Underpricing Effect in Initial Public Offerings: A Systematic Review and Bibliometrics Analysis

Abstract

The initial public offering (IPO) is one of the vital decisions that need to be made by an unlisted firm. The number of companies transform to public through an initial public offering has been growing significantly in recent years. The phenomenon of IPO underpricing has been reported not only in developed markets such as the United States but in almost every stock market around the globe. Although the magnitude of underpricing varies from country to country. The empirical evidence shows the degree of underpricing is relatively more in developing nations than in developed nations. The main objective of this study is to answer some of the pertinent questions like what are the costs associated with going public?, what theoretical models can explain such puzzling variation in the underpricing across the globe?, what are the key determinants of underpricing?, along with that, the present research trying to identify the difference between the short-term and long-term performance of an IPO firm? Additionally, this paper offers a dual perspective on the current state of IPO underpricing literature.

This study synthesizes the corpus of IPO underpricing literature published throughout 2007-2021 by adopting the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analysis) methodology along with bibliometric analysis. The bibliometric analysis highlights important aspects of the existing literature, including leading journals, top-cited articles, authors, research streams, variables, and other aspects. Based on this review, it has been found that the 'information asymmetry problem' between the key IPO participants is the primary cause of the high level of underpricing, particularly in developing nations. The theories based on the asymmetric information problem provide the most compelling explanation for the phenomena of underpricing. These theories include ex-ante uncertainty, signaling, certification, and the entrepreneurial wealth loss model.

JEL Classifications:

G14, G24, C18

Keywords:

Initial Public Offerings, Underpricing, Bibliometric Analysis, Information Asymmetry

Underpricing effect in initial public offerings: A systematic review & bibliometric analysis

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Introduction

- An Initial public offering (IPO) is a type of public offering, where shares of a company are sold to the general public, on a security exchange for the first time. Through this process, a private company transforms into a public company.
- Listing provides liquidity to the existing shareholders, as an exit route for existing investors (i.e. promoters and strategic investors)
- To raise funds for financing capital expenditure needs like expansion, diversification, and modernization.

Underpricing

The pricing of an IPO at less than its market value is referred to as underpricing. In other words, It is the difference between the offer price and the price of the first trade.

- Historically IPOs have always been underpriced.
- Underpriced IPOs help to generate additional interest in the stock when it first becomes publicly traded. This might result in significant gains for the investors who have been allocated shares at the offering price.
- However, Underpricing also results in the loss of a significant amount of capital that could have been raised had the shares been offered at a higher price.

$$\text{Underpricing} = \frac{\text{First Day Closing Price} - \text{Offer Price}}{\text{Offer Price}}$$

