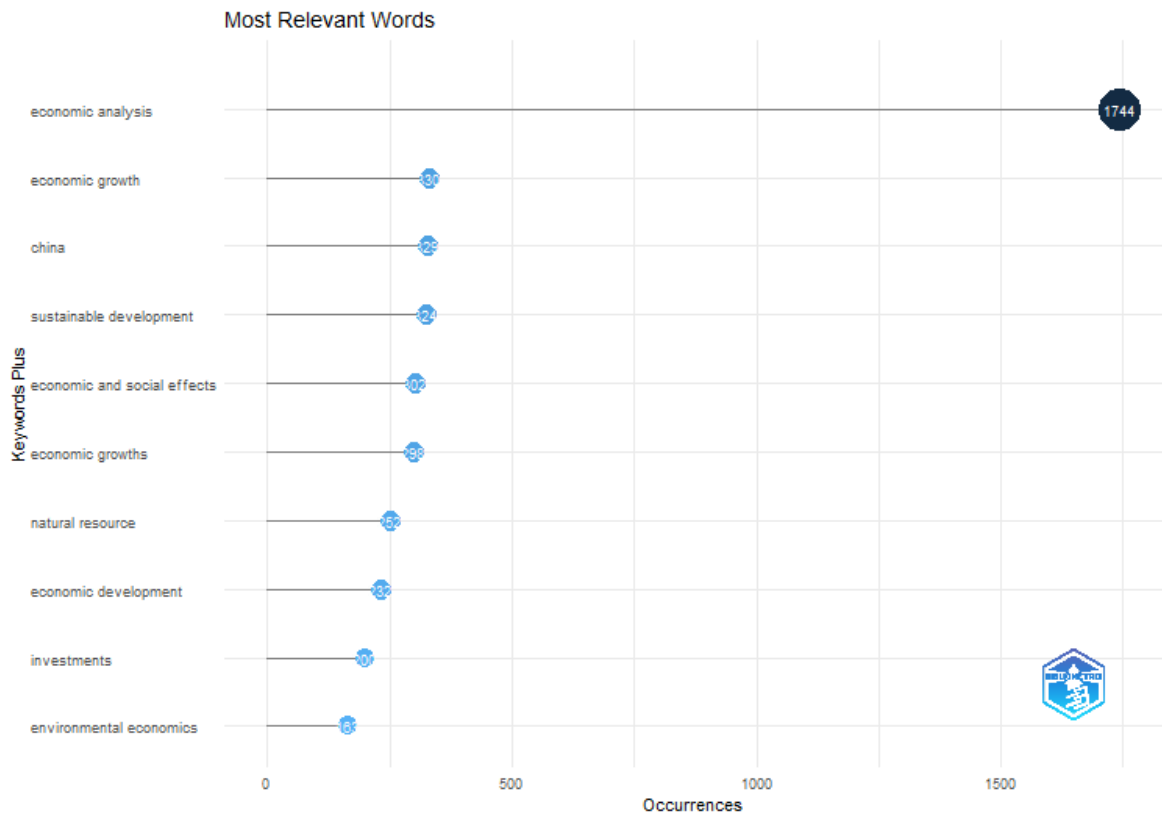


Figure 3. Most Relevant Keywords

Ultimately, this keyword mapping reinforces the conceptual orientation of this research, namely, that economic management in the global era demands an integrative approach that transcends disciplinary silos. The prominence of these terms illustrates a collective academic shift toward addressing economic efficiency, environmental responsibility, and institutional resilience as converging priorities. It is within this intersection that the present study contributes, offering a structured bibliometric and conceptual lens through which to understand and optimize economic governance in the 21st century.

### Word Cloud Analysis

Figure 4 presents a word cloud that visualizes the most frequently used terms within the selected literature on economic management and globalization. Unsurprisingly, the term "economic" dominates the visual field, confirming the centrality of economic principles, systems, and governance frameworks in the academic discourse. Its prominence underscores the field's ongoing emphasis on macroeconomic structures, economic policy-making, and analytical models as foundational pillars for managing global challenges. The word cloud further reveals that other high-frequency terms, such as "resources," "analysis," "energy," "natural," and "growth", also occupy significant space, suggesting a multidimensional research orientation (Deng et al., 2023).



