







“Public policy and financial regulation in preventing and combating financial fraud: a bibliometric analysis”

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PUBLIC POLICY AND FINANCIAL REGULATION IN PREVENTING AND COMBATING FINANCIAL FRAUD: A BIBLIOMETRIC ANALYSIS

Abstract

This study aims to conduct a bibliometric analysis on the topic of public policy and financial regulation in preventing and combating financial fraud using a variety of bibliometric methods and tools, including the in-built tools of Scopus by Elsevier (SciVal) and Web of Science by Clarivate Analytics, as well as VOSviewer software. The most relevant publications related to the search terms were identified. Based on the results, a map illustrating the interrelationships of concepts such as "financial fraud," "public policy," and "financial regulation" with other categories was created, allowing for the identification of five clusters, each of which was characterized in detail. The results of the evolutionary and temporal analysis of scientific research showed that before 2000, scholars focused on the legislative aspects of combating financial fraud; from 2000 to 2015, on risk management and the impact of financial fraud on economic growth; from 2016 to the present, on the search for methods and tools to detect and combat financial fraud. The spatial analysis confirmed a predominantly intercontinental connection between researchers. The comparison of subject areas demonstrated the interdisciplinary nature of the study, with a predominant focus on the fields of "computer science" and "economics, econometrics, and finance," which is logical considering the economic nature and the ongoing technological transformation of financial fraud. The results can be utilized to develop new strategies, policies, and legislative initiatives to ensure financial integrity and increase confidence in financial systems.

Keywords

financial fraud, public policy, financial regulation,
bibliometric analysis, economic growth

JEL Classification

K42, G28, G38

INTRODUCTION

Financial fraud, which encompasses a range of illicit activities, including insider trading, money laundering, accounting fraud, Ponzi schemes, and market manipulation, poses significant risks to the stability, transparency, and trustworthiness of financial systems worldwide. According to the PwC (2022), financial frauds cost the global economy 5 trillion USD annually. Additionally, the United Nations (2023) estimates that globally, illicit financial flows, which include proceeds from criminal activities such as fraud, corruption, and money laundering, amount to approximately 2-5% of global GDP.

With the financial world becoming ever more interconnected with digital and technological innovations, financial fraud looms potentially larger than ever. The reported cases of cyber crimes have witnessed a significant surge, particularly during the pandemic. In just the first two months of 2023, there were 212,485 reported incidents, surpassing the total number of cases reported in 2018. This upward trend continued throughout the pandemic, with reported crime escalating from 394,499 cases in 2019 to 1,158,208 in 2020 and further rising to 1,402,809 in 2021.

According to estimates, e-commerce losses to online payment fraud were 41 billion USD globally in 2022, up from the previous year. The figure is expected to grow to 48 billion USD by the end of 2023. These figures underscore the pressing need for effective public policies and financial regulations to prevent and combat financial fraud. Understanding the role of public policy and financial regulation in addressing this pervasive issue is crucial for designing effective measures and promoting financial integrity.

Effective financial regulations create a strong deterrence against fraudulent activities and help to detect and penalize perpetrators. Public policy and financial regulation are crucial in combating financial fraud. A robust legal and regulatory framework sets the foundation for preventing fraudulent practices, while effective enforcement ensures that the regulations are adhered to, and violators are held accountable (Tarjo et al., 2022).

Implementing robust cybersecurity measures, enhancing regulatory frameworks, and raising awareness among individuals and organizations are imperative to address the growing threat of financial fraud in the digital landscape. That is why it is crucial to study the current academic basis for the role of public policy and financial regulation in preventing and combating financial fraud to identify gaps in knowledge, highlight areas for further research, and inform policy and regulatory decision-making.

1. LITERATURE REVIEW

The existing literature on public policy and financial regulation in combating financial fraud provides insights into the nature of this pervasive issue. Scholars and practitioners have explored various dimensions, including the role of public policy initiatives, regulatory frameworks, enforcement strategies (Periansya et al., 2023; Lyulyov et al., 2021), technological advancements in mitigating fraud risks (Ratmono & Darsono, 2022), and promoting financial integrity.