IPO Underpricing Studies

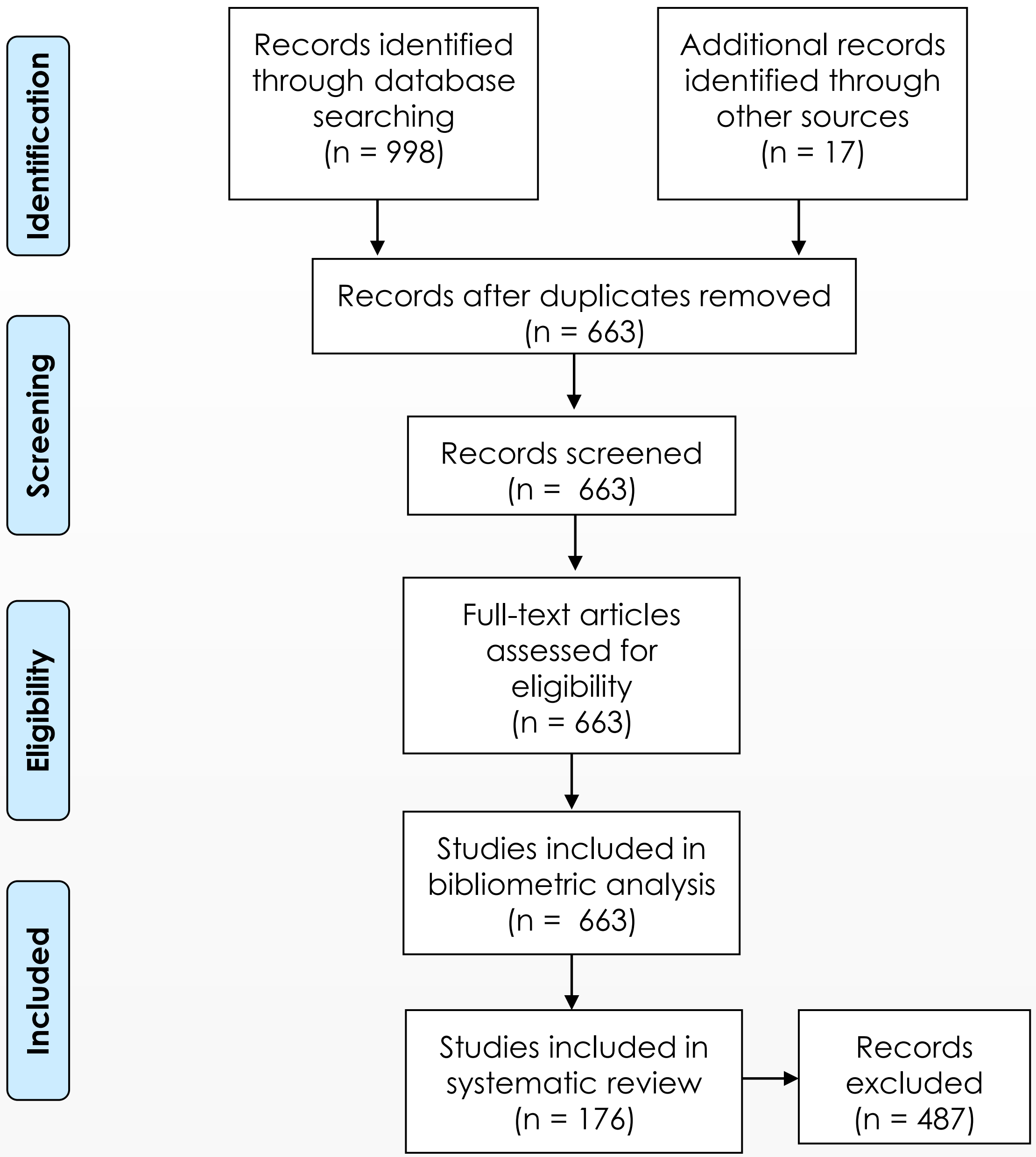
Author/Year	Sample Size	Sample Period	Country	Underpricing	Measurement Techniques
Chhabra & Kiran (2019)	300	2005-2012	India	18.03 %	Market Adjusted Excess Return (MEAR)
Kennedy et.al (2006)	2381	1991-1998	Unites States	16.02 %	
Hu et.al (2021)	328	2009-2012	China	29.40 %	Market Adjusted Initial Return (MAIR)
Lee et.al (1999)	381	1976-1995	Germany	12.1 %	
Banerjee et al (2011)	8776	2002-2006	Global	29.11 %	

Research Methodology

The main objective of this study is to review the existing literature on IPO underpricing in order to identify the key determinants and theories of underpricing. In order to conduct a systematic review of the literature, this study followed the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analysis) Methodology.

Search Term	Period	Databases	Initial Results	Final Sample	Analysis Performed
"initial public offerings" AND "underpricing"	2007-2021	Scopus Web of Science	540 458	663 176	Systematic Review Bibliometric Analysis

