

## Financial literacy: Bibliometric analysis for the period of 1990–2021

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### Abstract

Financial literacy is the ability to understand and effectively use various financial skills, including personal financial management, budgeting and investing. Financial literacy is the foundation of a person's relationship with money, and it is a lifelong journey of learning. This paper aims to analyse the publications on financial literacy, and their intellectual structure and networking. The bibliometric data on financial literacy research have been extracted from the Scopus database. This study finds the most productive countries, universities, authors, journals and most prolific publications in financial literacy, by examining the published works. Also, the study visualises the intellectual network by mapping bibliographic coupling and co-citation. The study's essential contribution is the analysis of financial literacy developments and trajectories that can help scholars and practitioners to appreciate the trend and future studies.

Keywords: Bibliometric analysis, financial literacy, review;

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## 1. Introduction

Financial literacy means that individuals have both the knowledge and the skill that allows them to understand their financial resources and make informed financial decisions (Alsmadi et al., 2019; Lusardi, 2019; Yaseen & Qirem, 2018). Today, revitalisation of personal finances is the focus of government-supported programmes in many countries such as Australia, Canada, Japan, the United States of America and the United Kingdom. Being aware of financial concepts helps people learn how to behave within the financial system, so it is observed that people who are adequately financially literate manage their money and make better financial decisions than those who do not have this knowledge.

Why is financial education so important? Ignorance of it has become true illiteracy because of its negative effects on the individual and society; and because we start with real financial friction at the beginning of the university stage, and from it, the friction increases with many responsibilities. These are the best moments for education, the ones that precede a financial decision. Learning how to get money, how to spend it, how much to save and when to start converting what is saved into investments are things that one must learn because these concepts and knowledge of them are life skills that will affect our lives for many years to come, make us able to interact with society to our advantage, including making sound financial budgets, understanding what we have of money with others and what we owe. Financial education gives us the ability to make financial decisions and judge our consumers' choices. Therefore, financial education enables us how to manage our money and provides us with the appropriate financial tools to help us have a stable financial life (Goyal & Kumar, 2021; Urban, Schmeiser, Collins, & Brown, 2018).

Financial education affects individuals' financial behaviours, which are divided into short- and long-term behaviours (Alsmadi, Oudat, & Hasan, 2020; Kaiser, Lusardi, Menkhoff, & Urban, 2022). Short-term behaviours have a regular and rapid return, whether this return is in the form of profit or loss. As for long-term behaviours, the returns to them take time and do not appear directly or regularly, but it appears later in the course of life. Therefore, financial education affects more positively long-term behaviours, for it gives us fore-direction of what we should do, the dimensions of what we do and the consequences thereof. This gives us an idea of what our return will be, unlike short-term action–reaction behaviours, in which our education is automatically faster through apparent experience, and our education pays better if preceded by financial guidance.

We will review in a simplified way the most important financial activities that resulted from many types of research to know the most important skills and knowledge that the responsible individual needs to improve his financial behaviour. These can be grouped into four categories: cash flow management, credit and debt management as examples of short-term behaviour, and saving and investing as examples of long-term behaviour.

### 1.1. Purpose of the study

This paper aims to analyse the publications on financial literacy and their intellectual structure and networking. This paper intends to contribute to the existing literature by addressing the following questions:

- In the Scopus database, what is the historical trend of scientific products and the number of financial literacy researches?
- How is the trend of scientific production of financial literacy researchers in terms of subjects/fields?
- What are the critical intellectual and influential aspects of financial literacy literature?
- What is the future research direction of financial literacy?

The findings of this paper could provide some future study directions for the interested authors. Moreover, Table 1 represents the literature reviews on financial literacy.

## 2. Materials and methods

A bibliometric analysis approach has been used in this paper. Pritchard (1969) was among the first researchers to utilise it. The approach has acquired more recognition as an effective tool to conduct a quantitative analysis to gain a deeper understanding of the literature.

### 2.1. Data collection

Since articles from the Scopus database are more reputable, it was utilised as a source for analysing publications focused on financial literacy. Since the first article based on financial literacy in the *Journal of Development Economics* in 1990, the bibliometric analysis will utilise publications from 1990 to 2022. All journal publications from 1990 to 2022 are exported in comma-separated values and plain text format, containing keywords, citations and bibliographic information. A total of 862 publications are retrieved and used for the analysis for providing representative and informative perspectives of the information on the topic.

