

**ANALIZĂ BIBLIOMETRICĂ ASUPRA RAPORTĂRII FINANCIARE A  
CRIPTOMONEDELOR****BIBLIOMETRIC ANALYSIS ON CRYPTOCURRENCIES FINANCIAL REPORTING**

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**Abstract.** *This study delves into the world of cryptocurrency financial reporting (CFR) research, exploring the connections between researchers, their institutions, and the countries they represent, considering the context in which cryptocurrencies financial reporting practices remain uncertain. Data from the Web of Science Core Collection were employed, mainly publications from 2016 to 2023, using the term “cryptocurrency financial reporting” to identify publications regarding this topic. By leveraging tools like VOSviewer, Biblioshiny, and Microsoft Excel, we pinpointed influential research on CFR, collaboration networks among researchers, thematic groupings, and research trends. A unique aspect of the study is the classification of findings into three themes: “financial reporting” in 100% of the manuscripts, “asset evaluation” 61%, and “asset recognition” 72%. Our results suggest that while collaboration among researchers in this field is still developing, the innovative nature and growing recognition of CFR have the potential to attract more researchers. The limitation consists in the fact that the timeframe is limited, as data was gathered in March 2024, and the key term was found in a low number of publications. Given the dynamic nature of CFR, this bibliometric analysis might benefit from updates to capture the latest developments.*

**Keywords:** *cryptocurrency, financial reporting, asset recognition, asset evaluation, bibliometric analysis, visualization, VOSviewer, Biblioshiny*

**JEL:** M41, G23, K42, L14, O30

**Introduction**

As cryptocurrencies have taken the world by storm, their financial reporting practices remain uncertain. Therefore, this study explores the key research in this domain, identifying prolific authors, prestigious institutions and important countries which had the curiosity of delving into cryptocurrencies financial reporting.

This paper focuses on assessing the impact within the field of cryptocurrency financial reporting by analysing the keywords that hold the most weight. Bibliometry serves as a tool to evaluate both the influence and productivity of various research categories (authors, institutions, and countries).

The Web of Science Core Collection (WoS) served as the source for the data used in this research. The authors conducted their search within this scholarly database. To analyse and visualize this data, we employed a combination of software tools: VOSviewer for network analysis and creating visual images, Biblioshiny (R Studio) for data processing and analysis, and Microsoft Excel for generating regular graphs.

**Research Methods Used**

The process of bibliometric analysis starts with a methodical approach that aids in identifying the significant literature from WoS. The researchers utilised the key term “cryptocurrency financial reporting” (CFR) to guide their investigation. They focused on the topic and limited their research to the time frame between 2016 and 2023, in order to have a fixed database. The sources considered for analysis encompassed articles, proceeding papers, early access materials, and review articles published in English.

The purpose of the bibliometric analysis is to evaluate the current trend concerning CFR in the context of Business economics. Hence, there resulted 82 scientific papers, with 47 being considered irrelevant and subsequently excluded. Consequently, the database consisted of 35 research papers that met the

inclusion criteria. The remaining articles were subject to a process of proofreading the abstracts to assess their relevance. This step resulted in the exclusion of another 17 documents, indicating a high degree of selectivity and leaving a final selection of 18 articles included in the study, as revealed in Figure 1.