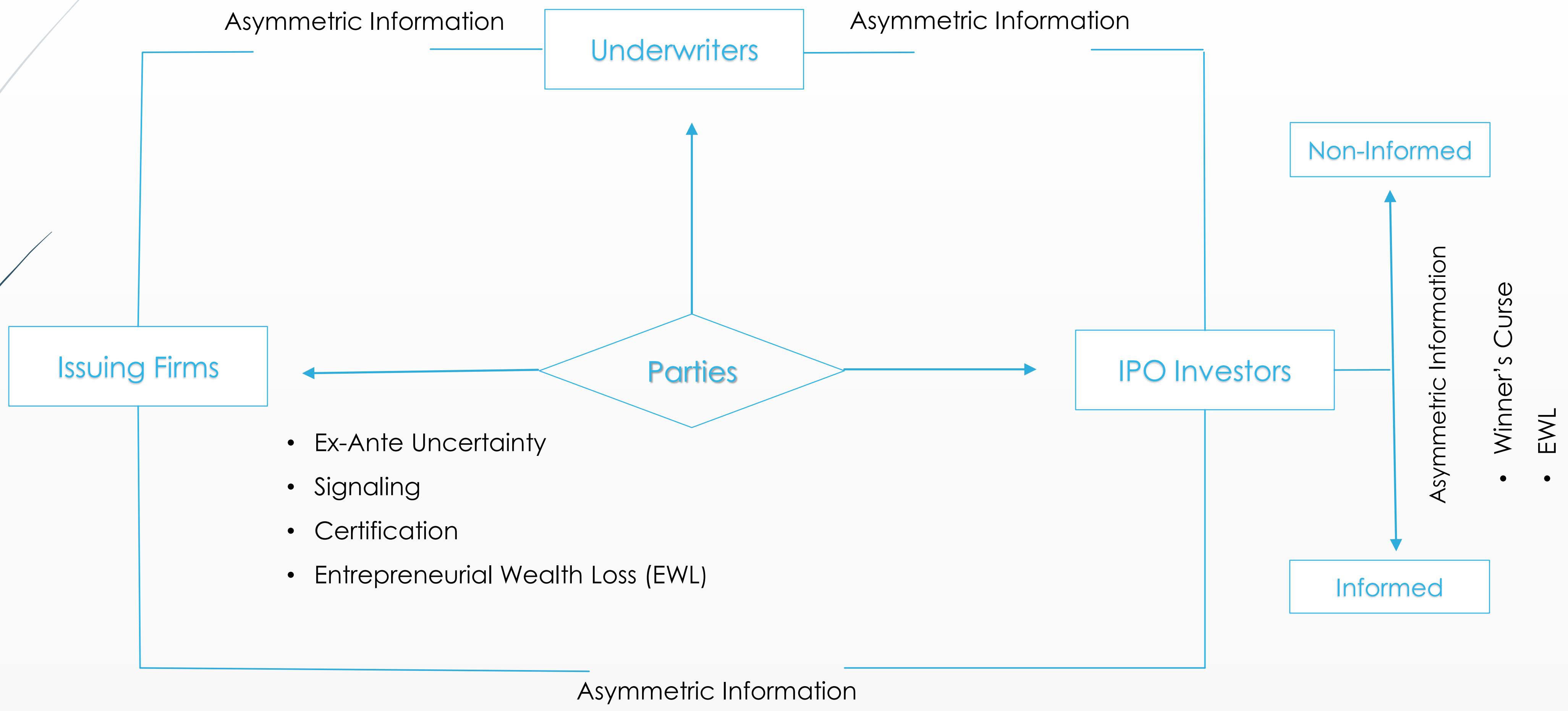
PRISMA Flow Diagram



Main Information About Data

Description	Results	Document types	Results
Documents	663	article	651
Sources (Journals, Books, etc)	153	article; book chapter	2
Keywords Plus (ID)	534	article; early access	4
Author's Keywords (DE)	1281	article; proceedings paper	6
Timespan	2006-2022		
Average citations per doc	17.6		
Annual Growth Rate %	7.11		
Authors	1392		
Authors of single-authored docs	66		
Single-authored docs	78		
Co-Authors per Doc	3.05		

Theoretical Framework



Information Asymmetry Theories

Information asymmetry occurs when one party within a financial transaction has more information on the underlying deal than the other party. In the case of an IPO, management of the private firm can have an information advantage that allows it to profit from the potential investors by leaving them to (over) estimate the future cash flow due to their lack of information.

- Certification
- Signaling
- Winner's Curse
- Ex-ante Uncertainty
- Entrepreneurial Wealth Loss (EWL)

Certification

IPO issuers are aware of investors' concerns about the true value of their firms. Hence, issuers employ, for example, reputable underwriters who certify the quality of the IPO of which underwriters demand the issuer to underprice the IPO to protect their market reputation

Signaling

IPO issuers know the quality of their firms and also possess private information about the true value of the firm. This information is not available to investors making it hard for investors to differentiate between high-quality and poor-quality IPOs. Thus, IPO firms offer underpricing to distinguish themselves from low-quality IPO issuers.