Researchers such as Pratikno (2018); Zyoud, Al-Jabi, Sweileh, and Awang (2014); Kamdem et al. (2019); Yessirkepov, Nurmashiev, and Anartayeva (2015); Mokhtari, Roumiyani, and Saberi (2019); and Batooli, Ravandi, and Bidgoli (2016) have derived data in their research from the Scopus database.

### 2.2. Materials

Table 1. Summary of the literature reviews on the financial literacy

Author Name/year	Article title	Source	Findings
Lusardi and Mitchell (2014)	The economic importance of financial literacy: Theory and evidence	Journal of Economic Literature	This paper assesses a rapidly growing body of economic research on financial literacy. While the literature is still young, conclusions may be drawn about the effects and consequences of financial illiteracy and what works to remedy these gaps. A final section offers thoughts on what remains to be learned if researchers are to better inform theoretical and empirical models as well as public policy.
Van Rooij, Lusardi, and Alessie (2011)	Financial literacy and stock market participation	Journal of Financial Economics	This paper found that the majority of respondents display basic financial knowledge and have some grasp of concepts such as interest compounding, inflation and the time value of money.

Lusardi and Mitchell (2007)	Baby boomer retirement security: The roles of planning, financial literacy and housing wealth	Journal of Monetary Economics	We compare wealth holdings across two cohorts of the health and retirement study: the early baby boomers in 2004 and individuals in the same age group in 1992. Levels and patterns of total net worth have changed relatively little over time, although boomers rely more on housing equity than their predecessors. Most important, planners in both cohorts arrive close to retirement with much higher wealth levels and display higher financial literacy than non-planners. Instrumental variable estimates show that planning behaviour can explain the differences in savings and why some people arrive close to retirement with very little or no wealth.
Fernandes, Lynch, and Netemeyer (2014)	Financial literacy, financial education and downstream financial behaviours	Management Science	Find that interventions to improve financial literacy explain only 0.1% of the variance in financial behaviours studied, with weaker effects in low-income samples. Like other education, financial education decays over time; even large interventions with many hours of instruction have negligible effects on behaviour 20 months or more from the time of intervention. Correlational studies that measure financial literacy find stronger associations with financial behaviours. We conduct three empirical studies, and we find that the partial effects of financial literacy diminish dramatically when one controls for psychological traits that have been omitted in prior research or when one uses an instrument for financial literacy to control for omitted variables. Financial education as studied to date has serious limitations that have been masked by the larger effects in correlational studies.
Huston (2010)	Measuring financial literacy	The Journal of Consumer Affairs	This article summarises a broad range of financial literacy measures used in research over the last decade. An overview of the meaning and measurement of financial literacy is presented to highlight current limitations and assist researchers in establishing standardised, commonly accepted financial literacy instruments.

Figure 1 shows the importance of financial literacy policies as reflected in the various discussions by researchers and scientists.

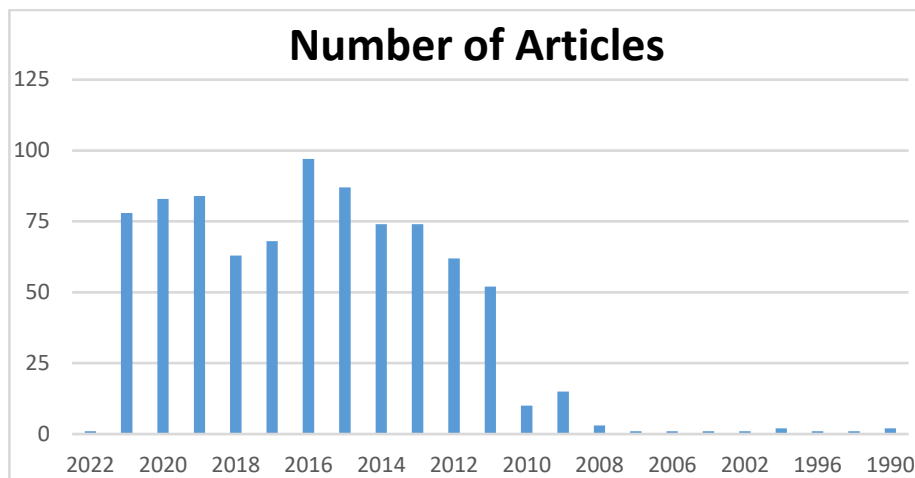


Figure 1. The number of relevant publications

### 2.3. Procedure

This paper started by providing a summary of the literature from recent publications, intending to prove a broader picture of relevant research conducted in this field. Section 2 provides an overview of the research database and methodology, including the data collection strategies used and filtered data. Section 3 provides further discussions. Section 4 includes the conclusion of the paper and the future directions.