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globalization. The map reveals that current research is significantly shaped by topics at the intersection of environmental economics, energy policy, and sustainability, indicating that the management of economic systems increasingly aligns with global environmental concerns. Prominent terms such as "emission control," "carbon emissions," "climate change," and "environmental impact" signal the growing scholarly attention toward mitigating ecological degradation as a central pillar of economic governance. This thematic concentration reflects the evolving recognition that managing the economy today requires addressing the environmental externalities of production, trade, and industrialization.

In addition, the frequent appearance of terms like "renewable energies," "energy efficiency," and "alternative energy" emphasizes the role of energy transition in shaping economic policy directions. This aligns with the broader global agenda to reduce dependency on fossil fuels and invest in clean, sustainable energy systems. The conceptual clustering suggests that economic management is increasingly structured around the dual imperatives of energy security and environmental sustainability, particularly in light of escalating climate risks and volatile global energy markets (Zhang et al., 2023).

Beyond environmental concerns, the conceptual map also reveals key interconnections among "public policy," "economic development," and "economic impact", highlighting the pivotal role of policymaking in navigating globalization's challenges. These terms point to an overarching trend in the literature that views economic governance as a systems-level process requiring coordinated actions between the public sector, private enterprises, and international actors. The visual prominence of these themes strongly corresponds with the central argument in *Optimizing Economic Management: Navigating the Complexities of a Globalized World*, which asserts that economic and environmental strategies must be integrated to achieve long-term resilience and inclusivity (Mallick, 2024).

Furthermore, the presence of concepts like "economic analysis," "risk," and "decision-making" underscores the increasing reliance on data-driven, evidence-based approaches to navigate economic uncertainty in today's volatile, uncertain, complex, and ambiguous (VUCA) global environment. These analytical tools are critical for evaluating trade-offs, forecasting risks, and designing adaptive strategies. The contemporary economic landscape demands agile and informed decision-making, one that leverages empirical insight to balance growth objectives with sustainability imperatives (Ma, 2024).

Another notable insight from the conceptual map is the emphasis on collaborative and international dimensions of research and policy implementation. With more than 30% of the analyzed publications involving multi-country authorship, there is clear evidence that economic management is viewed as a transnational concern. This reflects the interconnected nature of modern economies, where global challenges, such as climate change, energy crises, inflationary shocks, and supply chain disruptions, transcend national boundaries and demand cooperative policy frameworks. Countries such as China, the United States, Germany, and others in Europe and Asia are repeatedly cited as contributing to these collaborative research efforts.

The map also highlights key terms like "investment," "finance," and "public policy," indicating that financial mechanisms are not only instrumental in driving economic growth but are also central to facilitating environmentally responsible development.

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These findings resonate with the article's thesis that a forward-looking economic management model must blend fiscal discipline with innovation, sustainability, and equity. Public policies, in this view, should not only target macroeconomic stability and growth but also actively address socio-ecological goals, including emissions reduction, equitable resource distribution, and intergenerational justice (Loske et al., 2023).