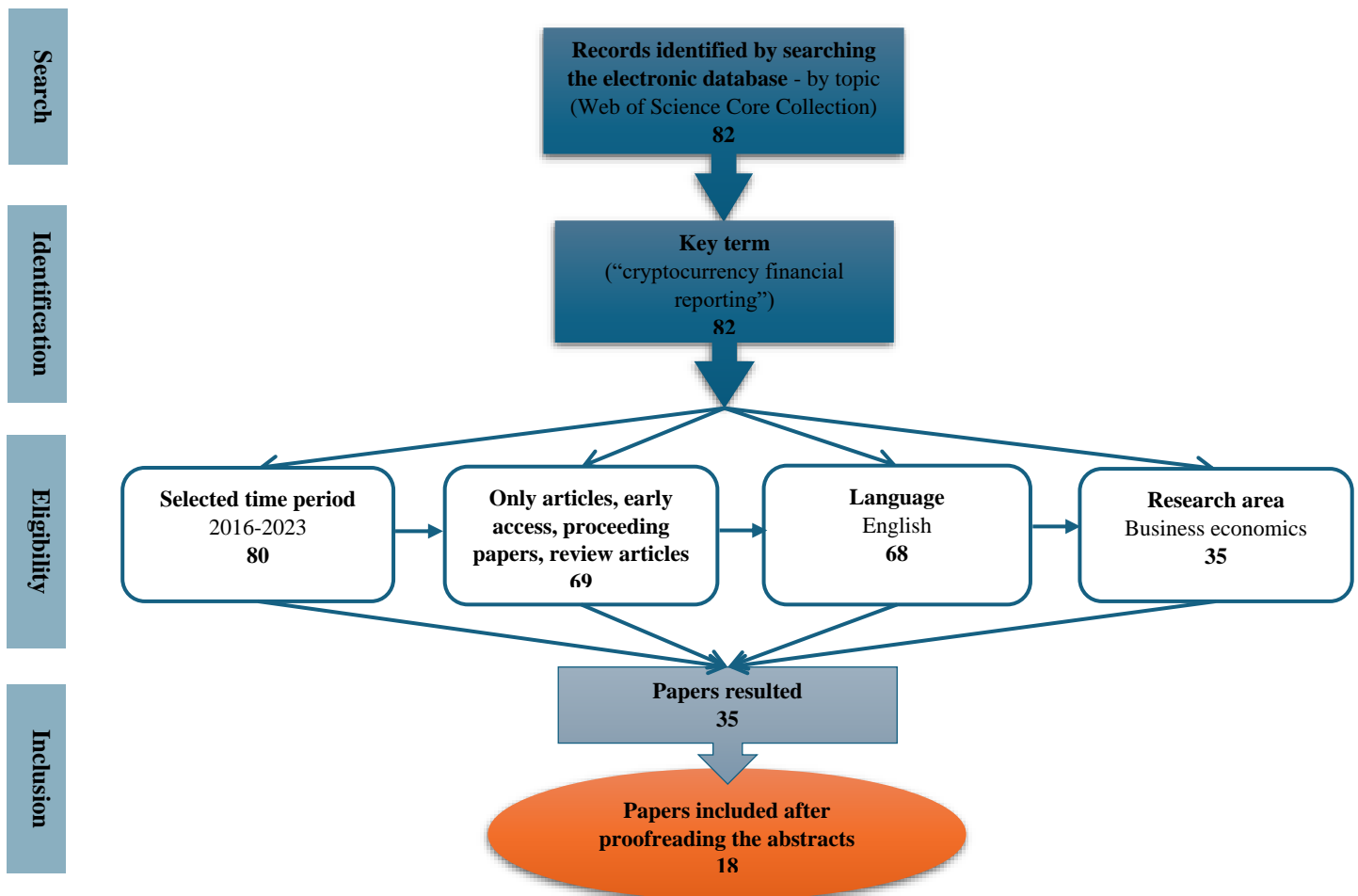


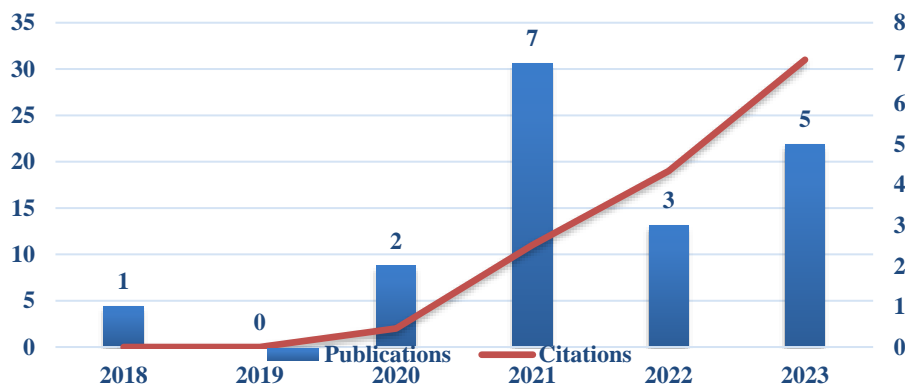
Figure 1. Flow diagram of screening process of literature on cryptocurrency financial reporting (CFR)

Source: Data processed by authors.

