Cryptocurrency as an investment or speculation: a bibliometric review study

Sakshi Vasudeva
Department of Commerce, Dr. Bhim Rao Ambedkar College, University of Delhi, New Delhi, India

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Abstract

Purpose – The study was done to review the existing literature available on the theme using a popular technique known as a bibliometric review. The purpose was to explore important bibliometric trends such as geographical distribution of research; the most relevant countries and institutions and important collaboration networks, frequently published authors, the most relevant topics/research domains and relationships among these, average citations or per year, the most relevant sources, top authors' production, authors' impact by H index and the progression of important keywords over a period of time.

Design/methodology/approach – The study analyzed literature published in the English language from 2012 onwards that used the words "cryptocurrency", "Ethereum" "Bitcoin" along with "investment/s" or "speculation/s" in the Title/ABS/KEY. A specialized approach was followed to retrieve and analyze focused research. The data for analysis was extracted from the Scopus database and was analyzed using Biblioshiny and VOSViewer.

Findings – The study found that the countries such as the UK, Australia, China and the USA have special relevance in terms of the number of citations and collaboration networks. Cryptocurrency/Cryptocurrencies, bitcoin have been the base themes along with other crucial issues such as volatility, hedging, COVID-19 pandemic, Ethereum, blockchain, co-integration, portfolio diversification/optimization, spillover, safe haven, investor attention, gold, etc. There is a lot of interdisciplinary research on the theme.

Originality/value – The current study used a concentrated approach to study the bibliometric literature about the financial implications of cryptocurrency as an asset class and not prominently its technological or legal aspects.

Keywords Cryptocurrency, Investment, Speculation, Bibliometric, Biblioshiny, VOSViewer

Paper type Literature review

1. Introduction

1.1 Background

Cryptocurrency has been defined using a broad spectrum of technology ranging from virtual complementary currency to electronic currency and its derivative (Dai, 1998). Many cryptocurrencies are based on blockchain technology using a decentralized network of computers. Thus, cryptocurrency is a tradable digital form of money that only exists online and uses encryption to authenticate and secure transactions. Bitcoin was the first currency founded in 2009 by Satoshi Nakamoto to have gained existence in the socio-economic sphere, although the previous attempts such as e-gold in 1996 or liberty reverse in 2006 could not get acceptability (Garcia, Tessone, Mavrodiev, & Perony, 2014). There are currently over a thousand different cryptocurrencies in the world and their supporters see cryptocurrency as the "key to the fairer future economy." (Inci, & Lagasse, 2019).

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Cryptocurrencies are an unconventional/unusual, exceptional type of currency due to their decentralized nature but these cannot be used as a substitute for legal currency (Nakamoto, 2008). Cryptocurrency has become popular because of its features such as anonymity, cheaper and faster money transfers and difficulty to counterfeit or blind spending, but there are various disadvantages such as price volatility. Cryptocurrencies have gained a lot of peculiar and numismatology importance (Chohan, 2022), during their short period of existence and are studied by a wide variety of disciplines such as technical aspects like blockchain, cryptography and smart contracts (Xu, Chen, & Kou, 2019), and also from an investment point of view (Saksonova, & Kuzmina-Merlino, 2019).

The study used a concentrated approach to study the bibliometric literature about the financial implications of cryptocurrency as an asset class. Therefore, while retrieving the results, investments/speculation words have been used to narrow down the results and follow a specialised approach to analyze focused results.

1.2 Cryptocurrency as an investment or speculation

It is only in the last few years mainly towards the end of 2017; momentum was seen in cryptocurrency exchanges as well as Bitcoin and other prominent cryptocurrencies gained much attention. There has been an increase in the investment in cryptocurrency as a source of investment or speculation because of its high growth potential, highly liquid market, volatile returns, where returns may double also in a couple of days or weeks and it is no longer a niche area of investment. Bitcoin is a very volatile currency but has given good returns to investors (Böhme, Christin, Edelman, & Moore, 2015; Fauzi, Paiman, & Othman, 2020).

There is a flip side to it as it is a highly unregulated market and too much volatility may result in returns plunging too low. Not all cryptocurrencies are liquid and there is a lot of risk of money getting locked up. (Chuen, Guo, & Wang, 2017; Thukral, Arora, & Bhandari, 2018; Liew, Li, Budavári, & Sharma, 2019; Saksonova, & Kuzmina-Merlino, 2019; Mikhaylov, 2020). The greatest advantage and limitation also are that investments are anonymous and "individuals can hold, trade, or use cryptocurrencies instruments without having a direct link with a bank account or any particular investment profile" (Lammer, Hanspal, & Hackethal, 2020, p. 1).

There are various security and privacy risks of investing in Bitcoin (Conti, Kumar, Lal, & Ruj, 2018). Cryptocurrencies are the most recent financial market innovations in terms of infrastructure and support services (FinTech); the use of blockchain technology makes them distinct from traditional investments (Saksonova, & Kuzmina-Merlino, 2017).

These are considered as promising assets in the portfolio but mostly people prefer to use them for short-term gains, that is speculation (Baek & Elbeck, 2015; Baur, Hong, & Lee, 2018; Zhang, Lu, Tao, & Wang, 2021). Like, too much volatility in Bitcoin prices causes speculative bubbles (Cheah, & Fry, 2015) and thus, it has been considered as inefficient asset (Urquhart, 2016).

There is a lack of government intervention and thus, it is subjected to further price distortions; virtual currencies have also been linked to various unregulated activities, including illegal acts (Foley, Karlsen, & Putniņš, 2019; Griffin & Shams, 2020). Cryptocurrency also impacted investment in other financial assets and some researchers studied dynamic relationships (Corbet, Lucey, & Yarovaya, 2018) and volatility analysis in relation with other assets (Dyhrberg, 2016).

Crypto is a diverse subject area, therefore the current research is focused only on the literature relevant to its being an asset class and not prominently its technological and legal aspects.