### 2.4. Analysis

Identification of essential parts of the scientific publications was carried out through clustering techniques. For data analysis, the software VOS viewer and Excel software were used in the study. VOS viewer software facilitates bibliometric analysis by creating co-occurrences maps, co-authorship and co-citation. Other features such as searching, magnification and navigating found in the software have made it a necessary tool in the study. Figure 2 shows a summary of the applied methodology in this paper.

## 3. Results

The bibliometric analysis addresses the following questions:

The papers are published in which journals?

Which are the countries of origin for these authors?

What are the fundamental interests and words from each study?

How are the papers cited in the literature?

Table 2. Distribution of the journals (publications over six)

Sources	Articles	Sources	Articles
Journal of Consumer Affairs	52	International Journal of Bank Marketing	33
Journal of Financial Counselling and Planning	51	Journal of Family and Economic Issues	31
International Journal of Consumer Studies	45	Journal of Behavioural and Experimental Finance	25

Journal of Pension Economics and Finance	40	Citizenship Social and Economic Education	24
International Handbook of Financial Literacy	39	International Journal of Social Economics	21

### 3.1. Distribution of journals

Table 2 lists the journals based on the number of publications according to the number of publications in the study sample. The most influential journal that publishes works related to the study’s objective is the *Journal of Consumer Affairs*.

Five key journals appearing in this list have published many publications in financial literacy and other fields: *Journal of Financial Counselling and Planning*, *International Journal of Consumer Studies*, *Journal of Pension Economics and Finance*, *International Handbook of Financial Literacy* and *International Journal of Bank Marketing*.

Notably, financial literacy gained recognition from finance journals, regardless of its broadly acknowledged significance and the urgency for regulatory tools and relevant policies. More research is needed to bring financial literacy to the attention of mainstream sources of financial and economic analysis to fill the vacuum in the existing literature.

In addition, more academic researchers from diverse disciplines are interested in this area. Although, currently, limited publications are produced, several finance journals and events in the leading stream of economy and previous years are linked to significant outputs (e.g., 2018 RFS Climate Finance Initiative in London<sup>3</sup>). The inadequacy of relevant research means that there is potential for new considerable research in financial literacy (Allianz, 2017). The paper aims at showing that more opportunity exists.

### 3.2. Country of origin of the authors

It is important to investigate the regions in which the research on financial literacy originates. The study links this idea to the countries of the authors’ origin. Figure 3 shows information on the countries from which the authors originate. The information shows that recent progress in research on financial literacy is mainly from the United States, China, the United Kingdom and other developed countries. The dominant researchers in this field are based in China, the United States and the United Kingdom. Influential international organisations such as the UN and the World Bank base their headquarters in one of these countries to encourage and facilitate research.

Among the significant emerging contributors are Saudi Arabia, Ireland, Iran and other emerging economies. Based on the sizes of these countries, it is necessary to hold active debates discussing financial literacy topics. There lies uneven distribution between the developing and developed countries in terms of the origin of the authors, which means developed countries dominate the field of financial literacy.

The study acknowledged the fact that developed countries have dominated the academic research on financial literacy. Also, the statistics are unlikely to change for a significant amount of time. Therefore, financial literacy issues in countries that are developing ought to be considered as areas of focus in future research.