Winner's Curse

Employing their sophisticated (limited) financial knowledge, informed (uninformed) investors bid only (bid indiscriminately) for underpriced (underpriced and overpriced) IPOs leaving uninformed investors to receive full allocations in overpriced offerings. Hence, to ensure the continued participation of uninformed investors, issuers provide compensation by underpricing.

Ex-Ante Uncertainty

Investors demand underpricing to compensate for ex-ante uncertainty.

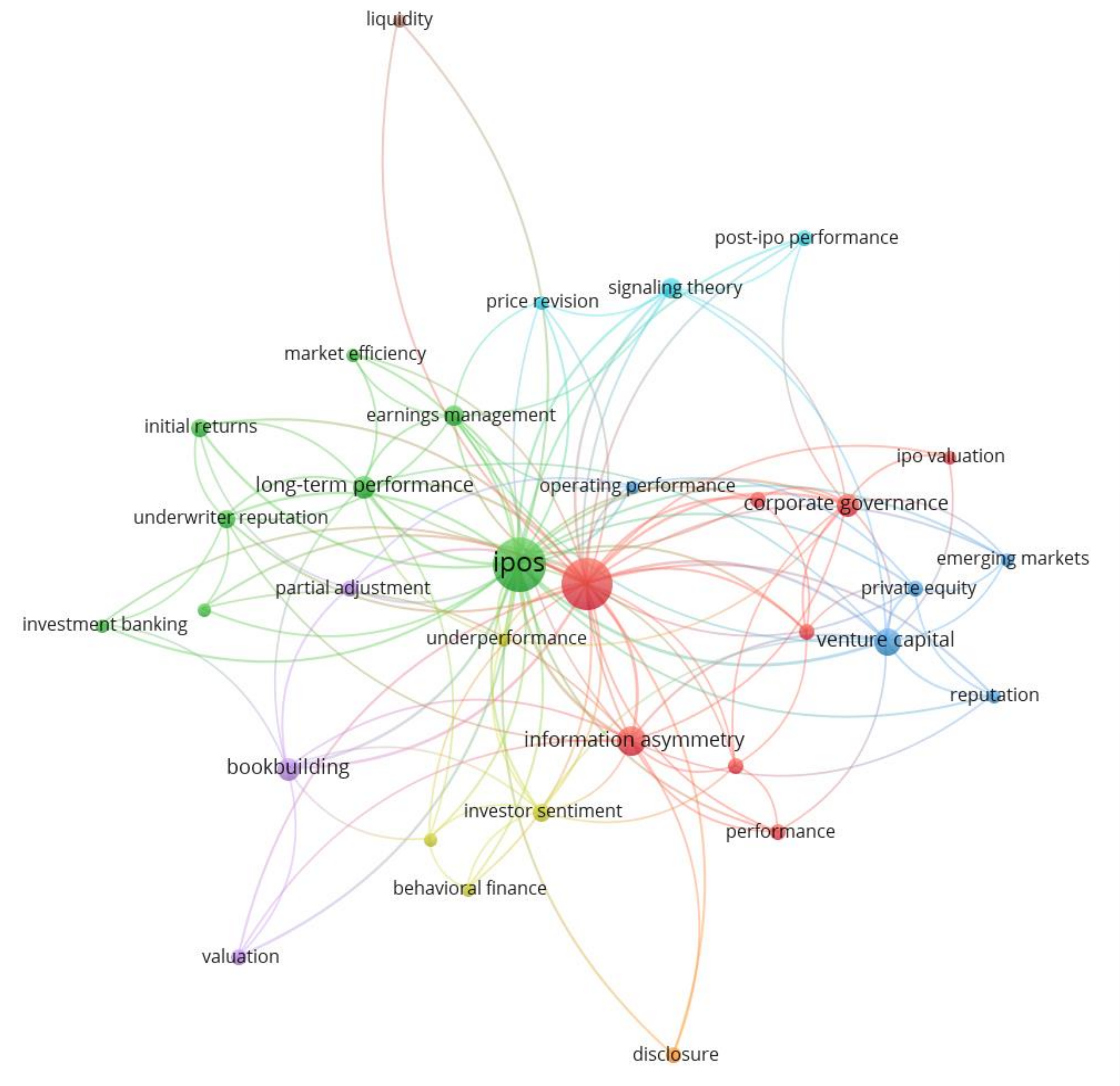
This theory uses four variables as a proxy for reducing uncertainty about the value of the firm.

