Determinants of Capital Structure: A Bibliometric Analysis

Abstract. The Capital structure constitutes one of the most debated topics in corporate finance , due to its importance in firm value and maximizing the shareholders' wealth. Since the seminal work of Modigliani and miller a large body of theoretical and empirical contributions has reached full consensus. This study aims to provide a bibliometric analysis of determinants of capital structure using data extracted from the Scopus database , the analysis is supported then by Vosviewer . The findings reveal that capital structure has evolved through various dominant themes including : leverage , profitability , firm size , corporate governance , the findings also underline that the field remains theoretically fragmented with empirical conclusions varying according to firm-specific characteristics, macroeconomic contexts and institutional policy.
Keywords: Capital structure, bibliometric analysis, Determinants, Scopus , Vosviewer

1 Introduction

Capital structure could be defined as the long-term financing composition of a firm , primarily reflected in the relative proportion of debt and equity used in order to support the activities and investment related to the firm (Aljamaan 2018) . Its analysis occupies a central position in corporate finance because financing choices are closely linked to firm value , and shareholder wealth(Kebewar 2012) . The famous contributions of (Modigliani & Miller 1958) theoretical research on capital structure has continued to expand . but despite the richness of the theoretical contributions ,no universal conclusions have been reached about the determinants of capital structure . various empirical studies have shown that capital structure choices vary according several dimensions , including firm-specific characteristics , country level factors and macroeconomics context ,in this regard various researchers for example (Titman &wessels 1988 , Rajan &Zingales 1995 ,Adaskou&apair 2011 ,Rabbani ;2020 , Pham 2023) have shown that variables such as size , profitability ,tangibility , growth opportunities , liquidity and risk may influence capital structure depending on the analytical context.

The study seeks to answer 3 questions :

1. How has the annual scientific production on the determinants of capital structure evolved between 2015 and 2024
2. which authors , affiliations and countries have contributed most actively ?
3. what are the dominant axes of research that have received the scholarly attention?

To answer these research questions, the study aims to use a bibliometric tools providing measurable indicators and visual representations of the literature , the data after

was extracted from Scopus which was selected due to its academic quality , then the extracted bibliography was processed and visualized using Vosviewer.
The findings identify the peaks years of publications and also the year mark a decline in scientific outputs , the results reveal also the main thematic clusters combining traditional theoretical foundations , firm-specific determinants , macroeconomics and institutional policy and finally empirical methodological approaches .

2 Literature review :

Since the seminal contributions of (M&M 1985) to financing decisions ,a wide range of theoretical contributions have emerged to explain firm's financing choices , however the studies has not reached yet a unified conclusion relative to the determinants of capital structure , since these determinants often vary according to firm-specific characteristics and macroeconomic conditions . (Modigliani&Miller 1958) argued that , under the assumptions of perfect capital markets , absence of taxes , bankruptcy costs and information asymmetry , the value of the firm is independent of its financing mix , six years later (Modigliani and miller 1963) revisited this assumption by integrating corporate taxation showing that debt financing may create value through the tax deductibility of interest payments , this reasoning laid to the emergence of the trade off theory which suggests that firm determine their optimal capital structure by balancing the tax benefits of debt against its costs more specifically the bankruptcy costs as indicated by (Kraus & Litzenberger 1973)

(Jensen & Meckling 1976) introduced the agency theory which conceptualizes the firm as a nexus of contractual relationships market by conflicts interest between principals and agents . These conflicts arise from informational gap and divergent objectives between managers and shareholders . (Jensen 1986) argued that debt can reduce free cashflows problems, in the same vein, (Anginer et al 2021) show that short term debt may also mitigate agency conflicts and information asymmetry .

The pecking order theory developed by (Myres & majluf 1984) provides another explanation based on information asymmetry , firms follow a hierarchical financing order preferring internal funds first then debt and finally equity only as a last resort .