Anisykurlillah et al. (2020), Adebayo and Ilesanmi (2020), and Vovk et al. (2020) emphasized the importance of public policy in creating a robust legal and regulatory environment to combat financial fraud. Scholars have examined the role of legislative initiatives, governmental agencies, and international collaborations in setting the legal framework, establishing enforcement mechanisms, and enhancing information sharing to prevent and detect fraudulent activities.

Focusing on financial regulation, Gharaibeh and Kharabsheh (2022) and Kuzior et al. (2022b) highlighted the significance of regulatory frameworks in preventing and deterring financial fraud. Scholars have explored the role of prudential regulations, corporate governance mechanisms, disclosure requirements, and risk-based supervision in mitigating fraud risks. Zakharkin et al. (2022)

examined the impact of regulatory interventions on the behavior of financial institutions, market transparency, and investor protection.

Lestari et al. (2022) emphasized the role of financial development and corruption in foreign direct investment. This study underscores the importance of creating a transparent and accountable financial environment to prevent fraudulent practices. Liuta and Mershchii (2019) discussed the evaluation of a region's social and economic development and its correlation with the transparency of local authorities. The article focused on the essence and methodology of assessing the social and economic development of a region. It explored the various indicators and factors contributing to the overall assessment of a region's development, including economic growth, employment rates, infrastructure development, social services, and environmental factors. Bilan et al. (2019) and Vasilyeva et al. (2021) delved into the challenges of adapting regulatory frameworks to emerging threats posed by evolving financial technologies and globalization.

Technology's rapid advancement has facilitated financial innovation and created new avenues for fraudulent activities. Guan et al. (2022), Kartanaité et al. (2021), and Kuzior et al. (2022a) examined the impact of digitalization, fintech innovations, and cryptocurrencies on financial fraud risks. They investigated the potential of technologies such as ar-

tificial intelligence, machine learning, and blockchain in improving fraud detection, transaction monitoring, and regulatory compliance.

Dewi et al. (2023), focusing on credit card fraud risk assessment, highlighted the need for risk management strategies and technological solutions to combat evolving forms of financial fraud, such as online transactions. Moreover, Mynenko and Lyulyov (2022) and Koibichuk and Dotsenko (2023) explored the challenges and ethical considerations associated with the use of technology in combating financial fraud.

Tiutiunyk et al. (2022) and Kuzmenko et al. (2021) explore various aspects of this topic, aiming to shed light on the consequences and implications of such illegal activities. For example, Brychko et al. (2021) focused on the concept of trust in the financial industry and how illegal activities by financial intermediaries undermine this trust. The study examines the reasons behind the occurrence of illegal activities, such as money laundering, fraud, and corruption, within the financial system. Also, Vysochyna et al. (2022) investigated how financial fraud affects the ability to achieve sustainable economic growth.

Among studies on public policy against financial fraud, a few publications are explicitly dedicated to bibliometric analysis on the researched topic. In particular, Soltani et al. (2023) focused on a comprehensive literature review of financial statement fraud detection. The study combines bibliometric analysis and a topic modeling approach to provide an in-depth analysis of the existing research in this field. Shahana et al. (2023) also analyzed a wide range of literature and identified key trends, challenges, and future directions for research in the financial statement fraud detection area. A significant limitation of these studies is the absence of bibliometric analysis regarding the role of public policy and financial regulation in preventing and combating financial fraud.

While the existing literature provides valuable insights into the various aspects of public policy and financial regulation in combating financial fraud, some research gaps remain. Applying specialized methods and tools of bibliometric analysis will allow for establishing the key trends and authorita-

tive sources and identifying leading authors and research groups conducting studies in this field. Exploring the academic foundation of public policy and financial regulation in combating financial fraud is important for further development in this area. Analyzing articles and publications will identify research directions, popular topics, gaps, and potential opportunities for further scientific investigation.