2. Methodology

Bibliometric analysis is a popular and meticulous method for analysing large volumes of scientific publications. It is easy to acquire large volumes of bibliometric data using scientific

databases, such as Scopus and Web of Science and the availability of various bibliometric software/tools help to perform the analysis in a logical way. The current study used the Scopus database, which is widely recognized as the largest scientific database of academic significance. The current study analysed studies that used "cryptocurrency or bitcoin or Ethereum" and "investment or speculation" in abstracts/keywords or titles. Cryptocurrency/bitcoin/Ethereum has been the oldest and the most popular words to represent "Crypto" in the published literature.

The bibliometric analysis summarizes the social and structural relationships between different research constituents (e.g. authors, countries, institutions and topics). The techniques for bibliometric analysis include performance analysis and science mapping. Performance analysis uses citation and publication-related metrics. Performance analysis studies the contributions of research constituents to a given field (Cobo, López-Herrera, Herrera-Viedma, & Herrera, 2011; Ramos-Rodrígue & Ruíz-Navarro, 2004). The techniques for science mapping include citation analysis, co-citation analysis, bibliographic coupling, co-word analysis and co-authorship analysis (Baker, Kumar, & Pandey, 2021; Cobo *et al.*, 2011; Ramos-Rodrígue & Ruíz-Navarro, 2004).

2.1 Research objectives

The purpose of this research is to study the research articles on the theme to identify the relevant bibliometric trends such as:

(1) To identify the geographical distribution of research and the most relevant countries and institutions researching the theme and their collaboration networks.

(2) To find out the frequently published authors, the most relevant topics, the number of publications by country, average citations per year, the most relevant sources, top authors' production, authors' impact by H index and trending topics.

(3) To identify the important research domains/topics and the relationships among them.

(4) To find out the progression of important keywords to understand the impact of changes in economic and political environments on research trends over a period of time.

2.2 Data extraction

Earlier studies have done the bibliometric analysis of CRYPTO from its overall perspective (Dabbagh, Sookhak, & Safa, 2019; Shen, Chang, & Su, 2018; García-Corral, Cordero-García, de Pablo-Valenciano, & Uribe-Toril, 2022). Crypto is a riskier asset class with numerous drawbacks but still, it became popular because of its profitability. The current study used investment or speculation as a part of the search criterion to extract only the relevant literature and to exclude the studies which focused mainly on the other aspects of Crypto.

To perform the bibliometric performance and science mapping analysis, the following steps for data extraction were used (Figure 1):

2.3 Data analysis

Biblioshiny and VOSViewer has been used to analyze the data. Biblioshiny is a web-based graphical interface powered by Bibliometrix (Aria, & Cuccurullo, 2017). Bibliometrics was programmed in the R language and it has interconnection with other R packages. Different mapping techniques have been used (Boyack, Klavans, & Börner, 2005) in Biblioshiny. VOSViewer is a software tool based on Java programming language for creating maps for bibliometric purposes (version 1.6.18 was used). VOSViewer provides three visualizations,

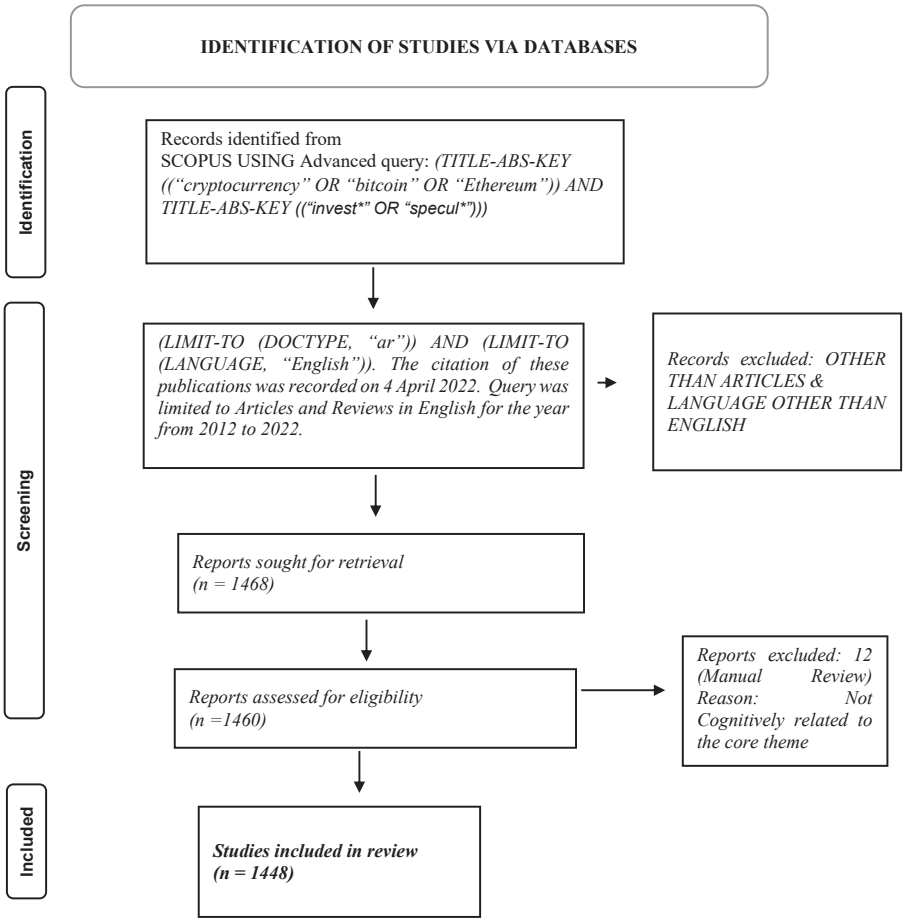


Figure 1.
Data extraction steps

referred to as network visualization, overlay visualization and density visualization (Van Eck & Waltman, 2019). The three different indicators have been used for the analysis of documents: quantity, quality, structural form and other bibliographic information of publications. Quantity shows the productivity index in terms of the number of publications. Meanwhile, quality shows the impactful articles on the basis of the number of citations received.

3. Results

3.1 Preliminary bibliographic information

Scopus database search applied from 2012 to 2021 and sorted out using the criterion mentioned in the data extraction steps (Figure 1). The summary results are presented in Table 1.

We can notice the huge momentum in the overall number of publications from 2019 onwards (Figure 2).

3.2 Documents by the subject area

Our search results show that the articles are distributed across a wider range of subjects.