3 Methodology :

The study adopts a bibliometrics analysis in order to examine the scientific production related to the determinants of capital structure , it is a quantitative method that relies mainly on measurement of academic publications such as : the annual publications , countries contributions , affiliation patterns , these indicators are generally extracted from a databases that allow researchers to assess the development of a given research . according to (Ancelin 1959) Bibliometric is an extension of sociometry which Moreno defined as “the measurement of social relations in the broadest sense” in this sense, bibliometric analysis applies measurements directed to scientific literature by examining among publications , authors , affiliations and research themes and their interact .

Within this framework, bibliometric analysis represents a powerful tool for identifying the evolution of a research domain and detecting emerging axes.

The objective of this research is to explore the evolution of the literature on the determinants of capital structure with an attention to publication trends and influential authors.

To achieve this objective , we rely on the scopus database selected because of its broad coverage , academic credibility and rigorous indexing standards. It provides a high quality bibliometric informations that facilitates the extraction and analysis of scientific publications .

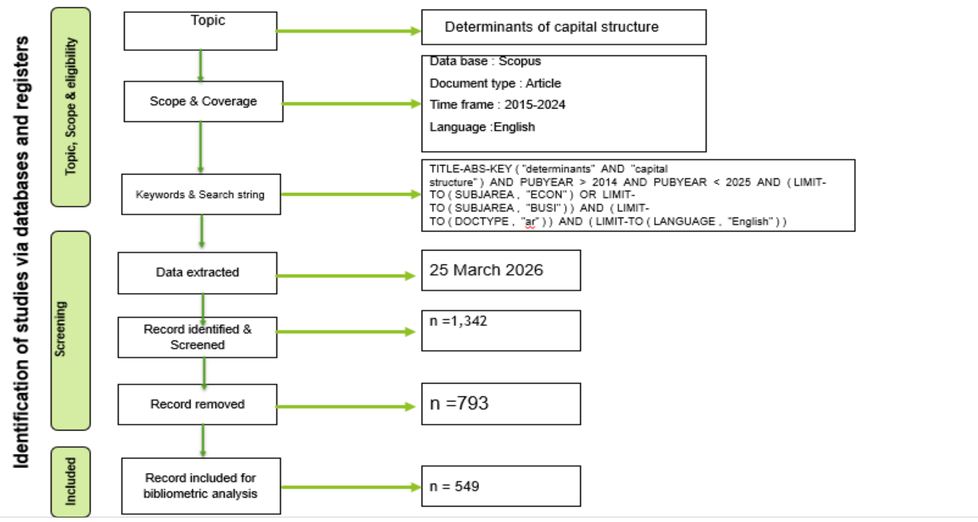

Fig. 1. Flow diagram of research study

Source : authors

The methodological method was conducted in three main stages , first stage consisted of constructing a rigorous research query designed to identify publications directly related to the research topic namely “the determinants of capital structure” , the second stage involved collecting and organizing bibliographic data from scopus including annual scientific production , document types , time frame (2015-2024) and language(English), the third stage focused on processing the exported scopus data (abstracts and keywords) through vosviewer , this software was used to construct and visualize co-occurrence maps based on keywords relationships.