To synthesize the research stage, graph from Figure 2 depicts the annual publication and citation of manuscripts on cryptocurrency financial reporting. Referring to the general trend, we observe a positive correlation, where publications with higher number of citations tend to coincide with a higher number of publications. As the publications increase across the years, the number of citations also increases. Regarding specific observations, there is a sharp increase in publications from 2020 (2 articles) to 2021 (7 manuscripts), followed by another increase in 2023 (5 articles). This could be interpreted as a surge in research activity in recent years.

Considering the data available in Tabel 1, it can be observed that Business Finance is the most researched area, with 15 (83.33%) articles out of the 18 included in the study. Business and Economics are the other two research fields, each with 3 articles (16.67%) out of 18. Management has 2 articles (11%), while Green Sustainable Science Technology, and Social Sciences Mathematical Methods each have 1 article (5.56%) from 18.

For a further analysis, the authors plotted a map in Biblioshiny with the distribution of country scientific production of articles on CFR. The USA is the only country coloured with dark blue, indicating the highest publication number (10 articles) on CFR according to this study. A smaller number of articles (1-3 manuscripts) appear to be published by European countries, China, and Australia.

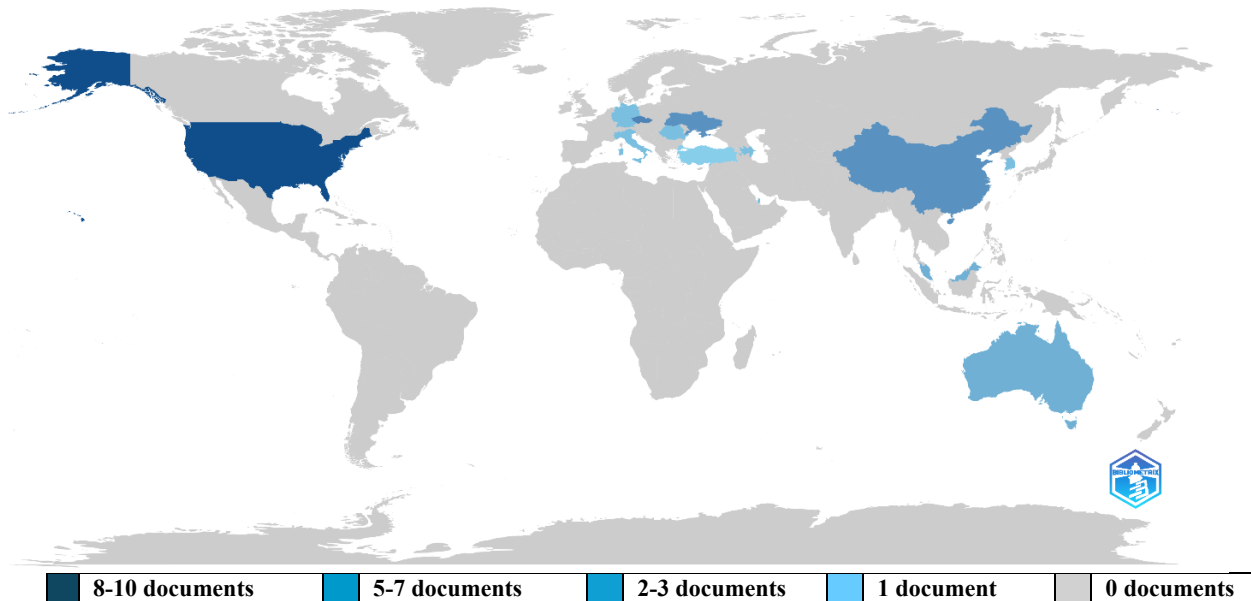


**Figure 2. Annual publication and citation of manuscripts on CFR**  
Source: Data processed by authors from WoS.

**Table 1. Research areas related to cryptocurrency financial reporting (CFR)**

Nr.crt.	Research Field – WoS Categories	Record Count	% of 18 Articles
1	Business Finance	15	83.333%
2	Business	3	16.667%
3	Economics	3	16.667%
4	Management	2	11.111%
5	Green Sustainable Science Technology	1	5.556%
6	Social Sciences Mathematical Methods	1	5.556%

Source: Data processed by authors from WoS.



