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RESEARCH ARTICLE

Determinants of Financing Constraints: A Bibliometric Analysis

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ABSTRACT

Financing constraints are difficulties and limitations a company encounters in obtaining the capital for investment and operations. Financing Constraints may cause negative effects, including restricting corporate growth, reducing production efficiency, increasing financial risk, and undermining financial stability. As a result, this study aims to review the determinants of Financing Constraints in order to provide better financing options, optimise corporate governance, and enhance risk management by mitigating Financing Constraints. In this study, the Scopus database is adopted to collect 360 pieces of empirical journal articles from 1993 to 2024. Furthermore, VOSviewer software and R studio software are adopted to conduct bibliometric analysis. Consequently, the result shows that innovation, digital finance, sustainable development, emission control, firm financial characteristics, R&D, uncertainty, and supply chain management are the common determinants for influencing Financing constraints. Hence, this study is expected to provide insights for researchers to recognise the literature gaps and provide accordance for policymakers and practitioners to mitigate financing constraints.

Keywords: Bibliometric analysis, Determinant, Financing constraints.

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1. Introduction

Financing constraints (FC), as an issue being staged at present, has been the subject of extensive empirical research in past decades. Prior studies have primarily examined the negative economic consequences of financing constraints, especially focusing on their underlying determinants. More specifically, the adverse economic effects of financing constraints identified in previous research can be summarised into four categories, namely restricting corporate growth, reducing production efficiency, increasing financial risk, and undermining financial stability (Table I).

As a result, investigating the determinants of financing constraints can not only theoretically make policy-makers propose policies for mitigating financing difficulties but also can practically benefit corporations in obtaining loans more easily. In other words, there is a contribution examining the determinants of financing constraints.

TABLE I: Negative Economic Consequences of Financing Constraints

Economic consequences	Prior studies
Restricting corporate growth	Moore and Craigwell (2004), Liu *et al*. (2023), Kerr and Nanda (2011)
Reducing production efficiency	Sena (2006), Chan *et al*. (2008)
Increasing financial risk	Atwood *et al*. (1988), Whited and Wu (2006), Wang and Chen (2022), Su *et al*. (2022)
Undermining financial stability	Ayyagari *et al*. (2006), Mertzanis (2020)

2. Methodology

In this study, Scopus database is adopted to collect articles and conduct bibliometric analysis. Financing constraint and its synonym, financial constraint, are used to search in the title field, and combined words, empirical, quantitative, or sample, are used to exclude non-empirical research. After this process, there are 360 pieces of English empirical journal articles related to Financing Constraints (Fig. 1).

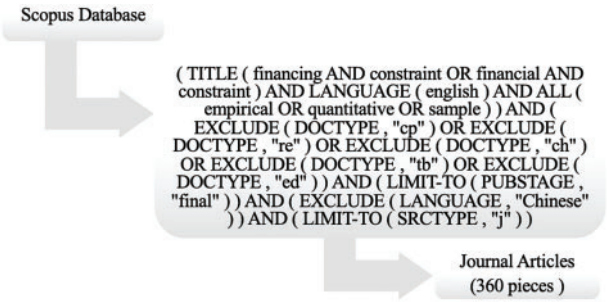

Fig. 1. Journal article sample selection.

Furthermore, VOSviewer software and R Studio software are used to conduct descriptive statistics analysis, co-occurrence analysis, top 10 journals analysis, as well as influential economies and authors analysis in the following section.

3. Findings of Bibliometric Analysis

3.1. *Descriptive Statistic*

The descriptive statistic indicates the influence in terms of articles, research gaps, and research significance. This study includes a total of 360 empirical studies related to financing constraints from 1993 to 2024 (Fig. 2).

The steadily increasing number of studies each year suggests that this topic has garnered significant attention from researchers. The reduction of article numbers in 2024 is due to the search cut-off date, which is 25th April 2024. Additionally, the average growth rate shows an 8.49% increase. In other words, there are still research gaps in this topic.