2. AIM

The aim of this study is to examine the current academic landscape regarding public policy and financial regulation in the field of financial fraud prevention through bibliometric analysis using a range of specialized methods and tools.

3. METHODS

The methodological foundation is based on scientific publications indexed in the Scopus and Web of Science databases. These databases provide a comprehensive range of scholarly articles and serve as the primary data source.

By using key terms such as “financial fraud,” “public policy,” and “financial regulation,” relevant articles and publications related to the research topic were identified. The search queries were filtered based on the criteria of scholarly work and the period from 1993 to 2022. Each search query within the bibliometric analysis was formulated using the logical operator AND.

The study by Filatova et al. (2023) was chosen as an example of bibliometric analysis. The study employed several specialized methods and tools, including:

- in-built tools of Scopus by Elsevier and Web of Science by Clarivate Analytics. These tools were used for the initial analysis of publications and for creating bibliometric maps in VosViewer.
- VosViewer software tool, which was used for cluster analysis and visualization of bibliometric maps, focusing on the proximity of connections and chronology.

In addition to these specialized methods and tools, the study utilized general scientific research methods, such as analysis, synthesis, and logical generalization. These methods were applied to examine the theoretical aspects of the interrelation of concepts such as “financial fraud,” “public policy,” “financial regulation,” and others. Comparative analysis was also conducted while implementing contextual, evolutionary, and spatial clustering.

4. RESULTS AND DISCUSSION

The initial stage of bibliometric analysis involved constructing and visualizing maps using the VOSviewer software based on information obtained from the Scopus database. This process aimed to formalize the content-contextual dimension of the research on public policy and financial regulation in combating financial fraud. The objective was to understand the relevance of concepts such as “financial fraud,” “public policy,” and “financial regulation,” as well as their interrelation with other concepts. Figure 1 provides insights into the relationships and patterns within the research literature, highlighting key themes and areas of focus.

The analysis of keyword co-occurrence and VOSviewer tools have revealed the interrelationships between key and other concepts in the scientific publications indexed in the Scopus database. This has helped to understand the cognitive structure of the research problem and identify relevant topics. In this map, five clusters have been identified, each represented by a different color. The diameter of each cluster indicates the frequency of occurrence of the respective concept together with the key categories. For the construction of the bibliometric map, 250 analyzed keywords were used, which formed 27,355 connections (in this type of analysis, it represents the co-occurrence of keywords in a single scientific article). There are intersections and interrelationships between the identified clusters.

Regarding Cluster 1 (red), the scientific research focuses on the relationship between public policy and financial regulation against financial fraud in connection with such vital concepts as “fraud,” “economics,” “poverty,” “prevention and control,” “private sector,” “public health,” “risk factors” and “socioeconomic factors.” In this cluster, studies explore economics and finance issues in the context

Source: VOSviewer.

