Foreign direct investment by multinational corporations in emerging economies: a comprehensive bibliometric analysis

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Abstract

Purpose – This study introduces a comprehensive bibliometric analysis of the foreign direct investment (FDI) literature by multinational corporations (MNCs) focusing on emerging economies to identify the most influential authors, journals and articles in FDI research and reveals the fields' conceptual and intellectual structures. The purpose of this paper is to address these issues.

Design/methodology/approach – The study analyzed 533 articles published between 1974 and 2020 in 226 academic journals indexed in the Web of Science (WoS) and Scopus databases. We used the *R* language for statistical computing to map author collaboration, co-word and develop a conceptual and intellectual map of the field.

Findings – The results show that, although the FDI literature has many authors, few dominate the field. The *International Business Review* (*IBR*) and *International Journal of Emerging Markets* (*IJoEM*) are the main sources of the publications. Moreover, bibliometric laws show that our dataset follows the Lotka law of scientific productivity and Bradford law of scattering, identifying the core journals. Finally, FDI by MNCs in emerging economies research is divided into four sub-research themes related to (1) FDI determinants, (2) entry mode, (3) MNCs and FDI performance and (4) the internationalization process.

Originality/value – The current article provides several starting points for practitioners and researchers investigating FDI. It contributes to broadening the vision of the field and offers recommendations for future studies.

Keywords MNC, FDI, Emerging economies, Multinational corporations, Internationalization, Bibliometrix, Bibliometric analysis, Conceptual structure map, Intellectual theme

Paper type Research paper

1. Introduction

In the last five decades, foreign direct investment (FDI) and multinational corporations (MNCs) attracted many scholars' attention, becoming the most researched topic in

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international business (IB) (Quer *et al.*, 2017; Ramamurti, 2004). Nevertheless, most of the FDI literature typically emphasizes a specific FDI field, such as entry mode strategies, location choice or investment determinants (Busse and Hefeker, 2007; De Beule and Duanmu, 2012; Li and Qian, 2008).

More specifically, some authors have paid attention to foreign investments in emerging countries from the point of view of the market entry strategies (Meyer *et al.*, 2009) or the relationships of cultural distance with entry mode choice (Tihanyi *et al.*, 2005). Others focused on the international diversification and speed of entering international markets (Hitt *et al.*, 2016) and the MNC performance (Qian *et al.*, 2008).

FDI by MNCs plays an important key role in emerging economies' economic development (Danescu and Nistor, 2012; Huber, 2018) and facilitates the entry of new and advanced technologies (Borensztein *et al.*, 1998). Also, emerging economies benefit from inward FDI through capital accumulation, which affects positively the host economy's Balance of Payments (BoP) (Amighini *et al.*, 2017; Testas, 2003). Thus, inward FDI to emerging economies will enhance the flow of capital and increase production and exports. Moreover, FDI by MNCs boosts international trade by developing new international networks between host and home economies (Gammeltoft and Cuervo-Cazurra, 2021). Hence, developed and emerging economies have a common interest in encouraging FDI flows, even if their goals differ. Host economies attract FDI to improve their economic standards (Khder Aga, 2014) and to develop both an economy of scope, which focuses on the average total cost of production of a variety of goods and service and economy of scale, which focuses on the cost advantage (Mishra *et al.*, 2017). On the other hand, corporate growth, access to natural resources, low labor costs and maximizing revenues are typical targets for MNCs (Bhaumik and Gelb, 2005; Meyer *et al.*, 2009). Moreover, although FDI in emerging economies has been the subject of numerous business research, it is still unclear why investors prefer to take advantage of emerging economies' opportunities. Emerging economies are considered to be slow in adopting new reforms and suffer from corruption (Kaufmann *et al.*, 1999; Uhlenbruck *et al.*, 2006). However, some emerging economies will be the new world's developed economies (Danescu and Nistor, 2012).

A large bibliometric production already exists on FDI. Alon *et al.* (2018) focused on the internationalization of Chinese enterprises by reviewing 206 articles published in different journals over 13 years. Fetscherin *et al.* (2010) analyzed 422 articles published in 151 journals over 29 years to examine how scholarly research on FDI to China has evolved. Peter and Michele (2020) conducted a systematic and bibliometric review using 41 articles from WoS for 19 years to analyze the influence of taxes on FDI and corporate financing decisions. Moreover, recently, da Silva-Oliveira *et al.* (2021) carried out a bibliometric analysis covering 806 articles published between 1994 and 2019 to map key elements of the intellectual structure of the body of work on inward and outward emerging economies' FDI. Its objective was to unveil the main thematic topics that characterize the literature to draw several opportunities for future research.