The subject areas of economics, econometrics and finance have got the highest ranking (29.88%), followed by business, management and accounting (14.6%) and then, followed by computer science (14.04%). The remaining articles are distributed among varied subject areas, that is, engineering, mathematics; the social sciences, decision sciences, physics and astronomy, material sciences, energy, environmental, multi-disciplinary, arts and humanities, chemicals, even agriculture, neuroscience, etc. (Figure 3).

Table 1. Preliminary bibliographic information

Timespan	2012:2022
Sources (Journals, Books, etc)	569
Documents	1458
Average years from publication	1.91
Average citations per document	17.42
Average citations per year per doc	4.366
References	54893

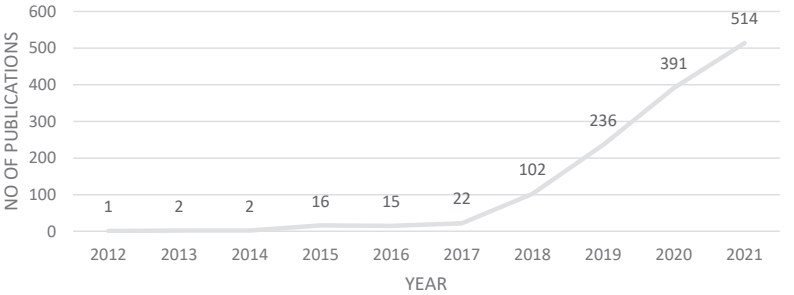


Figure 2. Annual scientific production

Note(s): 2022 excluded for year-wise analysis
Source(s): Own Compilation from Scopus Database

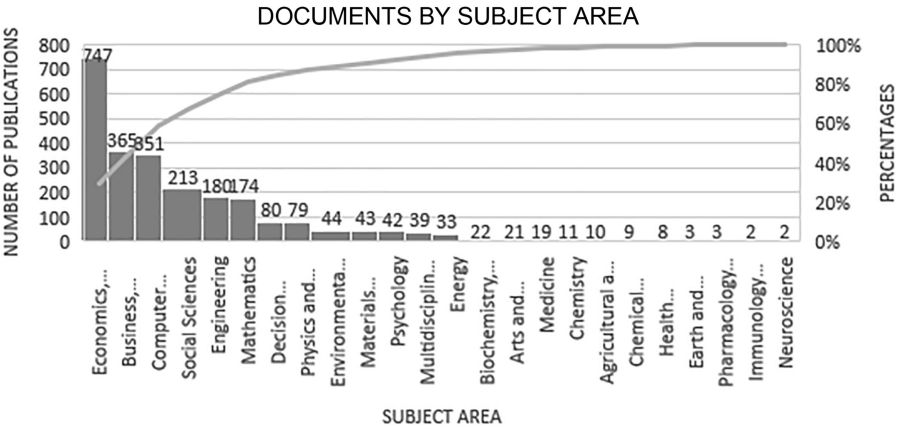


Figure 3. Distribution by subject area (Pareto chart)

Source(s): Own Compilation from Scopus Database

3.3 The most cited articles

Applying the corresponding search results, we found that the top three articles that have been cited the most are on the *volatility aspect of the bitcoin*. The article "*BitCoin meets Google Trends and Wikipedia: Quantifying the relationship between phenomena of the Internet era*" (Kristoufek, 2013) is about semantic analysis. The top-cited articles have used "bitcoin" in the title of the papers, which shows the Bitcoin was more popular as compared to the other cryptocurrencies. The most cited topics have been related to volatility/speculation, price formation/trends, security and privacy concerns, and the relationship with other financial assets/hedging capabilities of the Bitcoin (Table 2).

3.4 Geographical distribution

In terms of geographical distribution, an apparent growing trend of research is originating all over the world. (Figures 4 and 5). A minimum of three documents and three citations have been used to draw the map. The UK, Australia and China have been the front-runners in terms of grouping and citations. These countries also account for the largest number of articles and citations together with the highest H indexes. According to the map, India formed a cluster with United Arab Emirates, South Africa, Saudi Arabia, Poland, Indonesia Egypt and Malaysia. The USA and the Czech Republic are the two other notable countries in terms of grouping and citations. The UK, Australia, China and the USA clearly stand out in terms of citations and groupings.

Year	Title of the article	Authors	Journal name	No of citations
2016	Bitcoin, gold and the dollar–A GARCH volatility analysis	Dyhrberg A.H.	Finance Research Letters	559
2016	The inefficiency of Bitcoin	Urquhart A.	Economics Letters	526
2015	Speculative bubbles in Bitcoin markets? An empirical investigation into the fundamental value of Bitcoin	Cheah E.-T., Fry J.	Economics Letters	498
2018	Exploring the dynamic relationships between cryptocurrencies and other financial assets	Corbet S., Meegan A., Larkin C., Lucey B., Yarovaya L.	Economics Letters	450
2018	Bitcoin: medium of exchange or speculative assets?	Baur D.G., Hong K., Lee A.D.	Journal of International Financial Markets, Institutions and Money	396
2018	A survey on security and privacy issues of Bitcoin	Conti M., Sandeep K.E., Lal C., Ruj S.	IEEE Communications Surveys and Tutorials	384
2015	What are the main drivers of the Bitcoin price? Evidence from wavelet coherence analysis	Kristoufek L.	PLoS ONE	382
2013	Bitcoin meets Google Trends and Wikipedia: quantifying the relationship between phenomena of the Internet era	Kristoufek L.	Scientific Reports	380
2016	The economics of Bitcoin price formation	Ciaian P., Rajcaniova M., Kancs D.	Applied Economics	379
2016	Hedging capabilities of Bitcoin. Is it the virtual gold?	Dyhrberg A.H.	Finance Research Letters	344