3.1 Results :

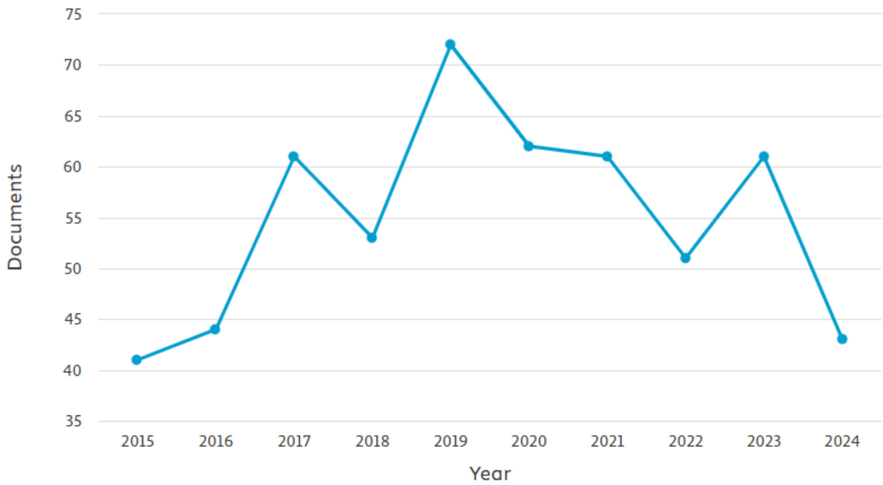

Fig. 2. Annual publications

Source : authors

The figure above provides an overview of the publications trend over the selected period , as observed the year between 2015 and 2019 were marked by two successive peaks in scientific output , with 61 publications in 2017 and a higher peak of 72 publication in 2019 , however the evolution appears relatively stable culminating in a decline in 2024.

Table 1. Documents by affiliations

Affiliation	Number of publications
NATIONAL ECONOMICS UNIVERSITY	9
ISTANBUL SABAHATTIN ZAIM UNIVERSITY	7
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA	6

UNIVERSITY OF DELHI	6
ACADEMIC RESEARCH AND DEVELOPMENT WING	5

Source : authors

The table above presents the distribution of documents according to institutional affiliations , National economic university constitutes the leading institution in terms of scientific publications with 9 publications , followed by istanbul sabahattin zaim university with 7 publications and the International Islamic university occupies the third position with 6 publications .

Table 2. Documents by authors

Writer	Number of publications
Haron,R.	6
Rehan,R.	6
CZERWONKA,L.	5
JAWORSKI,J.	5
PANDA,AK.	5
SERRASQUEIRO,Z.	5
BILGIN,R.	4
HYE,QMA.	4
PACHECO,L.	4

Source : authors

Table 2 provides an overview of the most productive authors in the field , Haron R . and Rehan R . presents the leaders of contributors with 6 publications each , then followed by Czerwonka , Jaworski ,panda and Serrasqueiro with each 5 publications .

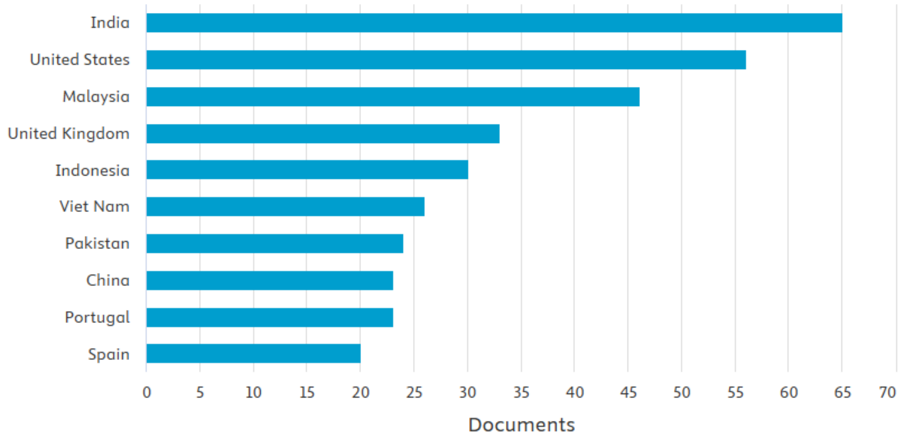

Fig. 3. Country publications

Source : authors

The figure presents the distribution of documents by countries , as indicated , India represents the most productive country ranking with 60 publications , followed closely by USA with 56 publications , Malysia occupies the third positions with 46 publications.