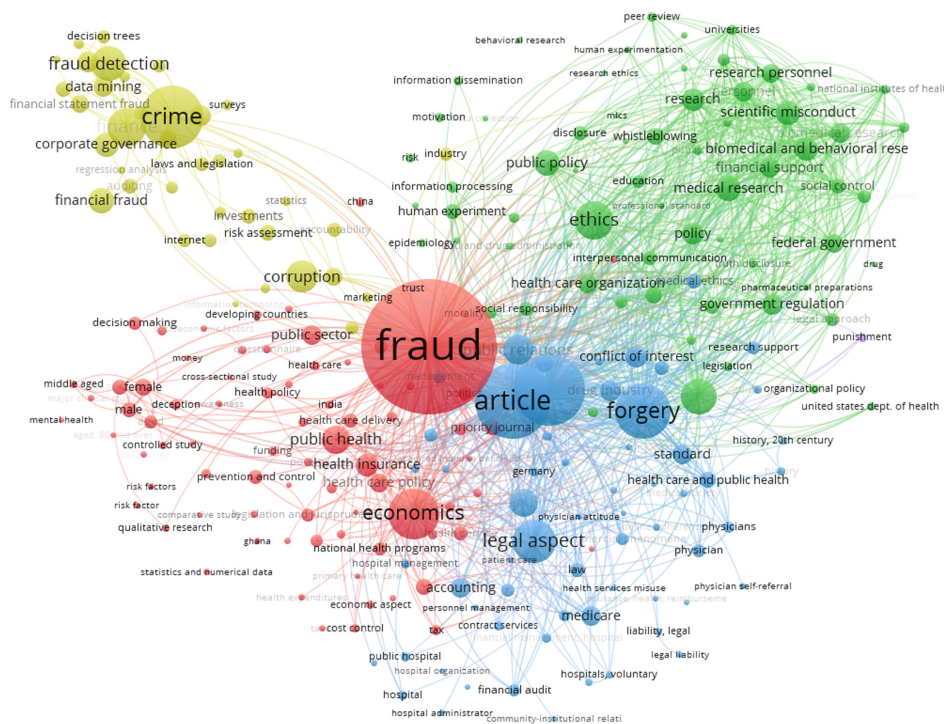


Figure 1. Identification of the relationship between “financial fraud” AND “public policy” AND “financial regulation” with other concepts

of combating financial fraud. They investigate the impact of public policy and financial regulation on reducing financial fraud and identify ways to prevent and control these phenomena. Researchers also analyze the influence of economic factors that may contribute to financial fraud and examine the socioeconomic aspects of this phenomenon, including its relationship with poverty and risk factors (Kozmenko et al., 2014). This cluster highlights the importance of understanding the interaction between public policy, financial regulation, and economic aspects in combating financial fraud. The research can contribute to developing effective management strategies and policies to reduce financial fraud, improve the socioeconomic situation, and minimize risks for citizens and economic entities.

Considering Cluster 2 (green), relevant concepts include “public policy,” “criminal law,” “ethics,” “financial support,” “government,” “government regulation,” “economic growth,” and others. In this cluster, research examines the role of public policy and legal regulation in preventing and countering financial fraud. The influence of criminal law and ethical standards on promoting financial integrity and detecting fraud is also investigated. Additionally, studies (for example, Kozmenko and Korneev (2014)) highlight the significance of financial support and government involvement in combating financial fraud and the influence of government regulation on economic development and financial stability. This cluster emphasizes the importance of understanding the role of public policy, legal regulation, and ethical standards in countering financial fraud. The research can contribute to formulating effective strategies aimed at preventing and regulating financial fraud and promoting economic growth.

Analyzing Cluster 3 (blue), central concepts are “forgery,” “financial management,” “public relations,” “legal aspects,” “business ethics,” “standards,” “health care and public health,” and others. In this cluster, research focuses on counterfeiting, forgery, and the role of public policy in detecting such fraud. It analyzes the impact of legal aspects, ethical standards, and business standards on financial management and the exposure of fraudulent activities. Additionally, studies in this cluster examine the importance of communication, par-

ticularly public relations, in ensuring effective detection and disclosure of financial fraud.

Considering Cluster 4 (yellow), relevant concepts comprise “financial fraud,” “crime,” “corruption,” “fraud detection,” “financial statement fraud,” “auditing,” “decision trees,” “transparency,” “risk assessment,” and others. In this cluster, researchers study financial fraud, crimes, and corruption in the context of public policy and financial regulation. Studies (such as Kaya (2022) and Muradov (2022)) analyze methods and strategies for detecting financial fraud and emphasize the importance of transparency as a critical factor in preventing financial fraud. They examine the impact of transparency on reducing fraud opportunities and improving financial regulation effectiveness.

Cluster 5 (purple) researches various forms of punishment, including administrative sanctions, criminal penalties, public sanctions, and others. The studies examine the effectiveness of these punishments in preventing fraud, deterring potential offenders, and improving financial integrity. This cluster underscores the importance of developing effective preventive methods, strategies, and punishment policies that reduce financial crimes and increase financial integrity.