Source(s): Author's own compilation from the Scopus database

Table 2.
Top ten the most cited articles

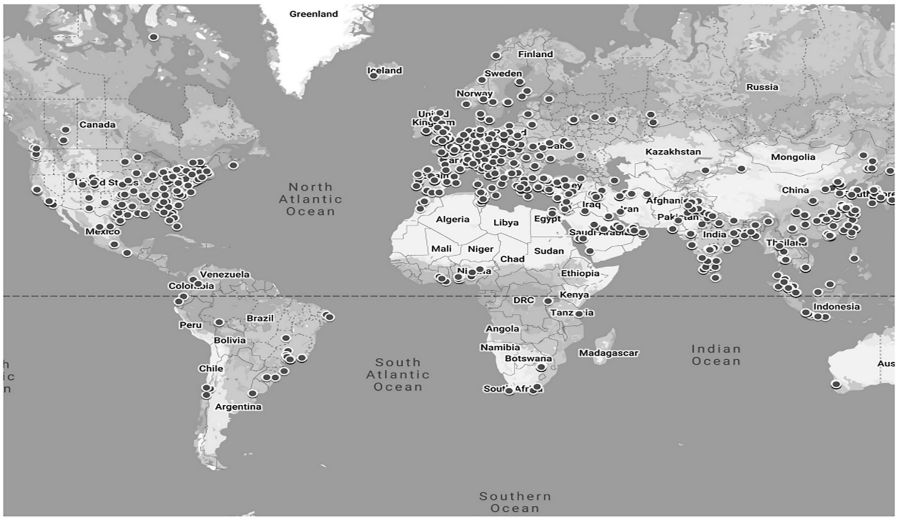


Figure 4.
Geographical distribution

Source(s): Own Compilation from Scopus Database using Geocode by Awesome Table

3.5 Pivotal institutions

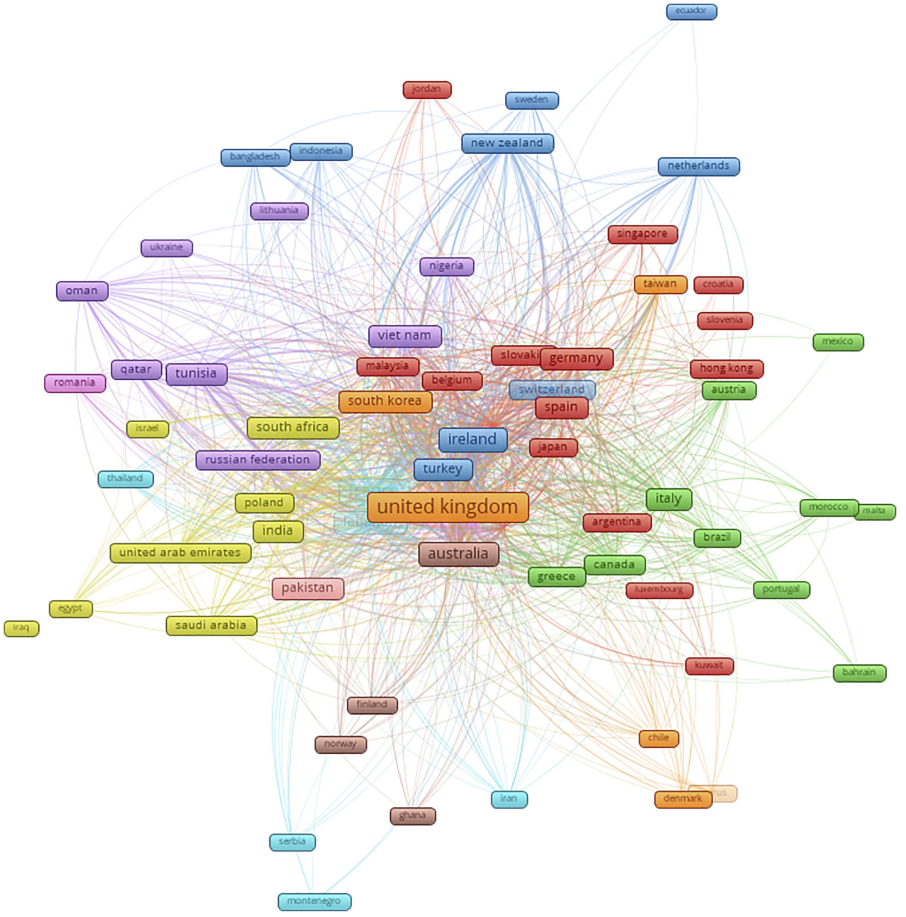
The highest ranking among the pivotal institutions is of "DCU Business School, Dublin City University, Dublin 9, Ireland" with a total of 14 documents, 992 citations, and 208 link strengths. This institution is followed by "Trinity Business School, Trinity College Dublin, Dublin 2, Ireland" with a total of 10 documents, 890 citations, and 204 link strengths. Again, in terms of the number of published documents, the next ranked institutions are "USEK Business School, Holy Spirit University Of Kaslik, Jounieh, Lebanon" with 11 documents, but has the highest number of citations as 1,032; "Montpellier Business School, Montpellier, France" with a total of ten documents and 737 citations, and "Department Of Economics And Finance, College Of Economics and Political Science, Sultan Qaboos University, Muscat, Oman" with a total of seven documents and 310 citations. A minimum of three documents and three citations have been used to draw the map (Figure 6). Thus, European countries, mainly Ireland and France are doing extensive research.

3.6 Top journals

Table 3 and Figure 7 shows the sources on the basis of citations. To draw the map, the minimum number of documents and citations was fixed at five. Finance Research Letters, Economics Letters, International Review of Financial Analysis and Research in International Business and Finance are the pioneer journals that have worked on the topic.

3.7 Prominent authors

Table 4 and Figure 8 show the author's order according to the number of articles on the topic. E. Bouri, D. Roubaud and S. Corbet have been leading on the basis of number of publications, H Index, and Total Citations. Y. LI has a large number of articles but the citation is less as compared to the other three authors. Figure 9 shows that both the top authors E. Bouri and D. Roubaud have also collaborated extensively. Similarly, S. Corbet and B. Lucey have good collaboration with each other.