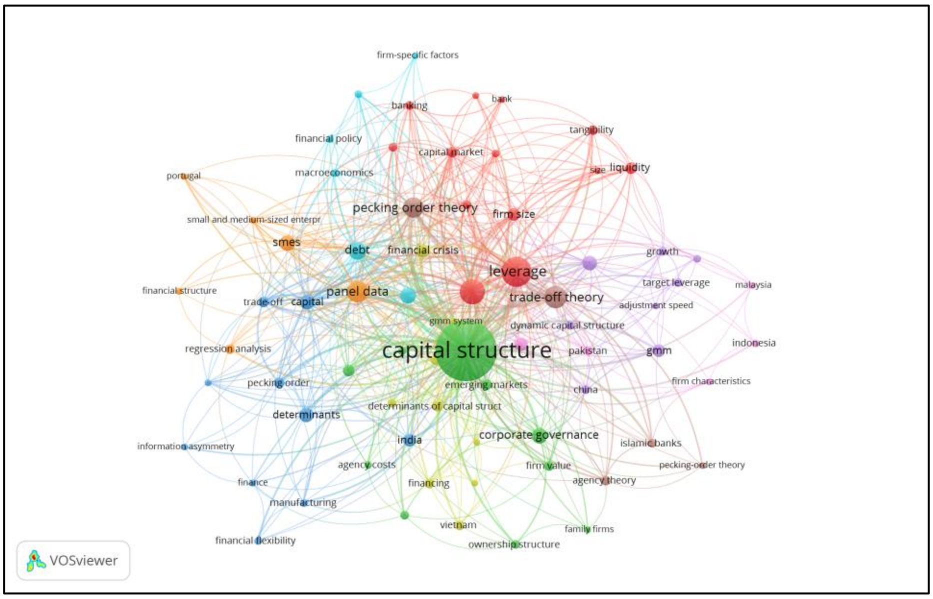

Fig. 4. Keyword co-occurrence

Source : authors

Keyword co-occurrence analysis constitutes a central technique in bibliometric research by the identification of the main conceptual structures , the size of each node indicates the frequency importances of keyword furthermore more the nodes are larger more the topics are attracted by scholarly attentions.

According to the co-occurrence map :

- The green cluster is centred around capital structure which appears as the central and most influential node , it is associated with themes for example : corporate governance, emerging markets and firm-level characteristics .
- The red cluster shows the traditional firm specific determinants such as leverage , tangibility , firm size and liquidity , which indicates the most empirical variables as a determinants .
- The brown cluster is related to the main theoretical foundations of capital structure , especially the pecking order theory and the trade-off theory which suggests that these theories constitute the dominant contributions to explain the financing decisions .
- The blue cluster : highlights on terms such as determinants , information asymmetry , financial flexibility , it shows the determinant role of informational gap and economics conditions in shaping firms capital structure.

This cluster connects the micro level financing choices with macroeconomic and institutional constraints.

- The orange cluster is organized mainly around [1]SMEs , panel data , and regression analysis reflecting the strong presence of empirical studies focused on small and medium-sized enterprises
- Finally the purple cluster links terms such as [2]GMM , target leverage and adjustment speed which points to the methodological development of the fields .

4 Conclusion:

The bibliometric analysis adopted reveals many important results . First the analysis of annual scientific production shows a fluctuating trajectory with a slowdown in 2024 , this can be explained by various factors such as : academic attention may shifted from classical determinants toward more modern research themes such as digitalization , Fintech and crisis also the capital structure research often requires longitudinal data covering several years , especially when the methodological adopted is panel data or GMM which could delay publications outputs . Second the geographical distribution of publications shows India and the United states were leading positions in terms of output publications which reflect the strong academic engagement of emerging economies in capital structure research , finally the keyword co-occurrence analysis confirms that capital structure still remain a central and dominant research field , the network highlights the dominance of both theories the trade off theory and the pecking order theory which still be as a major foundations for explaining firms financing decisions , in the same vein the analysis shows the empirical research is structured around firm specific determinants and also the presence of methodological keywords for example : panel data , regression analysis , GMM which indicates that the field used econometrics methods , which allows researchers to capture the dimension of firms and their temporal evolution , the co-occurrence map emphasize the importance of macroeconomic conditions and financial policy in explaining capital structure choices .

The study has many limitations , first the analysis does not integrate the data from 2025 and 2026 and second the data were extracted only from Scopus which could not provide a fully representations .

Disclosure of Interests. The authors have no competing interests to declare that are relevant to the content of this article.

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[1] Small and medium-sized enterprises
[2] generalized method of moments

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