1. Age
2. Size
3. Use of IPO proceeds
4. Types of IPO firm

Entrepreneurial Wealth Losses Theory

Endogeneity occurs in promotion cost and the error term of the model as the decision to employ promotion to reduce underpricing is made by issuers when they intend to sell large stakes of their holdings

Keywords Analysis



Most frequently used keywords	
Keywords	**Frequency of Occurrence**
initial public offerings	361
underpricing	338
information asymmetry	51
venture capital	40
long-run performance	28
signaling	24
corporate governance	22
book building	20
initial returns	17
earnings management	15
underwriter reputation	14
ex-ante uncertainty	11

Leading Journals on IPO Literature

Journal Name	Publisher	Documents	Total Citation	ABDC Ranking
Journal of Corporate Finance	Elsevier	46	782	A*
Journal of Banking and Finance	Elsevier	21	455	A*
Journal of Financial Economics	Elsevier	20	907	A*
Pacific Basin Finance Journal	Elsevier	19	287	A
Research in International Business and Finance	Elsevier	16	144	B
Review of Quantitative Finance and Accounting	Springer International Publishing	16	189	B
Emerging Markets Finance and Trade	Taylor Francis Online	15	61	B
Financial Management	Wiley-Blackwell Publishing	14	200	A
International Review of Financial Analysis	Elsevier	14	175	A
Managerial Finance	Emerald Group Publishing	14	153	B

Top Cited Articles

Rank	Authors	Title	Journal	Year	TC	NC	SJR rank
1	Zhi Da, Joseph Engelberg, and Pengjie Gao	In Search of Attention	The Journal of Finance	2011	1043	22.81	Q1
2	Arthurs et.al	Managerial agents watching other agents: multiple agency conflicts regarding underpricing in IPO firms	Academy of Management Journal	2008	215	7.11	Q1
3	Evgeny Lyandres, Le Sun & Lu Zhang	The New Issues Puzzle: Testing the Investment-Based Explanation	Review of Financial Studies	2008	199	6.58	Q1
4	Kathleen Weiss Hanley & Gerard Hoberg	The Information Content of IPO Prospectuses	Review of Financial Studies	2010	187	6.71	Q1
5	Narasimhan Jegadeesh & Di Wu	Word Power: A New Approach for Content Analysis	Journal of Financial Economics	2013	144	8.11	Q1

Continued.