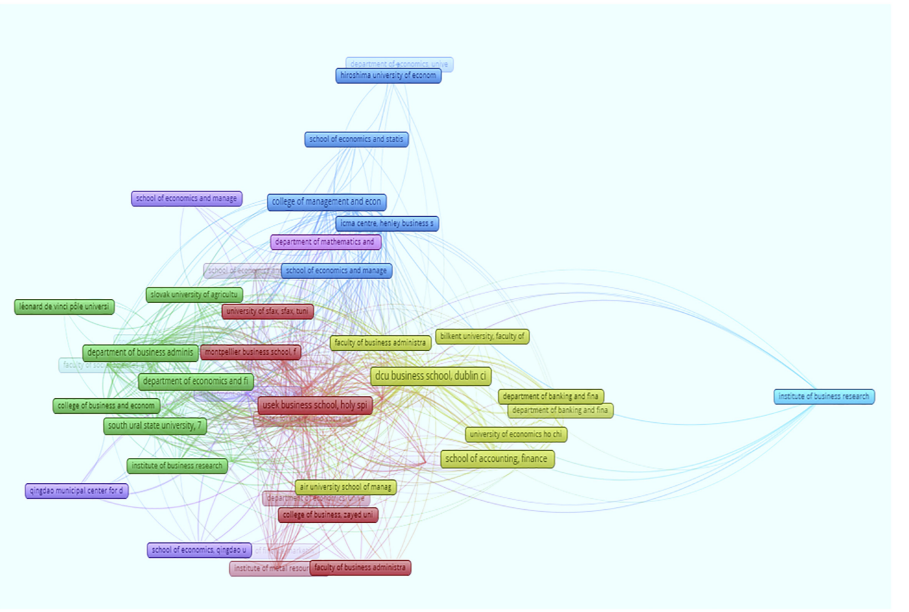
Source(s): Own Compilation from Scopus Database using Vos Viewer

Figure 5.
Grouping by country and citations

3.8 Trend analysis

Using the VOSViewer software and R (Bibliometrix package), a series of clusters have been identified indicating the frequency and evolution of the author's keywords (minimum occurrence fixed as ten for identifying more frequent keywords) (Figure 10). Also, three fields plot of top keywords plus, sources and author's keywords give us an account of trending topics (Figure 11). The results of both graphs show some similarities in terms of key concepts that are maintained over time. Cryptocurrency/Cryptocurrencies, bitcoin has been the base themes with other crucial issues such as volatility, hedging, COVID-19 pandemic, Ethereum, blockchain, co-integration, portfolio diversification/optimization, spillover, safe haven, investor attention, gold, etc. Sankey diagram (Figure 11) shows the relationship between sources (center), keyword plus (left) and author's keywords (right). The size of the nodes represents the frequency of the item and lines show the connection between them.

According to Zhang *et al.* (2016), keyword plus is more effective than the author's keywords in the bibliometric analysis even though these are less representative of the article's content. *Finance Research Letters* have been published on varied themes. The



Source(s): Own Compilation from Scopus Database using Vos viewer

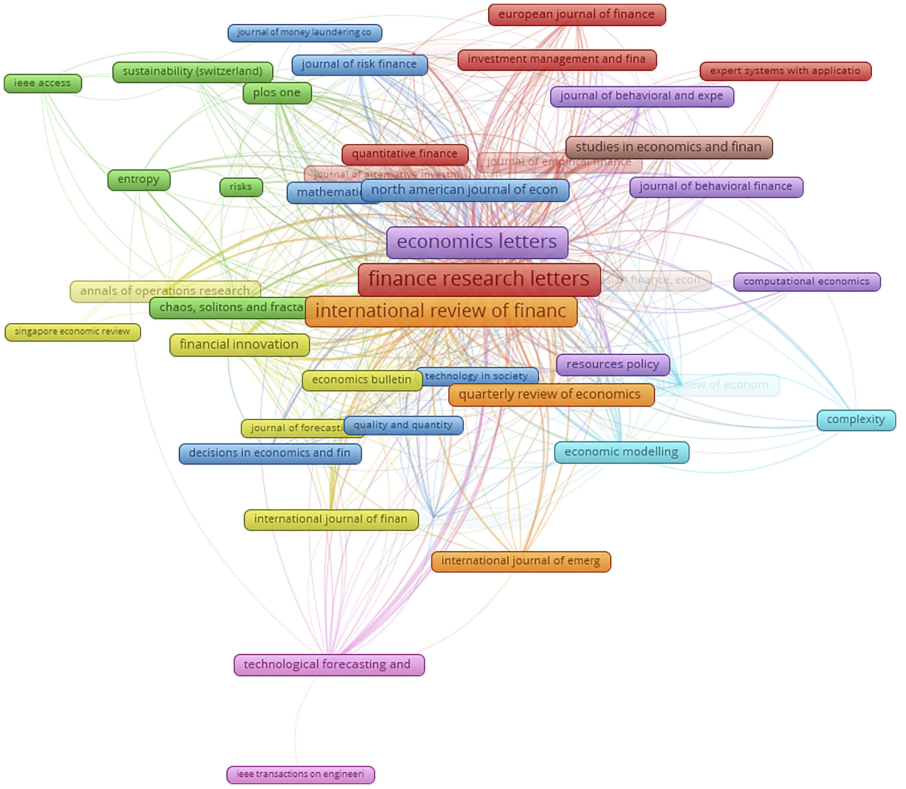
Figure 6.
Cluster map of institutions on the basis of citations and total link strength

Sr. no	Element	h_ index	g_ index	m_index	TC	NP	PY_ start
1	FINANCE RESEARCH LETTERS	27	57	3.857142857	3419	89	2016
2	ECONOMICS LETTERS	17	26	2.125	2937	26	2015
3	INTERNATIONAL REVIEW OF FINANCIAL ANALYSIS	18	35	3.6	1696	35	2018
4	RESEARCH IN INTERNATIONAL BUSINESS AND FINANCE	17	32	2.833333333	1085	42	2017
5	PHYSICA A: STATISTICAL MECHANICS AND ITS APPLICATIONS	16	29	2.666666667	874	31	2017
6	JOURNAL OF INTERNATIONAL FINANCIAL MARKETS, INSTITUTIONS, and MONEY	8	13	1.6	834	13	2018
7	PLOS ONE	7	13	0.777777778	730	13	2014
8	APPLIED ECONOMICS	6	16	0.75	707	16	2015
9	IEEE COMMUNICATIONS SURVEYS AND TUTORIALS	2	2	0.4	503	2	2018
10	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	11	16	2.75	468	16	2019

Source(s): Author's own compilation from the Scopus database using Biblioshiny

Table 3.
Sources on the basis of total citations (top ten journals)

publications of the second most influential Node, *Physica a: Statistical Mechanics and Applications* are closely related to concepts of "Ethereum, bitcoin, and investments" along with author's keywords "of bitcoin, volatility, COVID-19, hedging, safe haven, gold, blockchain". *Research in International Business and Finance* follows the same trend in terms of authors' keywords. *IEEE Access* has a wide trend in terms of keywords plus such as



Source(s): Own Compilation from Scopus Database using Vos viewer

Figure 7.
Cluster map of journals (sources) on the basis of citations and total link strength

"blockchain, investments, bitcoin, Ethereum" and author's keywords as "cryptocurrency, bitcoin, blockchain, COVID-19".