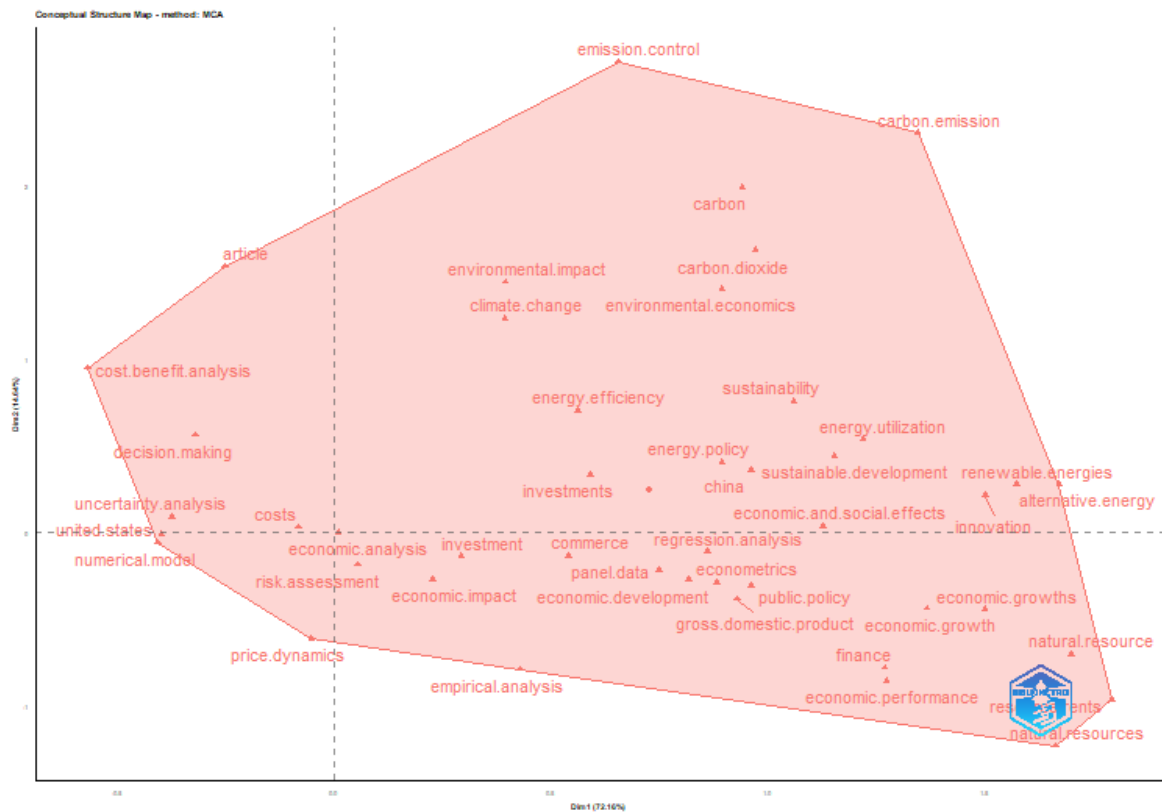


Figure 5. The Conceptual Map

In essence, the conceptual map reinforces the need for a holistic, interdisciplinary, and systems-based approach to economic management. As the literature demonstrates, economic growth, environmental protection, energy efficiency, and public policy are not discrete areas but rather interwoven components of a complex, adaptive system. The emerging narrative advocates for the convergence of economic, environmental, and technological agendas in shaping robust policy architectures. This integrated strategy is not only desirable but essential for managing the challenges of globalization and ensuring sustainable, inclusive, and resilient economic futures.

## Discussion

The findings of this study emphasize a profound shift in the global discourse surrounding economic management, particularly in the context of globalization. One of the most salient implications is the increasing integration of sustainability, environmental responsibility, and technological innovation into the core framework of economic governance. The prevalence of keywords such as sustainable development, carbon emissions, and renewable energy indicates that economic policy is no longer assessed

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solely by traditional indicators such as GDP or trade balance, but also by its capacity to foster ecological resilience and long-term viability (Dirma et al., 2024; López-Serrano et al., 2023). This aligns with the view that effective economic management must operate within planetary boundaries, responding to global challenges such as climate change, resource depletion, and energy insecurity (Alam et al., 2025; Anam et al., 2024; Han et al., 2025). The conceptual map and keyword analysis support this, revealing that sustainability is not a peripheral concern but a central pillar of current academic inquiry. The implication for policy practitioners is the need to reframe macroeconomic planning through integrative frameworks that account for environmental, social, and technological dimensions simultaneously.

Another significant implication lies in the increasingly collaborative and transdisciplinary nature of global economic research, as evidenced by high rates of international co-authorship and cross-sector keyword convergence. This suggests a growing recognition that contemporary economic challenges cannot be effectively addressed in disciplinary or geographic isolation. Issues such as inflation shocks, supply chain disruptions, or energy transitions are inherently global, requiring coordinated responses that bridge public, private, and academic domains (Craighead, 2020; Mensah et al., 2025; Solangi & Magazzino, 2025). The findings mirror the argument put forth by Mariotti (2024), who emphasizes that modern economic problems demand a pluralistic approach that draws from a wide range of intellectual traditions. For theorists, this opens opportunities to move beyond siloed economic models toward holistic paradigms that synthesize elements from environmental studies, information technology, political economy, and behavioral sciences. For policymakers and institutional leaders, the implication is clear: future economic strategies must be designed with input from a broad coalition of stakeholders, leveraging both local knowledge and global expertise.