Even though research on the relationship between public policy and financial regulation against financial fraud encompasses five different research vectors, special attention was given in the context of this study to the scientific publications of the second cluster, which focused on the importance of government regulation, and the fourth cluster, whose scientific publications emphasized modern methods and tools for detecting financial fraud and promoting economic growth.

The summary of the content-contextual block of the bibliometric analysis showed that the most relevant concepts are “fraud detection,” “forgery,” “crime,” “auditing,” “financial statement fraud,” “blockchain,” and “corruption.” Similar conclusions can be drawn from the data presented in Figures 2 and 3.

In Figure 3, the gradient from green to yellow characterizes the increasing density of connections between key categories. There is a high den-

Source: VOSviewer.

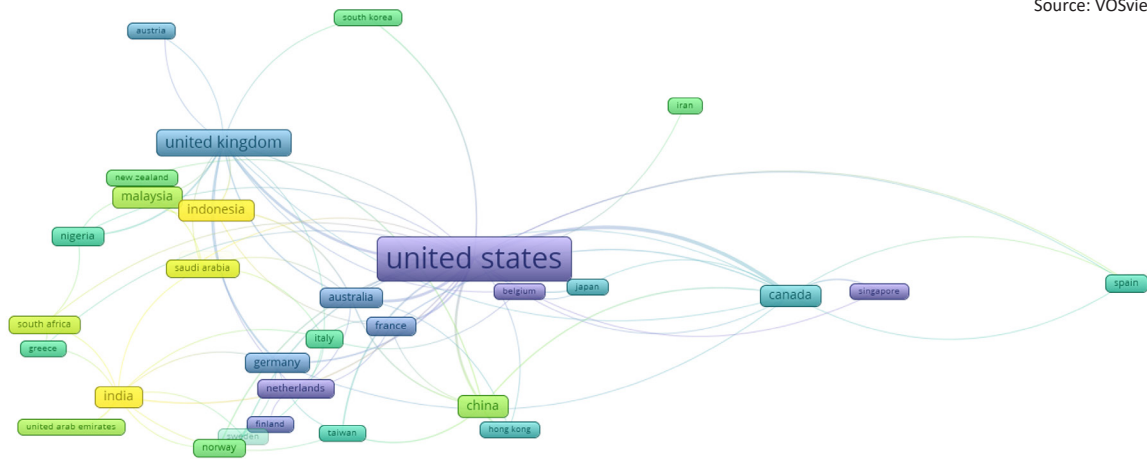


Figure 5. Spatial-temporal component of bibliometric analysis

The bibliometric analysis has revealed the geographic proximity of certain scientific publications regarding collaboration and knowledge exchange. At the same time, some clusters (the fourth and fifth) bring together representatives from scientific communities across different continents, indicating the global nature of research in this field. This allows researchers to exchange information, collaborate, and jointly develop strategies and policies to combat financial fraud at an international level.

In this context, it should also be noted that out of the total volume of scientific publications indexed in the Scopus and WoS bibliographic databases, the highest number of works is attributed to the United States (Scopus – 78 scientific papers, WoS – 62), followed by the United Kingdom (Scopus –

22, WoS – 13), and Australia (Scopus – 10, WoS – 8). The number of publications in other countries does not exceed ten units. Thus, the leaders of scientific research on public policy and financial regulation in combating financial fraud, in terms of geographic dimension, are the United States and the United Kingdom.

According to the Scopus and WoS databases, most articles are sponsored by the European Commission, the National Institute of Justice, and the National Institute on Aging. This highlights the importance of public policy in the prevention of financial fraud for the countries of the European Union and its members, as well as for the American law enforcement and social sectors. The conducted analysis confirms the significance of addressing the issue of financial fraud and the role

Source: VOSviewer.