**Figure 3. Country scientific publication of articles on CFR**  
Source: Authors' projection with Biblioshiny.

**Discussions and Results**  
**Keyword Analysis**

The keyword analysis is the process through which the most relevant keywords and key terms are highlighted, and the researchers become aware of their importance. In this analysis the authors set a threshold of 2 keywords to appear together. As a result, after processing the database in VOSviewer, from the total of 76 keywords, 11 meet the threshold. Thereby, for all of the 11 keywords included, the whole strength of the links between co-occurring keywords was computed. It is noteworthy the fact that between two words, can appear just one link of different thickness. This can be explained

through Figure 4 and Table 2, where the keyword clusters can be grouped into 3 themes: “cryptocurrency financial standard recognition”, “cryptocurrency accounting”, and “types of digital assets”.

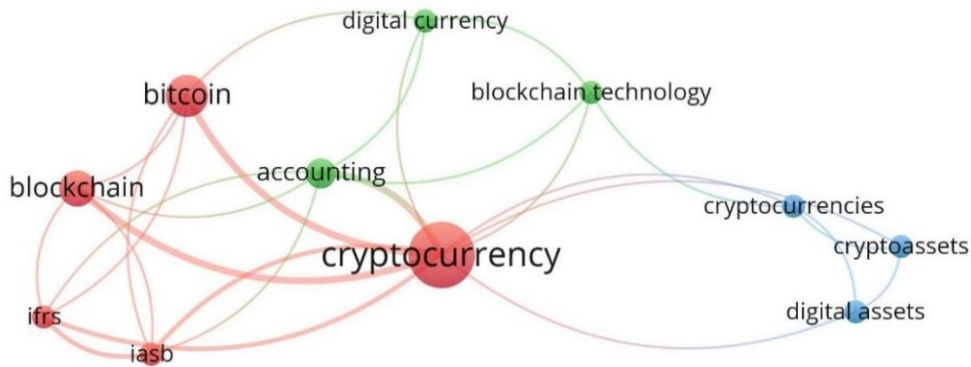


Figure 4. Co-occurrence cluster visualization of all keywords for CFR studies

Source: Authors' projection with VOSviewer.

Table 2. Keyword clusters for CFR in VOSviewer

Cluster 1 – red (5 items)	Occurrence	Cluster 2 – green (3 items)	Occurrence	Cluster 3 – blue (3 items)	Occurrence
bitcoin	5	accounting	3	cryptoassets	2
blockchain	4	blockchain technology	2	cryptocurrencies	2
cryptocurrency	10	digital currency	2	digital assets	2
iasb	2				
ifrs	2				
<b>Cryptocurrency financial standard recognition</b>		<b>Cryptocurrency accounting</b>		<b>Types of digital assets</b>	

Source: Authors' projection from VOSviewer.

Gradually, from Figure 5 it can be seen that over the years new terms were added to the crypto thesaurus. Between 2020 and 2022, with green shades, were added the terms “blockchain”, “cryptocurrency”, “accounting”. This suggest that interest for compliance with the existing standards started to grow. The most recent terms, coloured in yellow, from 2023, are “ifrs”, “iasb”, “digital assets”, and “cryptoassets”.

Subsequently, Figure 6 offers the visualization of the co-occurrence density of all keywords for CFR. The nodes (circular shapes) represent the keywords and the size of a node indicates its prominence. The presence of multiple central clusters suggests distinct topical areas within CFR. The important cluster in red seems to focus on “cryptocurrency”, “bitcoin”, “blockchain”. Other clusters in softer colours highlight “accounting”, “ifrs”, “iasb”, “digital assets”, “cryptoassets”. Overall, the cluster visualization provides a useful starting point to explore the key topics.