3.2. *Co-occurrence*

Co-occurrence reveals the determinants of the research topic in bibliometric analysis. By reviewing the determinants of financing constraints, researchers can identify gaps in the literature, raise research questions, and guide future research agendas.

According to the co-occurrence map (Fig. 3), on the one hand, firm internal traditional determinants include firm size, R&D, uncertainty, and supply chain management. On the other hand, external determinants of financing constraints include innovation, digital finance, sustainable development, and emission control. Overall, prior studies have focused on both internal and external determinants of financing constraints.

Meanwhile, to identify publication trends (Fig. 4), this study also summarised the research trends from the past five years (2018–2023). On the one hand, the trends indicate that innovation (including technology and green innovation), green economy, carbon emissions, and digital finance have been the prominent research trends in determinants of financing constraints over the last five years. On the other hand, internal corporate characteristics such as firm size, uncertainty, and R&D were more commonly studied in 2018 and earlier.

3.3. *Top 10 Journals*

Examining the top ten journals for publication can indicate which journals have the most content on financing constraints and obtain insight into topic status. Based on the analysis (Table II), it is observed that all of the top ten journals for publication belong to Scopus Q2 or above. This suggests that research on financing constraints is not only meaningful but also recognised by reputable academic journals. Specifically, *Small Business Economics* is the highest CiteScore journal, followed by Finance Research Letters, with 8 and 13 journal articles, respectively.

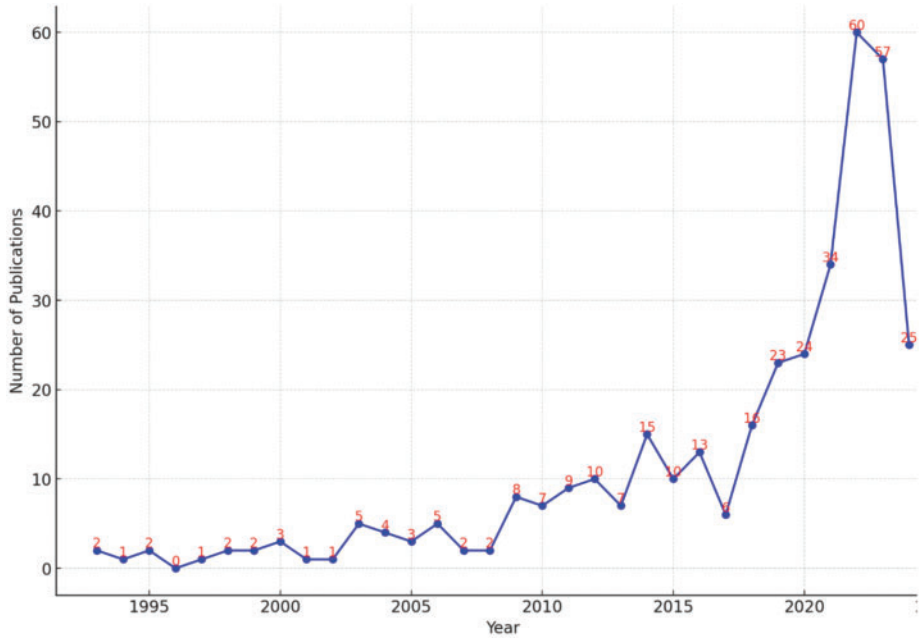

Fig. 2. Number of publications from 1993 to 2024.