The results also highlight the centrality of empirical and evidence-based methodologies in economic management research. Terms such as economic analysis, data, and risk point to the growing reliance on computational tools, big data, and scenario modelling in policymaking (Ullah et al., 2025). In today's VUCA (volatile, uncertain, complex, and ambiguous) global environment, decision-makers increasingly require real-time, predictive, and adaptive systems to manage economic uncertainties (Ma, 2024). The rise of digital technologies, such as artificial intelligence, blockchain, and Internet of Things, has further enhanced the capacity of economic institutions to collect, analyze, and respond to economic signals (Raihan et al., 2024). Theoretically, this trend signals a convergence between systems theory and economic modelling, wherein feedback loops, scenario planning, and sensitivity analysis become integral to economic strategy formulation. Practically, it necessitates that governments and institutions invest in digital infrastructure, data governance, and capacity-building to enhance their analytical agility and responsiveness.

From a theoretical standpoint, the findings suggest an emerging conceptual paradigm in which economic management is framed as a complex, adaptive system. Rather than a linear process of policy implementation and growth measurement, economic governance is increasingly understood as a dynamic interplay of multiple subsystems, including energy, finance, labor, ecology, and geopolitics, each with its own feedback mechanisms and vulnerabilities (Erdogan & Pata, 2025; Wang et al., 2025). The literature's emphasis on adaptability, resilience, and sustainability indicates a shift toward post-

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neoliberal models that prioritize long-term wellbeing over short-term profit maximization (da Silva & Franz, 2025; Qazi, 2025). Scholars are thus encouraged to further develop integrative theories that reflect this complexity, including hybrid models that blend economic theory with environmental science, sociology, and systems engineering (Jaradat et al., 2025). This shift may also redefine foundational concepts such as value creation, capital, and utility, opening new pathways for normative and empirical research.

In terms of setting a research agenda for the future, several promising directions emerge. First, there is a need for more regionally nuanced studies that examine how economic management strategies manifest differently across the Global South versus the Global North. While the current dataset reflects high levels of output from major economies like China and the United States, voices from Africa, Latin America, and Southeast Asia remain underrepresented. Future studies could investigate how localized socio-economic, cultural, and institutional contexts shape approaches to globalization and sustainability. Second, there is scope for longitudinal analyses that trace how key concepts, such as sustainability, economic resilience, and digital governance, have evolved over decades, particularly before and after major global shocks such as the COVID-19 pandemic (Chudý et al., 2020; Sun et al., 2023; Zhang et al., 2025).

Third, researchers should explore the interaction between economic policy and global digital platforms, particularly in the domains of e-commerce, fintech, and AI-driven forecasting. As these technologies increasingly mediate economic transactions, there is an urgent need to understand their implications for regulatory sovereignty, economic inclusion, and systemic risk (Cai et al., 2025; Mujiyanto & Tiess, 2013). Fourth, future work could delve into interdisciplinary policy evaluation frameworks, drawing on tools from environmental science, behavioral economics, and network analysis to assess the effectiveness of international economic policies. Finally, the rise of sustainability-focused economic models, such as circular economy, doughnut economics, and regenerative finance, warrants deeper theoretical exploration and empirical testing across diverse economic systems (Liu et al., 2025; Mahsina et al., 2025).

Practically, the findings of this study carry implications for a range of actors, from national governments and central banks to multilateral institutions and private sector stakeholders. Policymakers must prioritize flexible and evidence-based frameworks that integrate environmental thresholds, social equity, and digital innovation into core economic strategies. Institutional reforms should aim at improving cross-border collaboration, policy coherence, and public-private knowledge sharing. Development agencies and international organizations should also focus on capacity-building for systems thinking and digital literacy, particularly in developing economies, to ensure inclusive participation in global economic governance. Moreover, business leaders and investors are called upon to align financial decisions with long-term sustainability metrics, moving away from short-termism and extractive growth models.

To sum up the discussion, this study affirms that economic management in the era of globalization is no longer solely about optimizing growth, it is about navigating interdependence, managing uncertainty, and building resilient systems. The shift toward a sustainability-oriented, data-driven, and collaborative economic paradigm demands both theoretical innovation and institutional transformation. By identifying key trends, knowledge gaps, and future pathways, this research contributes to a more holistic

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understanding of what it means to manage economies responsibly in an increasingly complex and interconnected world.