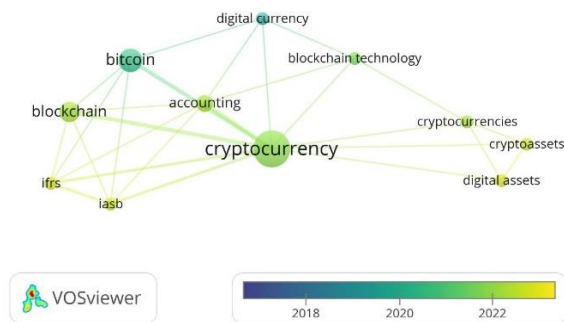


Figure 5. Co-occurrence overlay visualization of all keywords for CFR

Source: Authors' projection with VOSviewer

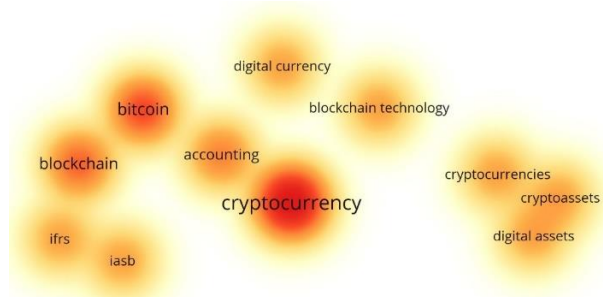


Figure 6. Co-occurrence density visualization of all keywords for CFR

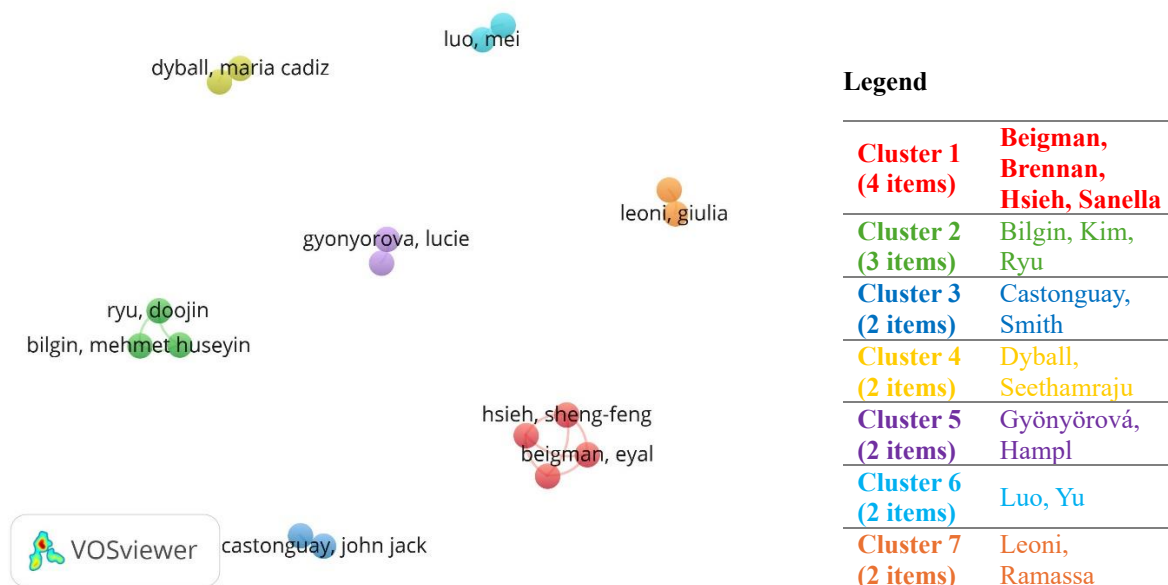
Source: Authors' projection with VOSviewer

### Co-authorship Analysis of Authors, Institutions and Countries

#### Co-authorship Analysis of Authors

By analysing co-authorship, we can explore the collaboration patterns between researchers. Authors within a cluster share similar research interest and collaborate frequently as they publish articles together. The threshold set in this case was of minimum 1 document with 2 citations of an author. Hence, from the total of 41 authors, only 17 meet the limit and they are connected in groups of maximum 4 authors.