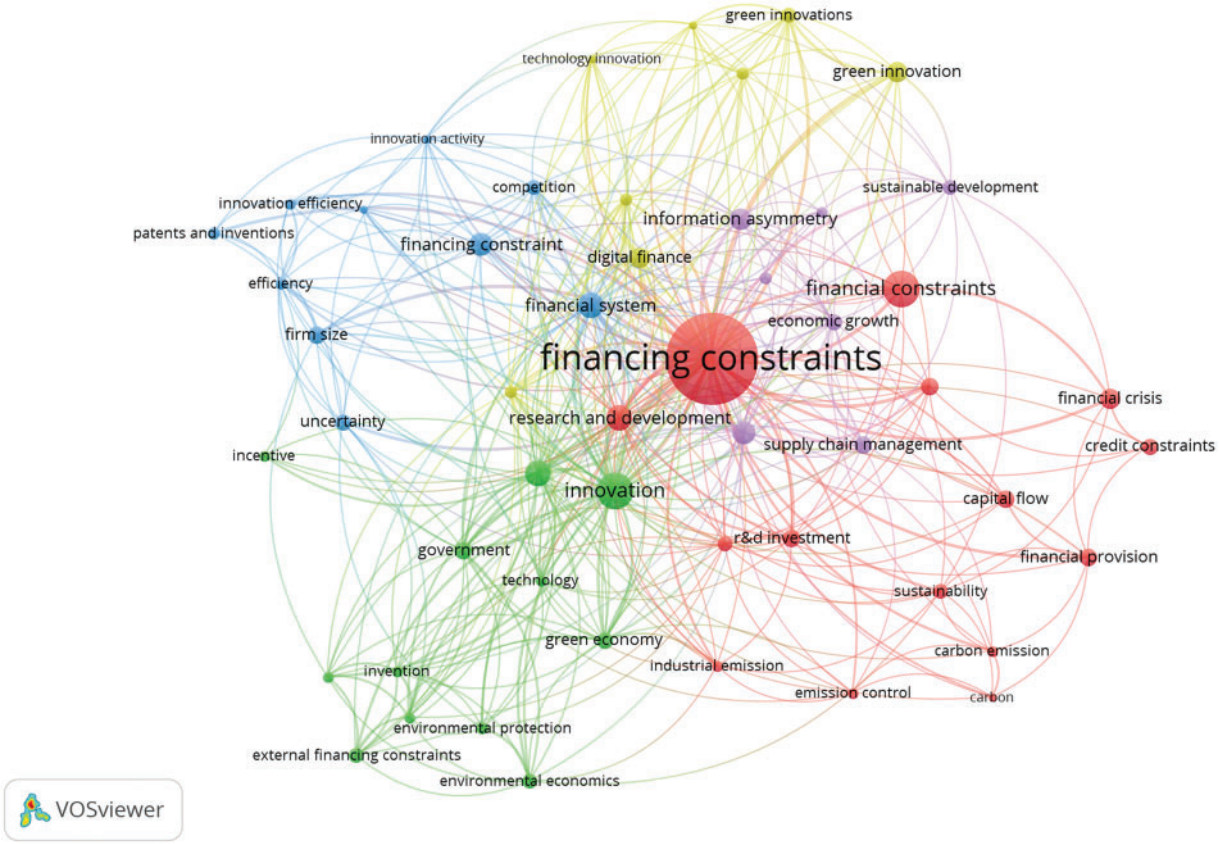

Fig. 3. Co-occurrence map.