Although some authors were interested in the general topic of FDI and emerging countries, we could not find literature reviews focused only on FDI by MNCs in emerging economies.

Therefore, this article's main objective is to show how the topic of FDI by MNCs in emerging economies is developing through a bibliometric analysis that gives interesting insights and recommendations for future research after presenting an analytic map of the publications over the last 46 years. To the authors' best knowledge, this study's sample compiles the largest selection of FDI by MNCs in emerging economies' articles in different journals.

We analyze the following: What are the field's most productive journals? Which authors and articles contributed most to FDI improvement and growth? To what extent do the published articles follow the bibliometric laws? What is the intellectual structure of this literature? What are the potential opportunities for FDI research?

2. Methodology

This article uses the bibliometric analysis methodology, which is the application of statistical and mathematical methods in science communication (Pritchchard, 1969).

We employ the popular indicators of analysis (Cancino *et al.*, 2017), such as the number of articles for measuring productivity; leading authors, institutions and countries in this field; scientific production over time; most relevant keywords; application of bibliometric laws; co-word analysis; and collaboration network analysis (Liao *et al.*, 2018).

We use the five step procedure workflow for conducting science mapping with bibliometric methods proposed by Zupic and Čater (2015): research design, a compilation of data, analysis, visualization and interpretation.

2.1 Data sources and keywords groups

Bibliometrics data were retrieved from WoS and Scopus databases to have a more comprehensive vision.

Three groups of keywords were used. The first group represents the field we are covering, the second, who interacts in the field and the third where the activity is taking place:

(1) Internationali* **OR** "foreign direct investment" **OR** FDI **AND**

(2) mnc* **OR** mne* **OR** "Multinational corp*" **OR** "multinational enterp*" **OR** "multinational comp*" **OR** "international corp*" **OR** "international enterp*" **OR** "international comp*" **AND**

(3) mena **OR** bric **OR** "emerging econo*" **OR** "emerging country*" **OR** "develop* country*" **OR** "develop* econo*" **OR**"emerg* market*" **OR** "transition econo*".

2.2 Data collection criteria

This study follows the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses flowchart" (PRISMA) to ensure transparency and a complete reporting process (Figure 1).

(1) Identification: We identified 1,971 records, 938 through the WoS and 1,033 from Scopus between 1974 and 2020.

(2) Screening: In this stage, we excluded 441 records as duplicated (exclusion of duplication's records was done automatically when we merged the records into the *R* data frame) and 289 records for not meeting inclusion criteria. Total records eligible for the next stage: 1,241.

(3) Eligibility: Two authors manually checked the abstracts and keywords for all records eligible in this stage to exclude all documents unrelated to the three keyword groups. The third author reviewed the records excluded. In this stage, we excluded 708 records.

(4) Inclusion stage: The eligible articles included in the bibliometric analysis are 533 records.

(5) Visualization and interpretation steps are included in the results and discussion section.

2.3 Data analysis

We used the bibliometrix package, a unique tool for science mapping, statistical computing and graphics for the *R* language. We chose this software because it is an open-source