## Conclusion

This study provides a comprehensive bibliometric and conceptual analysis of scholarly literature on economic management amid globalization, covering the period from 2020 to 2025. The findings reveal several dominant themes shaping the discourse, including sustainability, environmental policy, energy efficiency, and public governance. A significant portion of the literature emphasizes the necessity of integrating environmental and economic objectives, reflecting a growing consensus on the need for adaptive, systems-based economic strategies. High citation frequencies for terms such as economic analysis, sustainable development, and public policy illustrate the field's shift toward interdisciplinary, evidence-based approaches. Moreover, the data show robust international collaboration, particularly among countries like China and the United States, indicating the transnational character of current economic challenges and scholarly responses. The conceptual map and word cloud further affirm the increasing complexity of economic management, where success hinges on balancing growth, environmental stewardship, and long-term policy foresight.

Despite its contributions, this study is not without limitations. First, it relies exclusively on literature indexed in major academic databases such as Scopus and Google Scholar, which may omit relevant works published in non-English or regionally focused outlets. Additionally, while bibliometric methods offer valuable insights into trends and thematic focus, they cannot fully capture the depth of theoretical contributions or contextual nuances within individual studies. Future research should consider expanding the scope by including qualitative meta-analyses or regional case studies to better understand how economic management practices vary across contexts. Longitudinal studies that track conceptual shifts over extended periods and mixed-method reviews that integrate expert interviews or policy impact assessments are also recommended to deepen the field's understanding. Ultimately, building a more inclusive, context-sensitive, and interdisciplinary research agenda will be crucial for advancing effective and sustainable economic management in a rapidly globalizing world.

## Authors' Declaration

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

## ORCID

Zahara Tussoleha Rony  <https://orcid.org/0000-0002-0629-5271>

Musdirwan  <https://orcid.org/0009-0001-8636-6622>

Loso Judijanto  <https://orcid.org/0009-0007-7766-0647>

Ignatius Septo Pramesworo  <https://orcid.org/0009-0006-4177-1241>

Yanti Setianti  <https://orcid.org/0000-0003-2797-1336>

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## References

- Adjei, A. A. F., Gatsi, J. G., Owusu Appiah, M., Abeka, M. J., & Owusu Junior, P. (2024). Financial globalization, governance and economic growth in Sub-Saharan Africa. *Journal of Financial Economic Policy*, 16(6), 801-824. <https://doi.org/10.1108/JFEP-08-2023-0234>
- Alam, M. S., Manigandan, P., Kisswani, K. M., & Baig, I. A. (2025). Achieving goals of the 2030 sustainable development agenda through renewable energy utilization: Comparing the environmental sustainability effects of economic growth and financial development. *Sustainable Futures*, 9, 100534. <https://doi.org/10.1016/j.sftr.2025.100534>
- Altay, S. (2025). Regional trade agreements in Turkish foreign policy: a rising trading state's quest for trade sovereignty. *Turkish Studies*, 26(2), 229-264. <https://doi.org/10.1080/14683849.2024.2440434>
- Anam, B. E., Ijim, U. A., Ironbar, V. E., Otu, A. P., Duke, O. O., & Achuk Eba, M. B. (2024). Economic recovery and growth plan, economic sustainability plan and national development plan (2021-2025): The Nigerian experience under President Muhammadu Buhari. *Cogent Social Sciences*, 10(1), 2289600. <https://doi.org/10.1080/23311886.2023.2289600>
- Awosusi, A. A., Eweade, B. S., & Ojekemi, O. S. (2024). Analyzing the environmental role of resource efficiency, economic globalization, and biomass usage in Malaysia: a time-varying causal approach. *Environment, Development and Sustainability*, 1-24. <https://doi.org/10.1007/s10668-024-05196-y>
- Bi, K., Akhtar, R., Masud, M. M., Sultana, S., Zhao, Y., & Al-Mamun, A. (2024, March). Unveiling the nexus of globalization, economic growth, and environmental sustainability. In *Natural Resources Forum*. Oxford, UK: Blackwell Publishing Ltd. <https://doi.org/10.1111/1477-8947.12443>
- Cai, Z., Ding, X., Zhou, Z., Han, A., Yu, S., Yang, X., & Jiang, P. (2025). Fiscal decentralization's impact on carbon emissions and its interactions with environmental regulations, economic development, and industrialization: Evidence from 288 cities in China. *Environmental Impact Assessment Review*, 110, 107681. <https://doi.org/10.1016/j.eiar.2024.107681>
- Casagrande, S., & Dallago, B. (2024). Exploring global economy evolution: Clusters and patterns. *Economies*, 12(2), 32. <https://doi.org/10.3390/economies12020032>
- Chudý, M., Karmakar, S., & Wu, W. B. (2020). Long-term prediction intervals of economic time series. *Empirical Economics*, 58(1), 191-222. <https://doi.org/10.1007/s00181-019-01689-2>
- Craighead, W. D. (2020). Intermediate goods and exchange rate disconnect. *Open Economies Review*, 31(1), 113-129. <https://doi.org/10.1007/s11079-019-09538-6>
- da Silva, C. L., & Franz, N. M. (2025). A framework for public policy development in BRICS countries to support circular economy development in the WEEE value chain. *Recycling*, 10(1), 7. <https://doi.org/10.3390/recycling10010007>
- Deng, Y., Jiang, W., & Wang, Z. (2023). Economic resilience assessment and policy interaction of coal resource oriented cities for the low carbon economy based on AI. *Resources Policy*, 82, 103522. <https://doi.org/10.1016/j.resourpol.2023.103522>
-