Therefore, in the red cluster there are four authors that collaborate: Beigman, Brennan, Hsieh and Sanella (1 document, 5 citations, 3 link strength). From the green cluster we mention: Bilgin, Kim, and Ryu (1 document, 3 citations, 2 link power). Cluster 3, coloured blue, comprises Castonguay and Smith with 1 article released, 32 citations, 1 link strength.



**Figure 8. Co-authorship of authors clusters for CFR**

*Source: Authors' projection with VOSviewer.*

To bridge the knowledge gap in the comprehension of contemporary CFR discussions and diverse perspectives on the subject, we conducted a thematic analysis of the relevant literature. This study's originality lies in its approach of examining and classifying the assessed articles based on three research themes: asset recognition, evaluation, and financial reporting. Each article was evaluated for explicit keywords, such as: "accounting", "financial", "recognition", "evaluation", "fair value", "cost(s)", "reporting", "financial reporting", "ifrs", "iasb".

Table 4 summarizes the findings of this analysis. It details the authors who explored the three themes and the geographical regions where their research was conducted and published. Thus, the percentual distribution of covering the themes suggested is: "financial reporting" theme is represented in 100% of the articles, the "evaluation" theme appears in 61% of the papers, and 72% of the manuscripts write about "evaluation".

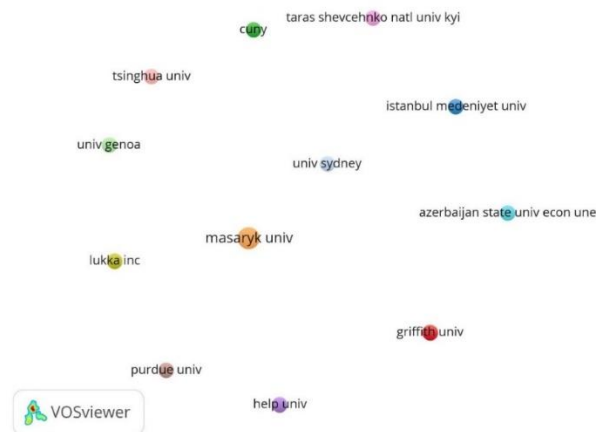
**Table 4. Research themes related to cryptocurrency financial reporting, by relevant authors**

Authors	Region	Asset recognition	Asset evaluation	Financial reporting
Abdul Basith, Elgammal & Abuzayed (2021)	Qatar			
Angeline, Chin, Tenk & Saleh (2021)	Malaysia			
Beigman, Brennan, Hsieh & Sannella (2023)	USA			
Davenport & Usrey (2023)	USA			

<i>Derun &amp; Mysaka (2022)</i>	Ukraine			
<i>Dyball &amp; Seethamraju (2022)</i>	Australia			
<i>HAMPL &amp; Gyönyörövä (2021)</i>	Czech Republic			
<i>Hubbard (2023)</i>	USA			
<i>Kim, Bilgin &amp; Ryu (2022)</i>	South Korea, Turkey			
<i>Luo &amp; Yu (2022)</i>	China			
<i>Makurin, Maliienko, Tryfonova &amp; Masina (2023)</i>	Ukraine			
<i>Niftaliyev (2023)</i>	Azerbaijan			
<i>Paunescu (2018)</i>	Romania			
<i>Ramassa &amp; Leoni (2022)</i>	Italy			
<i>Smith (2018)</i>	USA			
<i>Vodáková &amp; Foltyn (2020)</i>	Czech Republic			
<i>Wronka (2024)</i>	Germany			
<i>Yan, Yan &amp; Gupta (2022)</i>	Australia, China			
<i>Total articles</i>		<b>13</b>	<b>11</b>	<b>18</b>
<i>Percentage</i>		<b>72%</b>	<b>61%</b>	<b>100%</b>

Source: Authors' projection from WoS.