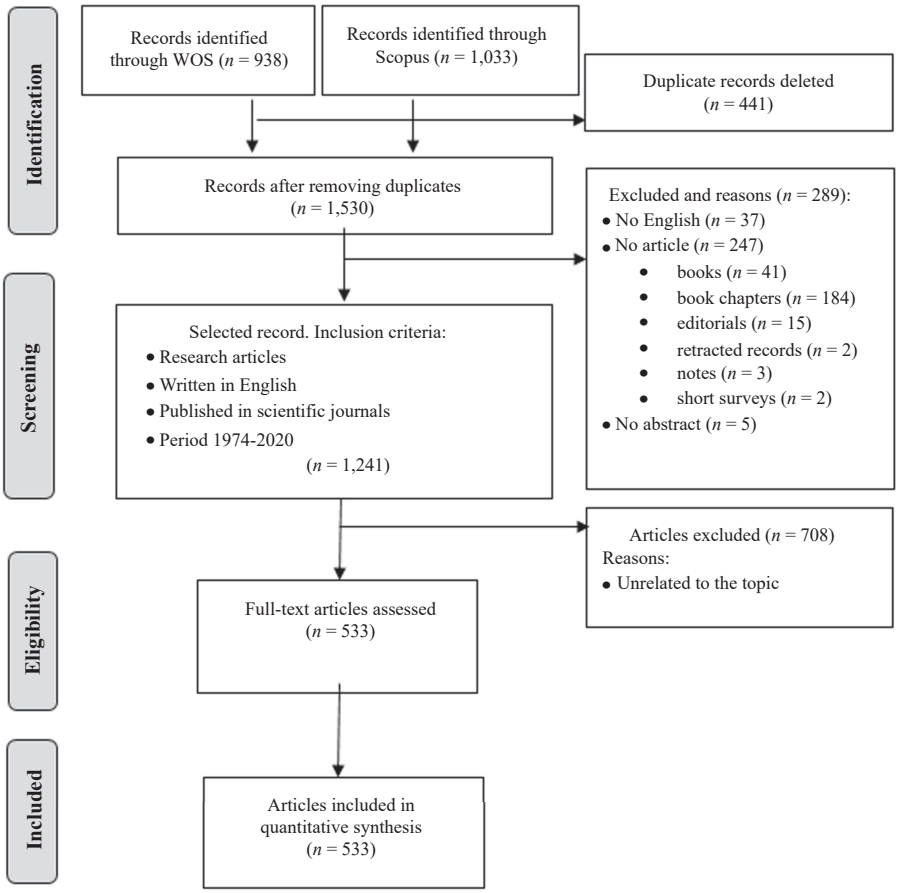

Figure 1.
PRISMA

programming language for statistical and graphic visualization (Liu and Li, 2016). It allows to implement various bibliometric tests (Palácios *et al.*, 2021) and performs a more comprehensive science mapping analysis (SMA) compared to other software such as VOSviewer (Moral-Muñoz *et al.*, 2020). Moreover, it can merge the extracted data from WoS and Scopus in one data frame to perform the analysis.

3. Results and discussion

We organize this section into four parts related to bibliometric laws applied in this study (3.1), descriptive results (3.2), collaboration social network analysis (3.3) and the conceptual structure map of the field (3.4).

3.1 Bibliometric laws

Like classical physics laws, bibliometrics has some classical laws that seek to analyze the qualitative literature by mathematical and statistical means. Although the bibliometric scholarship is mature, there is little evidence of any Einsteinian breakthroughs proving that

bibliometric laws are concrete laws. However, they are extremely valuable in developing general theories about information and providing data to study further.

Three laws can be named "bibliometric laws": Lotka's law of scientific productivity (authors publishing in a particular discipline); Bradford's law of scattering (scattering of articles); Zipf's law of word occurrence (ranking of word frequency). In this study, we apply Lotka's and Bradford's laws.

3.1.1 Lotka law. Lotka's law, or the inverse square law of scientific productivity, is one of the major empirical laws of bibliometrics that is often used in literature to model information about how many authors have written 1, 2, 3 or H articles (Friedman, 2015).

This article follows Cintra *et al.*'s (2018) procedure of using Lotka's law to verify the number of scientific articles published by various authors working in the field and to indicate the development level of scientific production, along with identifying the most productive authors.

This law deals with authors' frequency of publication in any field. Its basic formula is as follows:

$Y = \frac{C}{X^N}$ where Y is the relative frequency of authors, X is the number of articles (publications) and N and C are constants depending on the specific field ($N \sim 2$) (Savanur, 2015).

Lotka's law analysis shows that 755 authors have published one article (freq. = 82%), while 103 authors have published two articles (freq. = 11%). Figure 2 shows our sample's empirical distribution with the theoretical distribution (this assumption implies that the theoretical beta coefficient of Lotka's law is equal to 2 or $B = 2$, the red line). There is a negative logarithmic relationship of variables X, Y and $C = 0.7099$, the goodness of the fit (R^2) = 0.9493, the estimated Beta coefficient is 2.7245 and Kolmogorov–Smirnoff's two-sample test provides a p value of 0.269, which means there is not a significant difference between the observed and the theoretical Lotka distributions. Therefore, our dataset follows the Lotka law, where the Y value decreases with the X value increases. Moreover, our sample shows authors' divergence which leads to enriching and diversifying the field content to meet international needs and offer relevant content to wider stakeholders.