- 
- Dirma, V., Neverauskienė, L. O., Tvaronavičienė, M., Danilevičienė, I., & Tamošiūnienė, R. (2024). The impact of renewable energy development on economic growth. *Energies*, 17(24), 6328. <https://doi.org/10.3390/en17246328>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Elfaki, K. E., & Ahmed, E. M. (2024). Digital technology adoption and globalization innovation implications on Asian Pacific green sustainable economic growth. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100221. <https://doi.org/10.1016/j.joitmc.2024.100221>
- Erdogan, S., & Pata, U. K. (2025). Uncovering time-, frequency- and quantile-based impacts of energy, fiscal policy instruments, and economic growth on sustainable development. *International Journal of Sustainable Development & World Ecology*, 32(1), 65-79. <https://doi.org/10.1080/13504509.2024.2398708>
- Golpe, A. A., Sánchez-Fuentes, A. J., & Vides, J. C. (2023). Fiscal sustainability, monetary policy and economic growth in the Euro Area: In search of the ultimate causal path. *Economic Analysis and Policy*, 78, 1026-1045. <https://doi.org/10.1016/j.eap.2023.04.038>
- Han, Y., Li, X., Zhang, Y., & Goi, N. (2025). Balancing economic growth and ecological sustainability: Factors affecting the development of renewable energy in developing countries. *International Journal of Hydrogen Energy*, 116, 601-612. <https://doi.org/10.1016/j.ijhydene.2025.02.277>
- Heldt, E. C., & Park, S. (2025). China's rise and the reconfiguration of global economic governance. *Review of International Political Economy*, 1-8. <https://doi.org/10.1080/09692290.2025.2482853>
- Imran, M., Sattar, A., & Alam, M. S. (2024). Heterogeneous analysis of free trade agreement between Pakistan and China: a policy guideline for CPEC. *Journal of Economic and Administrative Sciences*, 40(1), 76-94. <https://doi.org/10.1108/JEAS-02-2022-0051>
- Jaradat, Z., AL-Hawamleh, A., Altarawneh, M., Al-Tahat, S., & Akram Nazzal, M. (2025). Effects of effective ERP system utilization on enterprise economic sustainability through product life cycle cost control. *Journal of Business and Socio-economic Development*, 5(3), 240-258. <https://doi.org/10.1108/JBSED-10-2024-0103>
- Karimova, G. S., Heidbrink, L., Brinkmann, J., & LeMay, S. A. (2025). Global standards and the philosophy of consumption: Toward a consumer-driven governance of global value chains. *Business Ethics, the Environment & Responsibility*, 34(1), 280-294. <https://doi.org/10.1111/beer.12648>
- Khaton, U. T., & Velidandi, A. (2025). An Overview on the Role of Government Initiatives in Nanotechnology Innovation for Sustainable Economic Development and Research Progress. *Sustainability*, 17(3), 1250. <https://doi.org/10.3390/su17031250>
- Kroetz, K., Kuwayama, Y., & Vexler, C. (2020). The economics of the joint management of water resources and aquatic species in the United States. *Review of Environmental Economics and Policy*, 14(2), 194-215. <https://doi.org/10.1093/REEP/REAA005>
- Liu, Q., Xie, M., Mi, G., & Yuan, X. (2025). Integrating circular economy policies in urban policy making: Strategies for green energy and environmental management to reinforce city image in China. *Journal of Environmental Management*, 375, 124128. <https://doi.org/10.1016/j.jenvman.2025.124128>
-