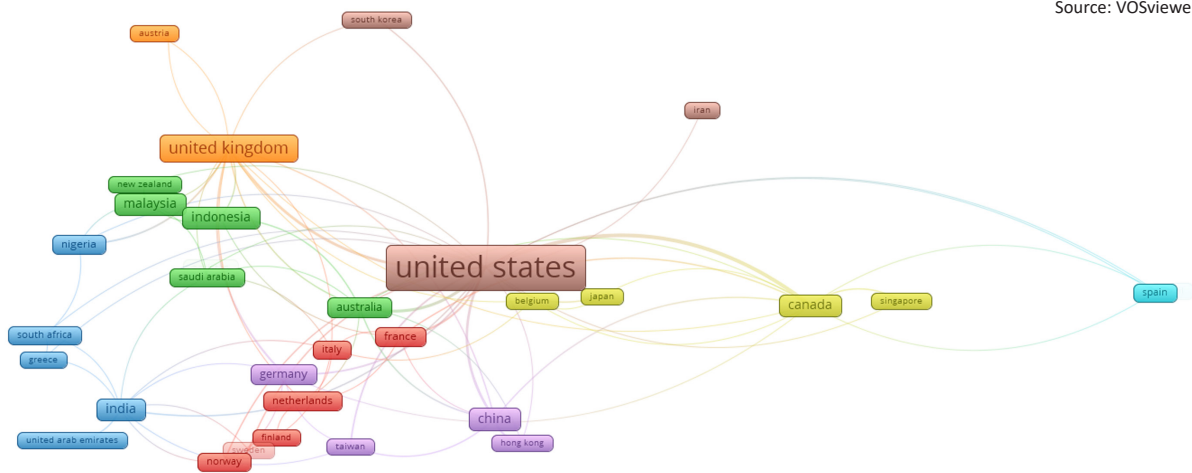


Figure 6. Visualization map of co-authorship of scientists (criterion – country indicated in the affiliation)

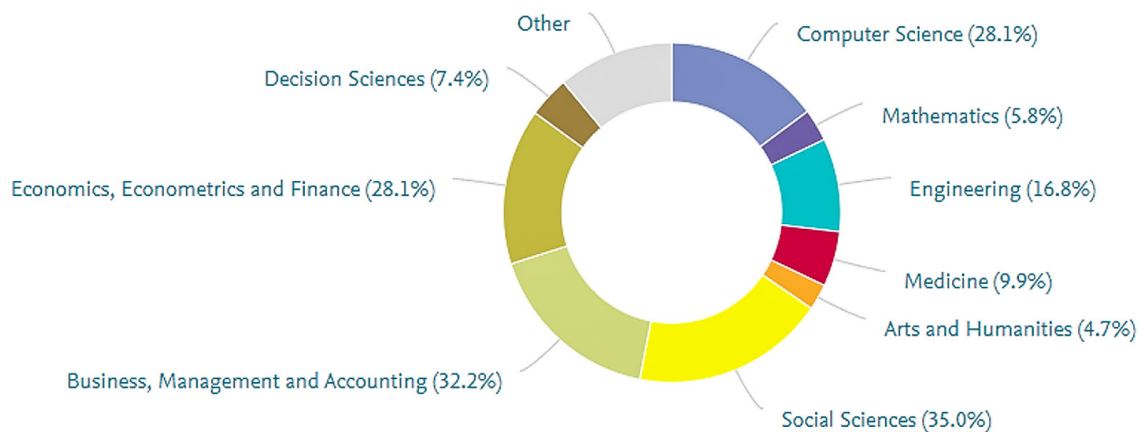


Figure 7. Structural analysis of publications on public policy in the field of combating financial fraud by subject area

of public policy in its prevention has a significant impact on various countries and organizations.

Figure 7 presents the final stage of the bibliometric analysis of the problem of behavioral economics and its role, which is the formalization of the research network structure.