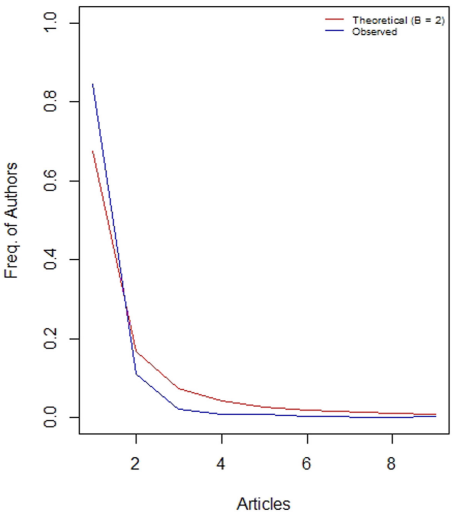

Figure 2.
Lotka's law coefficients for scientific productivity distribution

Our results are in line with previous studies in different fields, such as the circular economy (Alnajem *et al.*, 2021), accounting (Corbet *et al.*, 2019), risk management (Chun-Hao and Jian-Min, 2012) and business ethics (Talukdar, 2015).

3.1.2 Bradford's law. Bradford's law helps us identify the most highly cited journals (core journals) in a given subject or field using statistical methods. The assumption is that the majority of articles tend to be published in a small number of journals (core zones), while the rest tend to be in a larger one (Venable *et al.*, 2016). It considers that there is a relationship between those zones following this sequence: $C : Ck : Ck^2 \ldots Ck^{p-1}$. C is the number of journals in Zone 1, k is a Bradford multiplier and p is the number of Bradford zones.

$$\mathrm{C} = \frac{T(k-1)}{(k^p - 1)} \tag{1}$$

$$\mathrm{k} = (\mathrm{e}^{\gamma} Y_m)^{1/p} \tag{2}$$

where, e = 2.71828 and γ = 0.5772 (Euler's number and constant, respectively) (Bailón-Moreno *et al.*, 2005), Y_m: the citation number of the highest-ranked journals and T: the cumulative number of journals.

Appling both equations, we can establish the Bradford zones' theoretical citation distribution.

Table 1 shows the rank of journals in our sample (226 journals). The top eight journals are the highly ranked journals in the core (Zone 1). Those eight journals had a cumulative frequency of 182, which is higher than the 50 journals in Zone 2 with a cumulative frequency of 359 and 168 journals in Zone 3.

Moreover, based on the analysis, the core journals are *International Business Review* (*IBR*), *International Journal of Emerging Markets* (*IJoEM*), *Journal of World Business* (*JWB*), *Multinational Business Review* (*MBR*), *Journal of International Business Studies* (*JIBS*), *Management International Review* (*MIR*), *Journal of International Management* (*JIM*) and *Thunderbird International Business Review* (*TIBR*) (Figure 3).

3.2 Descriptive results

This section is divided into these four subsections related to literature trends over 46 years, journals, authors and countries.

3.2.1 Literature trends. The literature on FDI by MNCs in emerging economies has been growing from 1974 to 2020 (Figure 4). Three different periods can be highlighted. From 1974 to 2006, 81 articles were published, and the contribution dealt mainly with FDI determinants and how MNCs entered foreign markets (Kokko, 1994; Li and Resnick, 2003; Tihanyi *et al.*, 2005).

Table 1. Bradford's journal zones

Rank	Freq.	cumFreq	Zone	Percentage of articles in the zone	Journal count (%)
1	29	29	Zone 1		
2	28	57	Zone 1		
3	27	84	Zone 1		
4	26	110	Zone 1		
5	23	133	Zone 1		
6	19	152	Zone 1		
7	16	168	Zone 1		
8	14	182	Zone 1	34.15%	8 (3.54%)
9–58	177	359	Zone 2	33.20%	50 (22.12%)
59–200	174	533	Zone 3	32.64%	168 (74.33%)