- 
- López-Serrano, M. J., Lakho, F. H., Van Hulle, S. W. H., & Batlles-Delafuente, A. (2023). Life cycle cost assessment and economic analysis of a decentralized wastewater treatment to achieve water sustainability within the framework of circular economy. *Oeconomia Copernicana*, 14(1), 103–133. <https://doi.org/10.24136/oc.2023.003>
- Loske, D., Klumpp, M., Grosse, E. H., Modica, T., & Glock, C. H. (2023). Storage systems' impact on order picking time: An empirical economic analysis of flow-rack storage systems. *International Journal of Production Economics*, 261, 108887. <https://doi.org/10.1016/j.ijpe.2023.108887>
- Ma, H. (2024). Role of green innovation and green finance on green recovery: Analysis of natural resources rents. *Resources Policy*, 89, 104571. <https://doi.org/10.1016/j.resourpol.2023.104571>
- Madhou, A., Sewak, T., Moosa, I., & Ramiah, V. (2020). Forecasting the GDP of a small open developing economy: an application of FAVAR models. *Applied Economics*, 52(17), 1845–1856. <https://doi.org/10.1080/00036846.2019.1679346>
- Mahsina, M., Agustia, D., Nasution, D., & Dianawati, W. (2025). The mediating role of risk management in the relationship between audit committee effectiveness and firm sustainability performance. *Corporate Governance: The International Journal of Business in Society*, 25(3), 534-566. <https://doi.org/10.1108/CG-10-2023-0450>
- Mallick, D. (2024). The Phillips Curve in Australia in the era of inflation targeting. *Australian Economic Review*, 57(3), 272–282. <https://doi.org/10.1111/1467-8462.12576>
- Mariotti, S. (2024). “Win-lose” globalization and the weaponization of economic policies by nation-states. *Critical perspectives on international business*, 20(5), 638-659. <https://doi.org/10.1108/cpoib-09-2023-0089>
- Mensah, L., Arhinful, R., & Owusu-Sarfo, J. S. (2025). Enhancing cash flow management in Ghanaian financial institutions through effective corporate governance practices. *Corporate Governance: The International Journal of Business in Society*, 25(4), 707-734. <https://doi.org/10.1108/CG-01-2024-0016>
- Molavi, P., Tahbaz-Salehi, A., & Vedolin, A. (2024). Model complexity, expectations, and asset prices. *Review of Economic Studies*, 91(4), 2462–2507. <https://doi.org/10.1093/restud/rdad073>
- Mujiyanto, S., & Tiess, G. (2013). Secure energy supply in 2025: Indonesia's need for an energy policy strategy. *Energy policy*, 61, 31-41. <https://doi.org/10.1016/j.enpol.2013.05.119>
- Patidar, A. K., Jain, P., Dhasmana, P., & Choudhury, T. (2024). Impact of global events on crude oil economy: a comprehensive review of the geopolitics of energy and economic polarization. *GeoJournal*, 89(2), 50. <https://doi.org/10.1007/s10708-024-11054-1>
- Pérez, C., & Claveria, O. (2020). Natural resources and human development: Evidence from mineral-dependent African countries using exploratory graphical analysis. *Resources Policy*, 65, 101535. <https://doi.org/10.1016/j.resourpol.2019.101535>
- Raihan, A., Voumik, L. C., Zimon, G., Sadowska, B., Rashid, M., & Akter, S. (2024). Prioritising sustainability: how economic growth, energy use, forest area, and globalization impact on greenhouse gas emissions and load capacity in Poland?. *International Journal of Sustainable Energy*, 43(1), 2361410. <https://doi.org/10.1080/14786451.2024.2361410>
-