Comparison of subject areas shows a predominance of “computer science” and “economics, econometrics, and finance” fields, confirming the interdisciplinary nature of the research. However, the disciplinary affiliation of the analyzed publications is also diverse, although it is natural that most empirical studies on preventing financial fraud have a financial (economic) focus. Overall, addressing public policy and financial regulation in the fight against financial fraud requires a combination of economic, legal, and technical knowledge for effective solutions. Special attention is given to empirical research on preventing financial fraud, which often has a financial (economic) nature related to financial risks, fraud detection mechanisms, and effective preventive measures. With the advancement of technology, new approaches and tools may emerge to combat financial fraud, increasing the role of computer science.

In Figure 8, the topics of publications on public policy and financial regulation in the field of combating financial fraud and their grouping into thematic clusters are conducted.

Figure 8 shows the thematic scope of publications on public policy and financial regulation against financial fraud and their grouping into thematic clusters. The density and size of the bubbles in the diagram confirm the prominence of these areas. Among the top 100 clusters based on research performance (Scholarly Output), the following clusters are predominantly represented:

- COMP – computer science;
- MATH – mathematics;
- ECON – economics, econometrics, and finance related to economic research directions;
- DECI – decision sciences related to the study of decision-making processes;
- MULT – multidisciplinary research;
- BUSI – business, management, and accounting.

Key findings and scientific contributions analyzed from the selected works (structured based on relevance and citation) will be the foundation for further empirical research on the chosen topic.

The findings from this analysis align with Novak et al. (2021) and Antoniuk et al. (2022), who emphasized the significance of understanding the interplay between public policy and financial regulation in combating financial fraud. This analysis

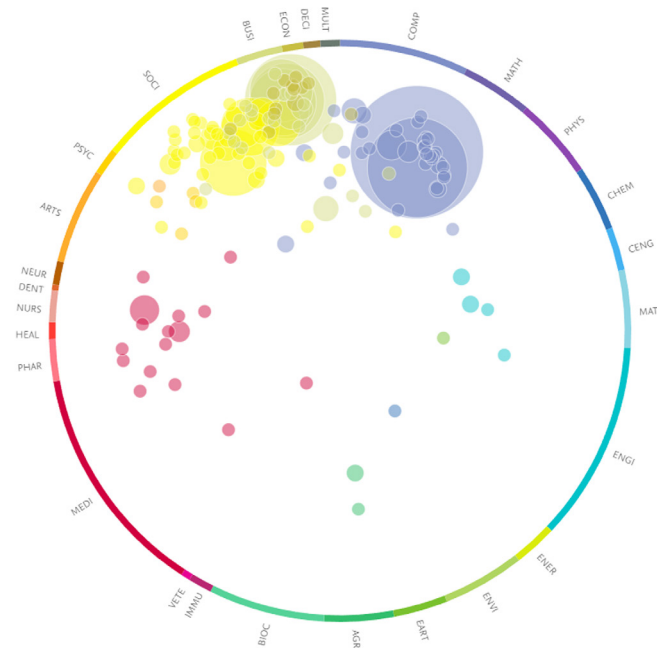


Figure 8. Top 100 topics and thematic clusters in the research area

confirms this interrelation, as the study observed the close association between the concepts of “financial fraud,” “public policy,” and “financial regulation” in the literature. This consistency across studies strengthens the validity of findings and supports the need for continued attention to these key areas.

Furthermore, comparing obtained results with previous scientific studies, it is evident that this study aligns with the emerging focus on the importance of public policy and financial regulation in addressing financial fraud. For instance, Su et al. (2023) and Kuzmenko et al. (2023) highlighted the need for strong regulatory frameworks and collaboration between government agencies, financial institutions, and financial regulation to combat financial fraud effectively. The analysis reinforces these findings by revealing the central role of laws and regulations that define and criminalize financial fraud (within the prevailing green cluster).

Moreover, this study complements the findings of Njegovanović (2023), who emphasized the importance of international cooperation and regulatory harmonization in addressing cross-border financial fraud. The study echoes these sentiments by underscoring the global relevance of public policy and financial regulation (results of spatial and co-authorship bibliometric analysis).