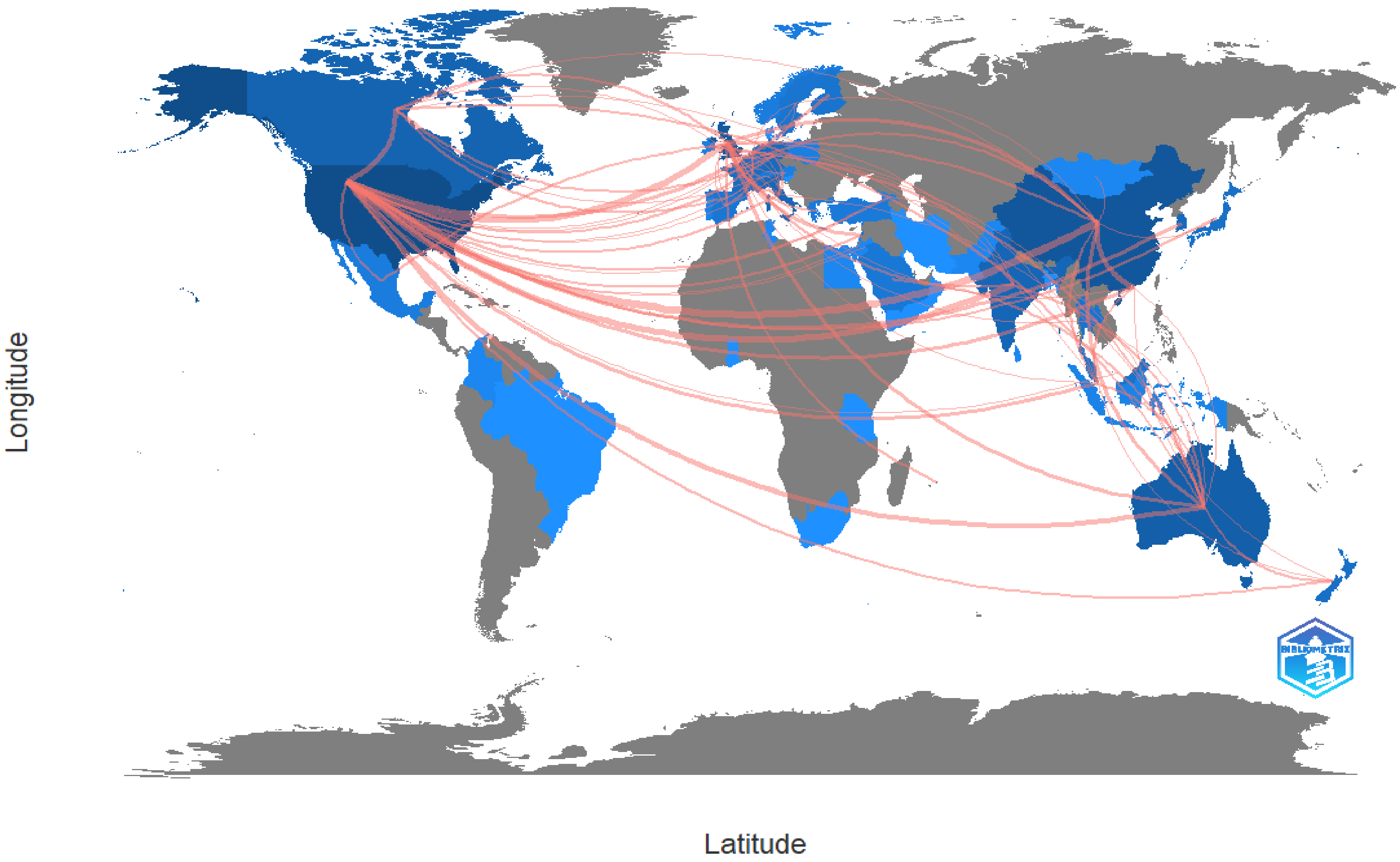
Rank	Authors	Title	Journal	Year	TC	NC	SJR rank
6	Bill B.Francis, Iftekhar Hasan, Xian Sun	Political connections and the process of going public: Evidence from China	Journal of International Money and Finance	2009	139	5.02	Q1
7	Xiaoding Liu & Jay R. Ritter	Local underwriter oligopolies and IPO underpricing	Journal of Financial Economics	2011	138	3.02	Q1
8	Andrew J. Leone, Steve Rock & Michael Willenborg	Disclosure of Intended Use of Proceeds and Underpricing in Initial Public Offerings	Journal of Accounting Research	2007	124	4.71	Q1
9	Jeffrey J. Reuer, Tony W. Tong & Cheng-Wei Wu	A Signaling Theory of Acquisition Premiums: Evidence from IPO Targets	Academy of Management Journal	2012	119	4.65	Q1
10	Thomas J. Chemmanur, Shan He, Debarshi K. Nandy	The Going-Public Decision and the Product Market	Review of Financial Studies	2010	118	4.23	Q1

TC- Total Citation, NC- Normalized Citation

Most Productive Countries

Rank	Countries	Frequency of Production
1	USA	560
2	China	291
3	UK	167
4	Australia	111
5	Italy	72
6	Singapore	60
7	India	58
8	Canada	54
9	South Korea	49
10	Germany	36

Collaboration Network



Conclusion

The asymmetric information problem in the IPO market is the ultimate explanation for the underpricing phenomenon. This study finds that the model based on asymmetric information provides the most compelling explanation for IPO underpricing. But still, It is difficult to explain with the help of a one single generalised theory.

This paper covers five prominent asymmetric information theories of underpricing. and findings of this study reveals that entrepreneurial losses theory is strongly supported because the firm's insiders appear to be concerned with their overall wealth, taking into account both the IPO and the subsequent equity issue. It will help to minimize the impact of IPO underpricing by retaining their shares at the IPO. This theory also takes into account information asymmetry issues between the issuer and the investor, as well as the endogenous relationship between underwriter reputation and IPO underpricing.

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