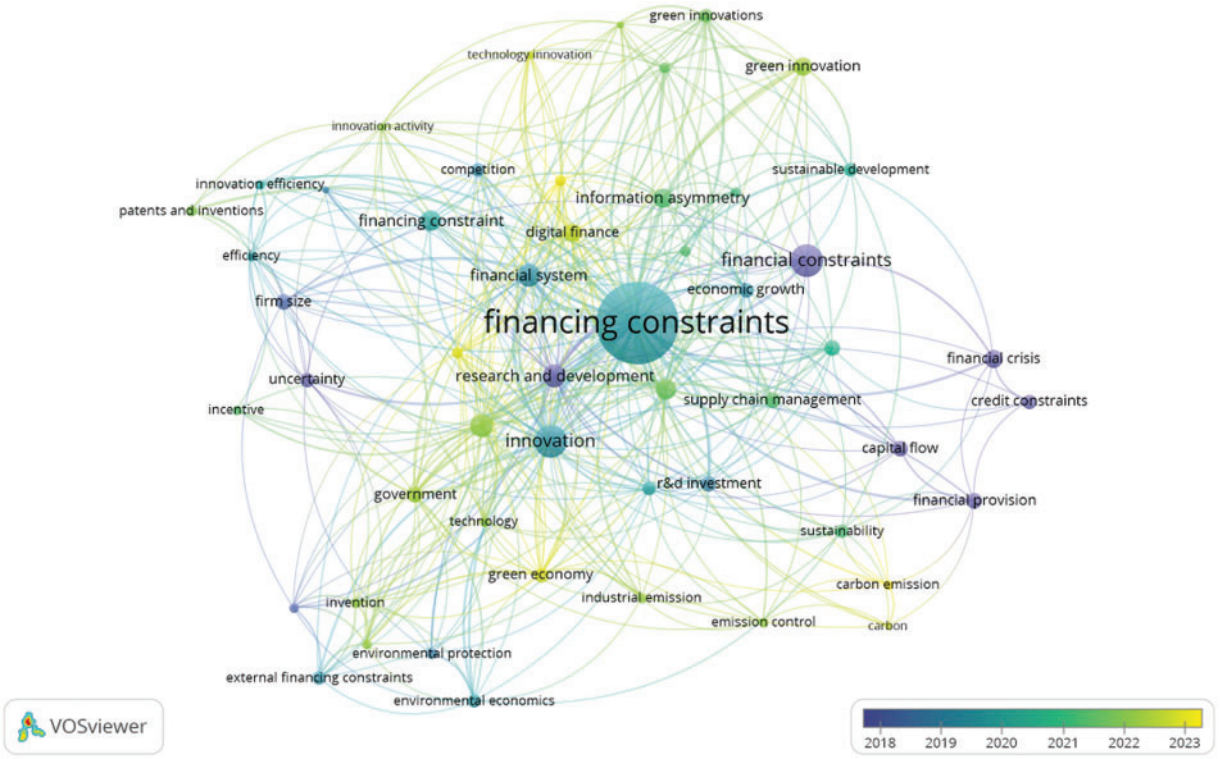

Fig. 4. Publication trend from 2018 to 2023.