The conceptual structure map (Figure 12) Of the MCA keyword plus shows two main clusters in different colors that coincide with the driving theme of these publications. According to the conceptual structure, the research is largely on topics like forecasting, time series analysis, alternative asset classes such as gold, COVID-19, price dynamics/prediction, stock market, empirical analysis, financial system/market, internet and electronic commerce and the technological evolution such as machine learning.

3.9 Thematic map

Porter's derivation algorithm has been used for thematic maps to reduce the number of words used in a root form. Both show that regardless of the analysis used and keywords, the central topics are bitcoin, cryptocurrency, stock market and investments, and other important themes are Ethereum, blockchain network and electronic money (Figure 13).

Figure 14 shows a thematic division into three different periods on the basis of the title of the articles. Cryptocurrency, bitcoin, network/internet and digital have been the most frequently used words in the titles of articles. From 2012 to 2015, bitcoin was the most important cryptocurrency and most of the work has been done on it during this period. From 2016 to 2020, "blockchain" picked up, and from 2020 to 2022, "COVID-19" has been used

Authors	Number of articles	Articles fractionalized	TC	H index	PY_start
BOURI E	26	7.35	1,476	16	2017
LI Y	23	6.10	250	7	2018
CORBET S	20	5.50	1,076	13	2017
ROUBAUD D	15	4.07	1,345	13	2017
ZHANG Y	13	4.12	85	4	2019
KANG SH	12	3.30	227	9	2019
TIWARI AK	12	3.58	537	8	2015
URQUHART A	12	6.42	1,264	9	2016
GUPTA R	11	3.17	635	8	2017
WANG P	11	3.17	267	7	2018
LI X	10	2.59	154	6	2018
LUCEY B	10	2.47	980	8	2018
SENSOY A	10	2.72	193	7	2019
BEKIROS S	9	3.92	309	8	2018
REHMAN MU	9	3.78	168	7	2019
SU C-W	9	2.15	307	7	2019
TAO R	9	2.15	267	6	2019
WANG S	9	2.51	95	4	2017
WANG Y	9	2.64	220	5	2018

Table 4.
Distribution by the author

Source(s): Scopus database: author's own compilation using R studio

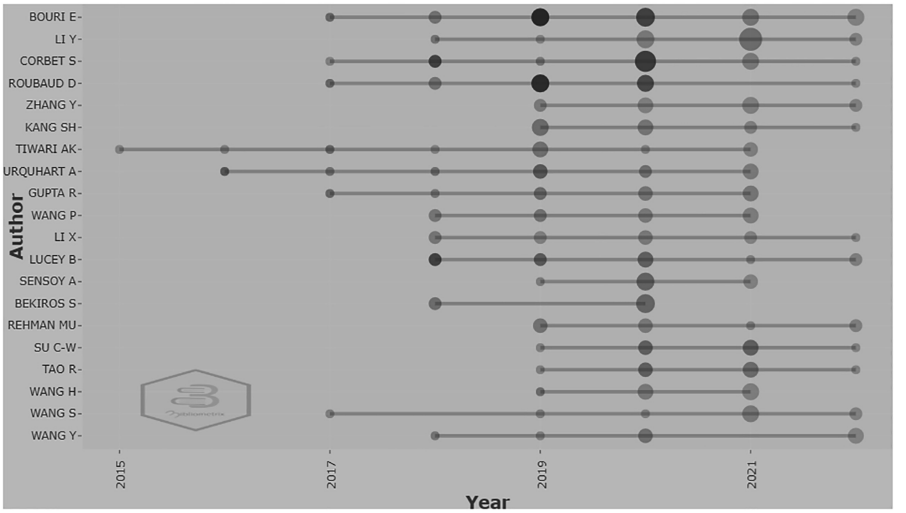


Figure 8.
Top author's production over the time

Source(s): Own Compilation from Scopus Database using R Studio

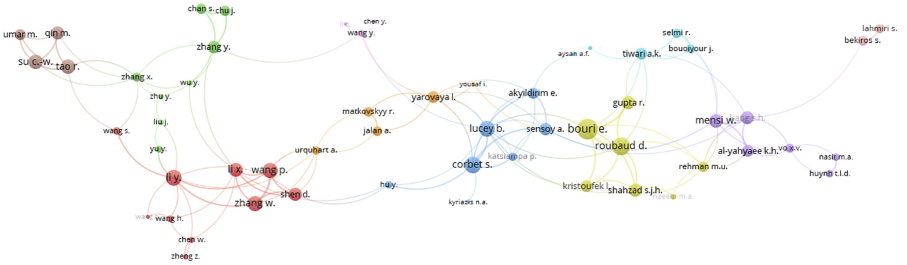
frequently in the titles of articles. Figure 15 shows a thematic division into four different periods on the basis of keywords plus.

Since 2016, cryptocurrency and investment have been used as keywords. Then, the environment, crime, blockchain technology, intelligent systems and COVID-19 became popular keywords. Lot of research is also done on crime relate aspects of investments in these assets (Turner, McCombie, & Uhlmann, 2019; Albrecht, Duffin, Hawkins, & Rocha, 2019). Based on the blockchain network analysis, this technology and smart contracts are potential areas in cryptocurrency-related studies (Xu *et al.*, 2019; Chang, Chen, & Lu, 2019).