Also, identifying key concepts and themes can aid policymakers in developing international frameworks and collaborative strategies to combat financial fraud more effectively. Furthermore, it can facilitate collaboration among researchers, enabling them to collaborate and jointly develop strategies and policies to combat financial fraud internationally.

These findings support Maris (2022), who notes that governments and regulatory bodies collaborate through initiatives such as information sharing, extradition treaties, mutual legal assistance, and harmonization of regulatory frameworks to enhance the effectiveness of fraud prevention efforts.

In contrast, this study diverges from Gurbanov et al. (2022), who primarily focused on the technological aspects of combating financial fraud, such as data analytics and machine learning. While technology undoubtedly plays a crucial role in fraud detection and prevention, this study highlights the need for a comprehensive approach incorporating public policy and financial regulation alongside technological advancements. The findings provide a more holistic perspective on combating financial fraud by considering the broader context of governance and policy interventions.

Overall, comparing obtained results with other scientific publications reveals consistency and divergence in the research landscape. While there is a consensus on the significance of public policy and financial regulation in combating financial fraud, there are variations in the specific emphasis and approaches across studies. This analysis contributes by providing a comprehensive and systematic review, shedding light on the evolving trends and themes in the field.

The comparisons made in this discussion are based on a limited selection. By synthesizing and building upon previous research, this study contributes to a broader understanding of the topic and provides valuable insights for policymakers and researchers.

However, it is essential to note that future research should consider conducting a more extensive review to validate and expand upon these comparisons.

Given that the concept of financial fraud encompasses a range of illicit activities, including insider trading, money laundering, accounting fraud, Ponzi schemes, market manipulation, and others, it is important to examine the role of public policy and financial regulation in preventing and combating each of these types of financial fraud. Additionally, it is essential to conduct appropriate bibliometric analyses in the context of each of these topics to gain a comprehensive understanding of the effectiveness of public policy and financial regulation in addressing specific forms of financial fraud.

CONCLUSION

This study aimed to examine the role of public policy and financial regulation in preventing and combating financial fraud through a bibliometric analysis. The analysis allowed identifying key concepts and themes in the existing literature, providing valuable insights for policymakers and researchers in this field. The analysis revealed that public policy and financial regulation are crucial in addressing fraud.

The identification of the interconnection between key concepts “financial fraud,” “public policy,” and “financial regulation” with other concepts enabled the conduction of cluster analysis, resulting in the identification of five clusters of scientific publications related to the researched topic.

The content-contextual block of the bibliometric analysis provided valuable insights into the most relevant concepts in the field of public policy and financial regulation in preventing and combating financial fraud. Through this analysis, the study identified several key concepts that emerged as significant in the existing literature. The identified concepts include “fraud detection,” “forgery,” “crime,” “auditing,” “financial statement fraud,” “blockchain,” and “corruption.” These concepts represent critical aspects of financial fraud and reflect the focus of researchers and scholars in this field.

The results of the evolutionary and temporal analysis of scientific research demonstrate distinct shifts in focus over time in combating financial fraud. Before 2000, scholars primarily emphasized the legislative aspects of addressing financial fraud. From 2000 to 2015, attention shifted toward risk management and understanding the impact of financial fraud on economic growth. Since 2016 and continuing to the present, researchers have been primarily engaged in exploring detection methods and countermeasures against financial fraud. The shift in focus over time reflects the growing recognition of the dynamic nature of financial fraud and the need for adaptable approaches.

The comparison of subject areas demonstrated a predominance of “computer science” and “economics, econometrics, and finance.”

Overall, this study underscores the significance of public policy and financial regulation in preventing and combating financial fraud and calls for continued efforts in research and policymaking to address this global challenge effectively. Policymakers and researchers can use the identified concepts and themes to develop effective strategies and policies to combat financial fraud.

AUTHOR CONTRIBUTIONS

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