### Co-authorship Analysis of Institutions



**Figure 14. Co-authorship of institutions network for CFR**

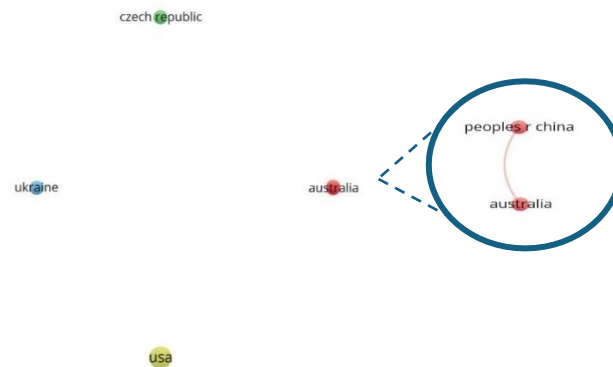
Source: Authors' projection with VOSviewer

The co-authorship of institutions reveals the prominent research institutions in the field of CFR and explores the collaboration patterns between institutions across different countries or regions. With the purpose of analysing the network at institutional level, there was set a threshold of at least 1 document with 1 citation published by an organization. As a result, from 24 organizations, 18 are included in the parameters, but only 11 are connected in groups of no more than 3 institutions.

The connected institutions from the most significant cluster are Griffith University from Australia, Xiamen University from China, and Xiamen National Accounting Institute.

### Co-authorship Analysis of Countries

By analysing the co-authorship network of countries in VOSviewer, valuable insights can be gained into international research collaborations and the global landscape of research activity on CFR. In this case, was chosen a low threshold, of minimum 2 documents with at least 1 citation at country level. Hence, from 13 countries, 5 meet the threshold, but only 2 are connected (China and Australia).



**Figure 15. Co-authorship of countries network for CFR**

Source: Authors' projection with VOSviewer.

## Conclusions

Firstly, the keyword analysis identifies three major clusters related to the crypto financial environment: 1) cryptocurrency financial standard recognition; 2) cryptocurrency accounting; 3) types of digital assets. Therefore, it is suggested that the crypto phenomenon is new between the scholars and the research in this field is just in the beginning phase.

Secondly, from the authors citation network, it can be observed that even if the collaboration between the authors is not very developed, the novelty and notoriety of the subject could rise the interest of other scientists. There are associations between the authors which is gradually spreading, in groups of maximum 4 authors.

Thirdly, the country and organization citation network, follow the same path as the authors citation network. The cooperations are at the beginning, and the strongest couple is China and Australia. As a result, the connected institutions from the most significant cluster are Griffith University from Australia, Xiamen University, and Xiamen National Accounting Institute from China.

The limitations of the study consist in the fact that the timeframe is limited to the period 2016-2023. A longer time frame might reveal more about the historical growth of CFR research. Moreover, there might be other publications that are not captured in the database. Another limitation is the low number of articles that meet the selection criteria, and in which appears the key term "cryptocurrency financial accounting". This fact is due to the innovative character of the subject of study.

Finally, research could explore the non-financial implications of cryptocurrency reporting or specific auditing standards associated with the risks of cryptocurrency transactions and holdings.