4. Summary and conclusions

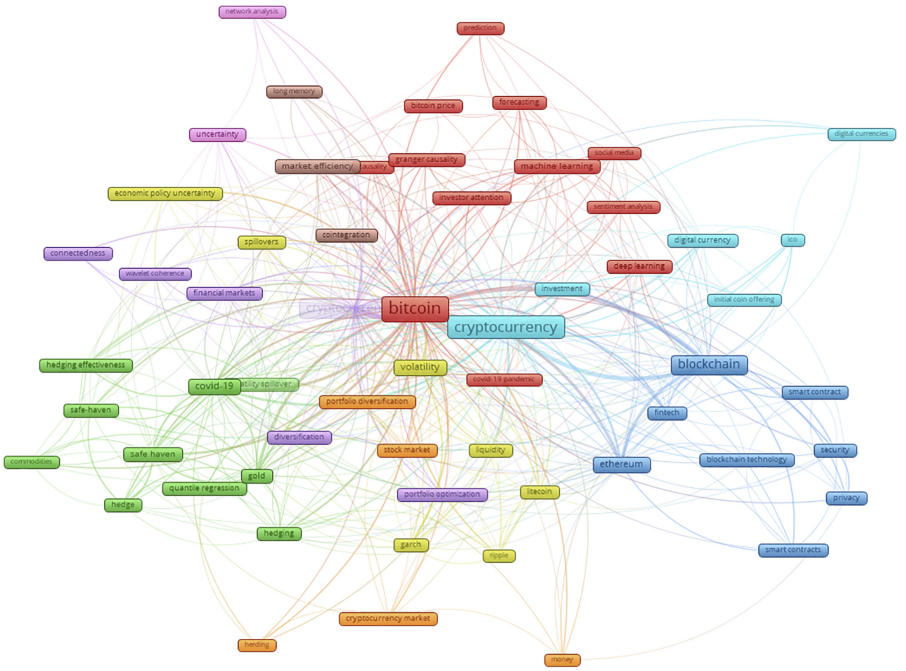
The study analysed the bibliometric trends from 2012 onwards. Bibliometric information was extracted from the Scopus database. The search criterion was "cryptocurrency", "Ethereum" or "Bitcoin" along with "investment/s" or "speculation/s" in the Title/ABS/KEY to get the concentrated results. The results show a positive evolution in terms of the number of articles published and citations with a growing interest and relevance in recent years (Table 1 and Figure 2). The main topics or research areas that contain concepts related to cryptocurrency are in the subject areas of economics, econometrics and finance (Figure 3).

The countries such as the UK, Australia, China and the USA, stand out in terms of citations and groupings. Asian continent is emerging as a potential researcher on the basis of geographical analysis. A more in-depth analysis shows that the main journals and authors belonging to the ranking also belong to the countries with the highest number of publications



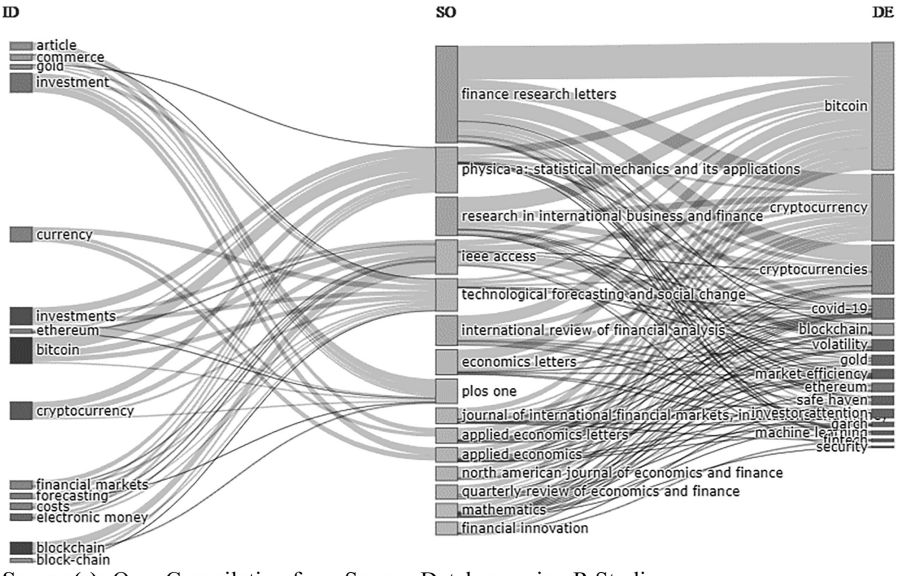
Source(s): Own Compilation from Scopus Database using Vos viewer

Figure 9.
Author cluster



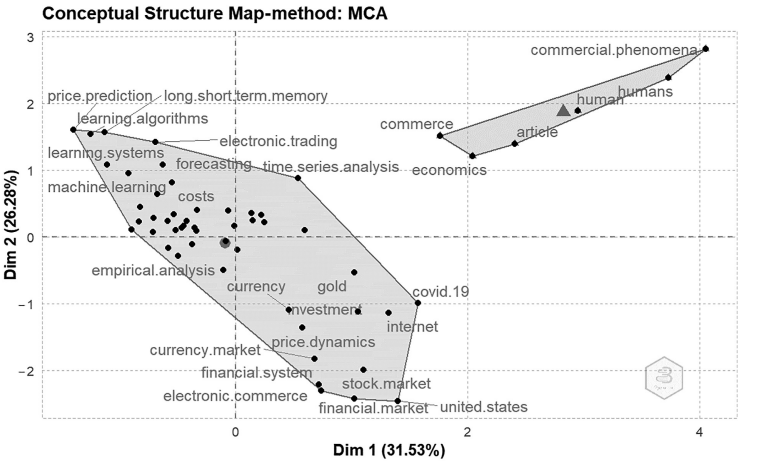
Source(s): Own Compilation from Scopus Database using VOS viewer

Figure 10.
Cluster map on the basis of the author's keywords



Source(s): Own Compilation from Scopus Database using R Studio

Figure 11.
Three fields plot on the basis of keywords plus, sources and the author's keywords