- 
- Qazi, A. (2025). Fostering economic development and sustainability: insights into the role of regulatory quality and e-commerce legislation in future technologies. *International Journal of Innovation Science*. <https://doi.org/10.1108/IJIS-04-2024-0091>
- Shahbaz, M. (2024). Economic globalization-energy diversification nexus and implications for environmental management in China. *Journal of Environmental Management*, 360, 121174. <https://doi.org/10.1016/j.jenvman.2024.121174>
- Solangi, Y. A., & Magazzino, C. (2025). Building economic stability through effective natural resource management and renewable energy investment in GCC countries. *Empirical Economics*, 1-29. <https://doi.org/10.1007/s00181-024-02706-9>
- Sun, J., Li, P., & Wang, Y. (2024). Policy tools for sustainability: Evaluating the effectiveness of fiscal measures in natural resource efficiency. *Resources Policy*, 89, 104575. <https://doi.org/10.1016/j.resourpol.2023.104575>
- Sun, P. C. (2020). Consumer attitude and purchase intention toward rooftop photovoltaic installation: The roles of personal trait, psychological benefit, and government incentives. *Energy and Environment*, 31(1), 21–39. <https://doi.org/10.1177/0958305X17754278>
- Sun, C., Xu, Z., & Zheng, H. (2023). Green transformation of the building industry and the government policy effects: Policy simulation based on the DSGE model. *Energy*, 268, 126721. <https://doi.org/10.1016/j.energy.2023.126721>
- Suprunenko, S., Pishenina, T., Pitel, N., Voronkova, A., & Riabovolyk, T. (2024). Analysis of the impact of globalization trends in the digital economy on business management and administration systems of enterprises. *Futurity Economics & Law*, 4(2), 131-147. <https://doi.org/10.57125/FEL.2024.06.25.08>
- Uddin, I., & Azam Khan, M. (2024). Global evidence on the impact of globalization, governance, and financial development on economic growth. *Journal of the Knowledge Economy*, 15(3), 14546-14577. <https://doi.org/10.1007/s13132-023-01656-4>
- Ullah, H., Diao, X., Shahzad, U., & Iqbal, F. (2025). Nexus between green innovation, policy stability, and environmental sustainability on sustainable economic growth: the case of China. *Clean Technologies and Environmental Policy*, 1-22. <https://doi.org/10.1007/s10098-025-03140-w>
- Vlados, C. M. (2024). The current evolution of international political economy: Exploring the new theoretical divide between new globalization and anti-globalization. *Societies*, 14(8), 135. <https://doi.org/10.3390/soc14080135>
- Wang, R. (2023). Transparency in persuasive technology, immersive technology, and online marketing: Facilitating users' informed decision making and practical implications. *Computers in Human Behavior*, 139, 107545. <https://doi.org/10.1016/j.chb.2022.107545>
- Wang, Y. (2023). The interconnectedness of financial inclusion and bank profitability in rising economic powers: evidence from heterogeneous panel analysis. *International Journal of Social Economics*, 50(9), 1217–1231. <https://doi.org/10.1108/IJSE-05-2022-0364>
- Wang, W., Imran, M., Ali, K., & Sattar, A. (2025, May). Green policies and financial development in G7 economies: An in-depth analysis of environmental regulations and green economic growth. In *Natural resources forum* (Vol. 49, No. 2, pp. 1081-1107). Oxford, UK: Blackwell Publishing Ltd. <https://doi.org/10.1111/1477-8947.12424>
-

- 
- Zhang, L., Xu, M., Chen, H., Li, Y., & Chen, S. (2022). Globalization, green economy and environmental challenges: state of the art review for practical implications. *Frontiers in Environmental Science*, 10, 870271. <https://doi.org/10.3389/fenvs.2022.870271>
- Zhang, G., Wang, Y., Meng, X., Zhang, D., Ding, N., Ren, Z., Gao, W., & Sun, Z. (2023). Life cycle assessment on the vanadium production process: A multi-objective assessment under environmental and economic perspectives. *Resources, Conservation and Recycling*, 192, 106026. <https://doi.org/10.1016/j.resconrec.2023.106926>
- Zhang, M., Hou, J., & Liu, Y. (2025). Achieving development goals via digital government strategies for a sustainable digital economy that integrate natural resource governance and energy security. *Resources Policy*, 101, 105330. <https://doi.org/10.1016/j.resourpol.2024.105330>