## Bibliographical references

1. Abdul Basith, AQ, MM Elgammal, and B Abuzayed. 2021. "Cryptocurrencies and Finance Theories." *ASIA-PACIFIC MANAGEMENT ACCOUNTING JOURNAL* 16 (2): 315–65.
2. Angeline, YKH, WS Chin, TT Tenk, and Z Saleh. 2021. "Accounting Treatments for Cryptocurrencies in Malaysia: The Hierarchical Component Model Approach." *ASIAN JOURNAL OF BUSINESS AND ACCOUNTING* 14 (2): 137–71. <https://doi.org/10.22452/ajba.vol14no2.5>.
3. Beigman, E, G Brennan, SF Hsieh, and AJ Sannella. 2023. "Dynamic Principal Market Determination: Fair Value Measurement of Cryptocurrency." *JOURNAL OF ACCOUNTING AUDITING AND FINANCE* 38 (4): 731–48. <https://doi.org/10.1177/0148558X211004134>.
4. Davenport, SA, and SC Usrey. 2023. "Does Notice 2014-21 Need an Update? An Analysis of Potential Tax Classifications for Cryptocurrency." *ATA JOURNAL OF LEGAL TAX RESEARCH* 21 (1): 22–44. <https://doi.org/10.2308/JLTR-2022-003>.
5. Derun, I, and H Mysaka. 2022. "Digital Assets in Accounting: The Concept Formation and the Further Development Trajectory." *ECONOMIC ANNALS-XXI* 195 (1–2): 59–70. <https://doi.org/10.21003/ea.V195-06>.
6. Dyball, MC, and R Seethamraju. 2022. "Client Use of Blockchain Technology: Exploring Its (Potential) Impact on Financial Statement Audits of Australian Accounting Firms." *ACCOUNTING AUDITING & ACCOUNTABILITY JOURNAL* 35 (7): 1656–84. <https://doi.org/10.1108/AAAJ-07-2020-4681>.
7. Hampl, F, and L Gyönyörová. 2021. "Can Fiat-Backed Stablecoins Be Considered Cash or Cash Equivalents Under International Financial Reporting Standards Rules?" *AUSTRALIAN ACCOUNTING REVIEW* 31 (3): 233–55. <https://doi.org/10.1111/auar.12344>.

8. Hubbard, B. 2023. "Decrypting Crypto: Implications of Potential Financial Accounting Treatments of Cryptocurrency." *ACCOUNTING RESEARCH JOURNAL*, June. <https://doi.org/10.1108/ARJ-10-2022-0279>.
9. Kim, D, MH Bilgin, and D Ryu. 2021. "Are Suspicious Activity Reporting Requirements for Cryptocurrency Exchanges Effective?" *FINANCIAL INNOVATION* 7 (1). <https://doi.org/10.1186/s40854-021-00294-6>.
10. Luo, M, and SC Yu. 2022. "Financial Reporting for Cryptocurrency." *REVIEW OF ACCOUNTING STUDIES*, December. <https://doi.org/10.1007/s11142-022-09741-w>.
11. Makurin, A, A Maliienko, O Tryfonova, and L Masina. 2023. "Management of Cryptocurrency Transactions From Accounting Aspects." *ECONOMICS ECOLOGY SOCIUM* 7 (3): 26–35. <https://doi.org/10.31520/2616-7107/2023.7.3-3>.
12. Niftaliyev, SG. 2023. "Problems Arising in the Accounting of Cryptocurrencies." *FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE* 3 (50): 76–86. <https://doi.org/10.55643/fcaptp.3.50.2023.4046>.
13. Paunescu, M. 2018. "The Accountant's Headache: Accounting for Virtual Currencies Transactions." In *Bucharest University of Economic Studies*, 145–59.
14. Ramassa, P, and G Leoni. 2022. "Standard Setting in Times of Technological Change: Accounting for Cryptocurrency Holdings." *ACCOUNTING AUDITING & ACCOUNTABILITY JOURNAL* 35 (7): 1598–1624. <https://doi.org/10.1108/AAAJ-10-2020-4968>.
15. Smith, SS, and J Castonguay. 2020. "Blockchain and Accounting Governance: Emerging Issues and Considerations for Accounting and Assurance Professionals." *JOURNAL OF EMERGING TECHNOLOGIES IN ACCOUNTING* 17 (1): 119–31. <https://doi.org/10.2308/jeta-52686>.
16. Vodáková, J, and J Foltyn. 2020. "Financial Reporting of Cryptocurrencies." In *Masaryk University Brno*, edited by KS Soliman, 12325–30.
17. Wronka, C. 2024. "Crypto-Asset Activities and Markets in the European Union: Issues, Challenges and Considerations for Regulation, Supervision and Oversight." *JOURNAL OF BANKING REGULATION* 25 (1): 84–93. <https://doi.org/10.1057/s41261-023-00217-8>.
18. Yan, HQ, KJ Yan, and R Gupta. 2022. "A Survey of the Accounting Industry on Holdings of Cryptocurrencies in Xiamen City, China." *JOURNAL OF RISK AND FINANCIAL MANAGEMENT* 15 (4). <https://doi.org/10.3390/jrfm15040175>.