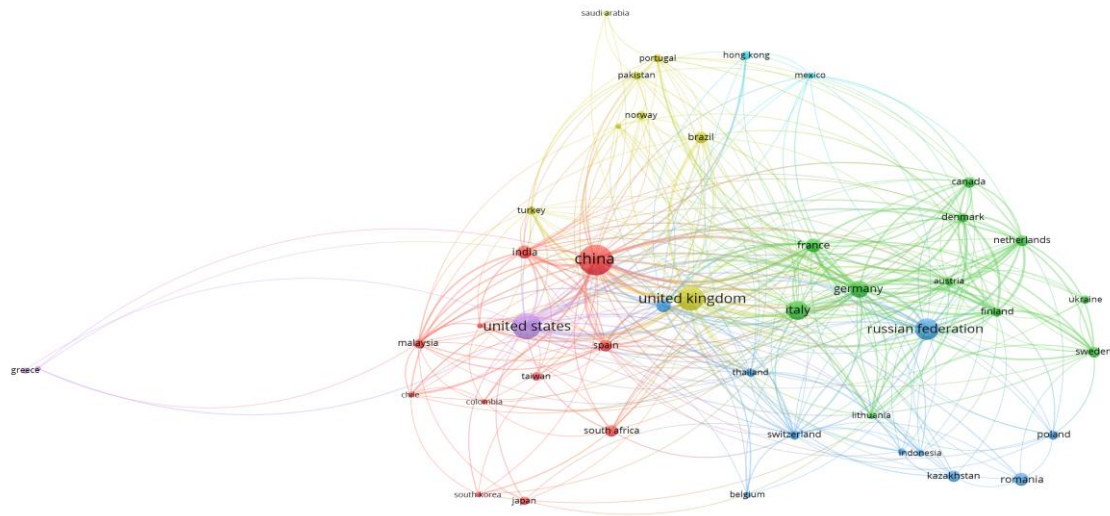


Figure 3. Country of origin of the authors

Table 3. Top 10 keywords

Keyword	Occurrences
Financial literacy	909
Financial education	132
Financial inclusion	85
Literacy	82
Finance	69
Financial knowledge	64
Education	52
Financial behaviour	50
Household finance	45
Personal finance	44

### 3.3. Analysis of the keywords





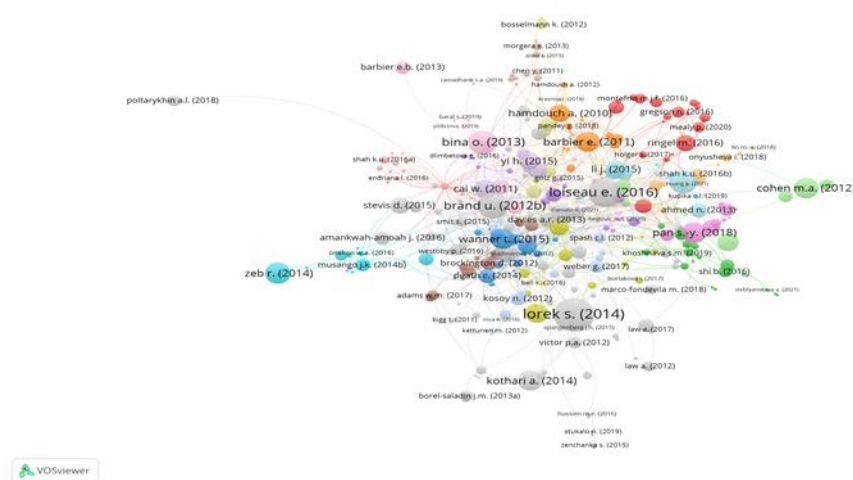


Figure 5. Citation analysis from reference lists

#### 4. Conclusion

The study used the bibliometric approach to provide an analysis of the ongoing trends and status of the development of financial literacy. Using a rank analysis and illustration of critical factors of the publications, we identified vital data that assisted in forming an accurate subject matter description. After analysing the keywords in financial literacy literature, it shows it is important to consider financial literacy as an interdisciplinary research phenomenon that covers policies and investments in climate adaptation and financing. An analysis of the authors' country of origin shows that developed countries dominate most research on financial literacy.

Financial literacy is seen as an essential topic that is gaining more recognition in the academic sphere. Recent literature shows an increased focus on financial literacy, but less interest is paid to finance journals and mainstream economics. This creates a vacuum that allows researchers to look in the following direction in their research:

1. Since financial literacy is a topic based on the economy, this creates a need to look into economic issues using financial techniques and finance perspectives. Also, topics such as green governance, green bonds and management of green risk ought to be in mainstream finance journals.
2. More research on issues of financial literacy from the financial literacy perspective in development would be beneficial to policymakers and regulators to develop well-defined objectives for the policies and to align their goals.

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