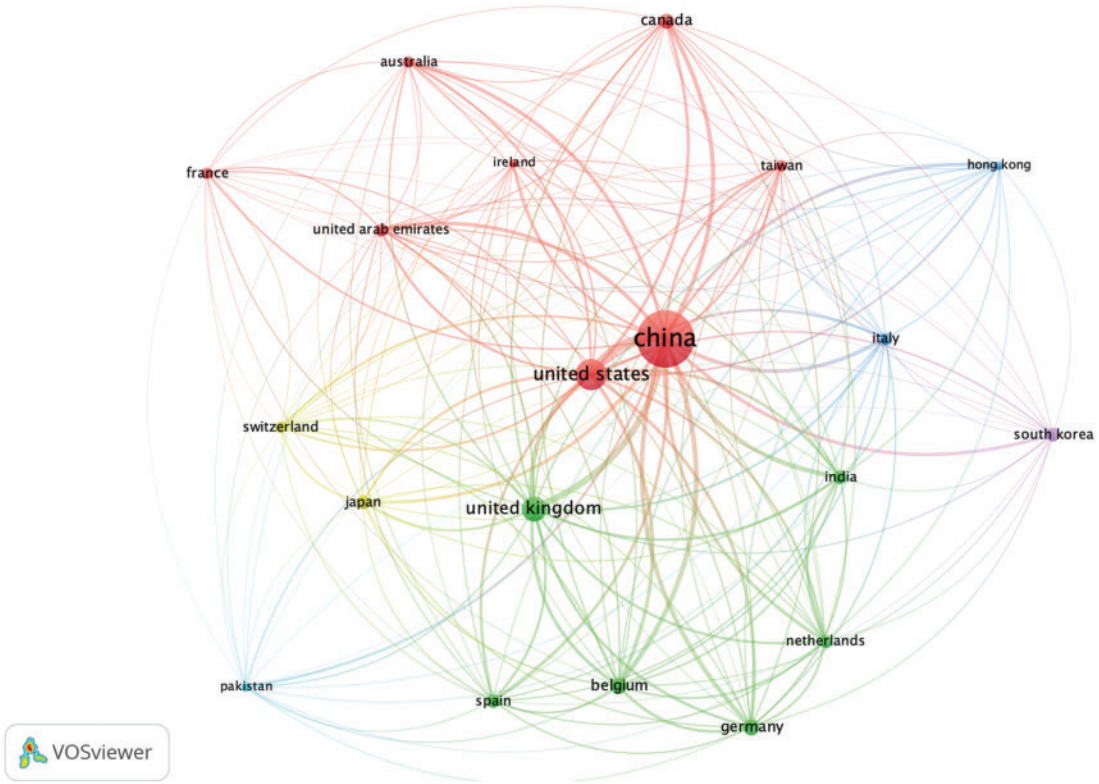

Fig. 5. Economies bibliographic coupling.

TABLE II: Top 10 Journals

Name of journals	Number	CiteScore	Quartile
Sustainability (Switzerland)	20	5.8	Q2
Finance research letters	13	10.8	Q1
Applied economics	8	2.2	Q2
Frontiers in environmental science	8	3.1	Q2
International review of economics & finance	8	5.7	Q1
Journal of corporate finance	8	7.6	Q1
PLoS ONE	8	6.0	Q1
Small business economics	8	12.8	Q1
Journal of banking and finance	7	5.7	Q1
Environmental science and pollution research	6	7.9	Q1

TABLE III: Top 5 Citation Economies

Economies	Total citations	Average article citations
China	2615	17.00
USA	1202	54.60
UK	579	26.30
Belgium	486	81.00
Germany	288	32.00

TABLE IV: Influential Journal Articles

Author and Year	Title	Citation
Kaplan and Zingales (1997)	Do investment-cash flow sensitivities provide useful measures of financing constraints?	2894
Yu *et al*. (2021)	Demand for green finance: Resolving financing constraints on green innovation in China	478
Fazzari and Petersen (1993)	Working capital and fixed investment: New evidence on financing constraints	455
Kaplan and Zingales (2000)	Investment-cash flow sensitivities are not valid measures of financing constraints	423
Rauh (2006)	Investment and financing constraints: Evidence from the funding of corporate pension plans	354
Czarnitzki and Hottenrott (2011)	R&D investment and financing constraints of small and medium-sized firms	285
Laeven (2003)	Does financial liberalization reduce financing constraints?	230
Carbó-Valverde *et al*. (2009)	Bank market power and SME financing constraints	214
Hottenrott and Peters (2012)	Innovative capability and financing constraints for innovation: More money, more innovation?	213
Ding *et al*. (2013)	Investment and financing constraints in China: Does working capital management make a difference?	212

3.4. Influential Economies and Authors

According to the bibliographic coupling of economies (Fig. 5), it can be seen that the most productive economy is China, followed by the USA. Additionally, China is the most cited economy globally (Table III).

Besides, the influential journal articles are also listed in Table IV. More specifically, investment-cash flow sensitivities are used as a proxy for measuring the level of financing constraints, and this article was cited 2894 times (Kaplan

& Zingales, 1997). Following Yu *et al*. (2021), their study is the second highest citation, investigating the relationship between green finance and financing constraints, which is the current publication trend as well.

4. Conclusions

In this study, the bibliometric analysis is conducted for investigating the determinants of financing constraints. This study provides an overall outline of prior financing constraints studies. And the main objective of this study is to review the prior studies of financing constraints and guide future research agenda by discussing descriptive statistics, co-occurrence, top 10 journals, as well as influential economies and authors.

This study showed a continuous growth of journal articles in the field of financing constraints. Hence, future research based on this study may be directly focused on external determinants for mitigating financing restraints.

Conflict of Interests

The author declares that there is no conflicts of interest.

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