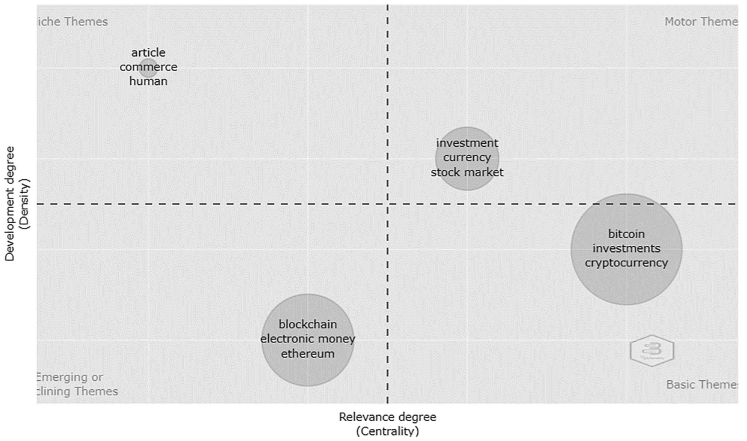


Source(s): Own Compilation from Scopus Database using R Studio

Figure 12.
Conceptual structure map

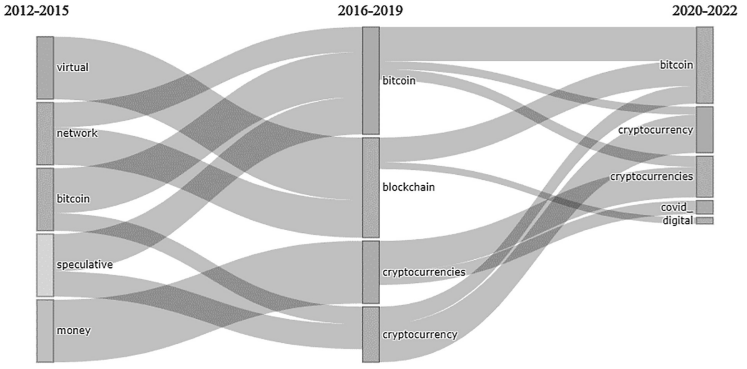
and citations (Figures 4 and 5). The pivotal institution that has focused on the theme is "DCU Business School, Dublin City University, Dublin 9, Ireland" followed by "Trinity Business School, Trinity College Dublin, Dublin 2, Ireland" on the basis of the number of documents, citations and link strengths (Figure 6). Finance Research Letters, Economics Letters, International Review of Financial Analysis and Research in International Business and Finance are the pioneer journals that have worked on the topic (Table 3).

E. Bouri, D. Roubaud and S. Corbet have been the most influential authors in terms of the number of publications, H Index and total citations (Table 4 and Figures 7–9).



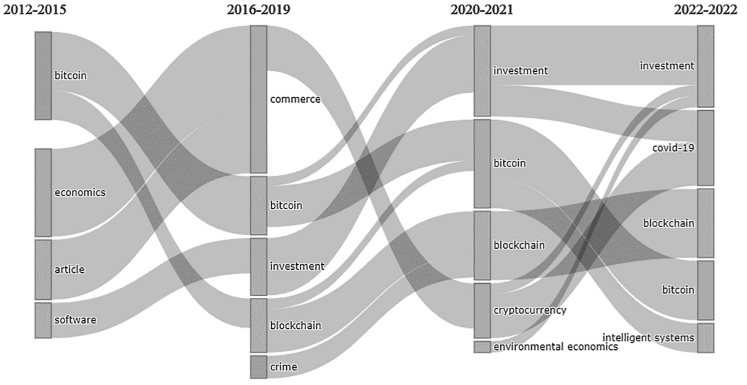
Source(s): Own Compilation from Scopus Database using R Studio

Figure 13.
Thematic map



Source(s): Own Compilation from Scopus Database using R Studio

Figure 14.
Thematic evolution on the basis of titles



Source(s): Own Compilation from Scopus Database using R Studio

Figure 15.
Thematic evolution on the basis of keyword plus

Cryptocurrency/Cryptocurrencies, bitcoin have been the base themes along with other critical issues such as volatility, hedging, COVID-19 pandemic, Ethereum, blockchain, co-integration, portfolio diversification/optimization, spillover, safe haven, investor attention, gold, etc (cluster map; Figure 10 and three fields plot; Figure 11). Interdisciplinary studies involving the use of technology, criminology, philosophy and psychology along with basic subject areas of commerce/business and finance have great potential for future researchers (conceptual structure; Figure 12).

The current study also found that the earlier studies were mostly related to the speculative nature of cryptocurrency/bitcoin. The trend of the present research is wide and varied such as diversification, linkages with other assets, hedging and investment patterns (thematic maps; Figures 13, 14 and 15). Table 2 (top ten most cited articles) shows research on areas such as risk, volatility, inefficiency, speculative bubbles, security features, price formation and hedging. The trend of the bibliometric research shows there is lot of research on Crypto as a short-term asset and its speculation benefits and other associated risks/linkages, etc. There is hardly any research where in Crypto has been studied as a long-term investment asset. Thus, Crypto might be profitable as a speculative asset but it is not suitable for long-term investment purposes.

The study has some limitations. Firstly, the field of studies is based on only one academic database and that is Scopus. Secondly, the type of document included in the analysis has been limited to articles. The use of other important databases, such as Google Scholar and Web of Sciences, could have been used for wider coverage of the articles.

There is a lot of risk in cryptocurrency as the market is highly volatile and it is subject to bubbles in cryptocurrency markets (Corbet *et al.*, 2018; Cheah and Fry, 2015; Urquhart, 2016). Cryptocurrencies' basic security model might not be reliable (Auer, 2019). There is ample debate on the legal nature of cryptocurrencies, as well (Fröwis & Böhme, 2017; Walch, 2019). Investors may also consider regular rebalancing of the portfolio, which could help increase its profitability (Saksonova, & Kuzmina-Merlino, 2019).

The research provides an opportunity to explore the important bibliometric trends on the theme. Future researchers can benefit in terms of identifying potential research topics. Cryptocurrency has been challenging to deal with for all the Governments across the world in spite of issuing various advisories. The author recommends that cryptocurrency is a risky asset class as explained in the paper; therefore, avoidance is the best approach for investors seeking a perspective over the long term.

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Corresponding author
Sakshi Vasudeva can be contacted at: sakshivasu7@gmail.com