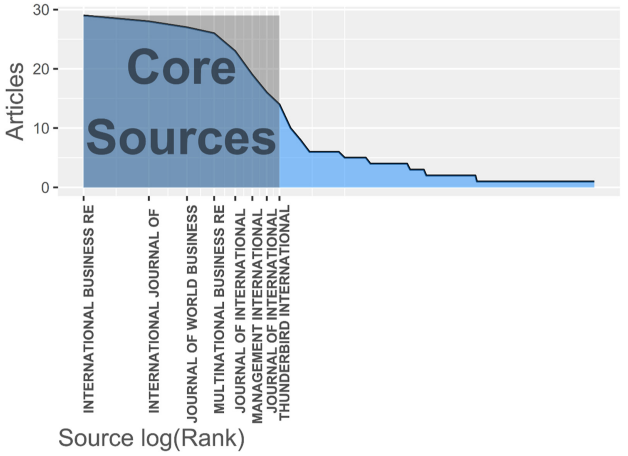

Figure 3.
Bradford's core journal's distribution

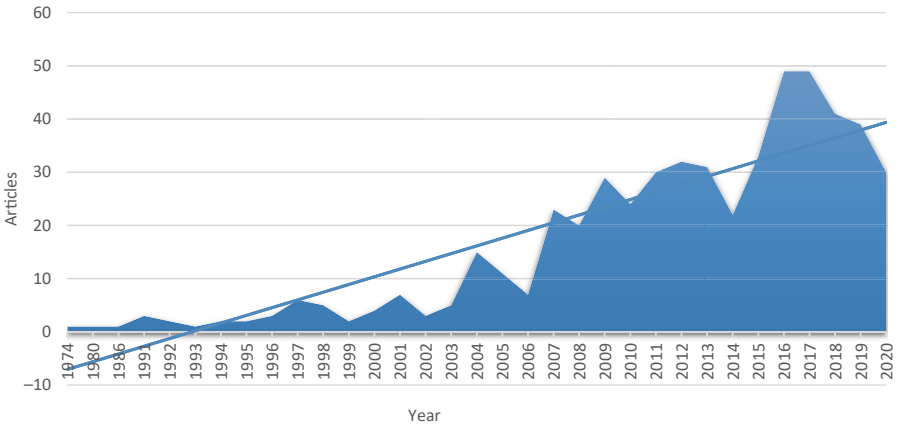

Figure 4.
Annual scientific production trend

From 2007 to 2014, 211 articles were published. The concepts of corporate governance, location choice and impacts of FDI start to appear, highlighting the need for model developments and new theories to explain the process of emerging economies for internationalization (Li and Yao, 2010; Sun *et al.*, 2012).

The third period (2015–2020) counts 241 articles: 65 articles (27%) deal with the determinants of FDI such as strategic asset seeking (Meyer, 2015) and barriers of FDI (Padilla-Perez and Gomes Nogueira, 2016), 50 articles (21%) with the entry mode of MNCs such as the employment of Outward foreign direct investment (OFDI) for knowledge seeking and integration (Liu *et al.*, 2017), the relationship between exports and entry mode (Bhasin and Paul, 2016), 31 (13%), deal with the impacts of FDI on innovation performance (Li *et al.*, 2016) and the impact of FDI on economic growth in developing countries (Huber, 2018), 26 (11%), deal with corporate governance and how the government influences internationalization (Panibratov, 2016), 14 (6%), deal with MNCs' location choice decisions (Gao *et al.*, 2019; Shukla *et al.*, 2019), while 55 (23%), deal with other topics such as geographic diversification effects on firm profitability (Kim *et al.*, 2015) or assessing the source and nature of competitive advantages of multinationals which expand in emerging economies (Williamson, 2015).

The analysis demonstrates the increase in field contributions since 2007. It shows that academics wrote 92% of them, 2%, were professionals and 6%, jointly collaborated. Moreover, 80% of the studies were published later than 2006. This review's literature trend findings align with previous studies (Bretas *et al.*, 2022; da Silva-Oliveira *et al.*, 2021).

3.2.2 Journals' statistics. Based on Bradford's law, Table 2 presents the top eight sources out of 226 journals in our sample, which have published 186 articles, representing 34.9% of the whole articles in our sample.

The most relevant journals found in this review are in line with previous studies (Fetscherin *et al.*, 2010; Paul and Singh, 2017).

3.2.3 Author statistics. Most of the 919 authors in our sample published one or two articles. The analysis also revealed that the authors of single-authored documents were 123 authors, and 796 authors were multiauthored documents.

Table 3 presents the most productive authors in the field with a minimum publication of five articles. The top ten authors have a high h index, indicating their publications' impact in terms of citations received (Hirsch, 2005). Moreover, it should be noted that due to h_index criticism (Koltun and Hafner, 2021), we introduced the g_index, which is based on the distribution of citations received by a given researcher's publication as an improvement of the h_index, to provide more weight to the most cited publications for authors (Egghe, 2006). Moreover, we calculated the m_index, which facilitates the comparisons between academics with different lengths of academic careers based on the following equation (West *et al.*, 2013):

Source	Articles	Citations	JCR2018	SJR 2018	Quartile (SJR)	Category index
IBR	29	1,420	3.639	1.373	Q1	BIM F MK
IJoEM	29	545	2.76	0.369	Q2	BIM BMA
JWB	28	2,394	5.789	2.672	Q1	BIM F MK
MBR	27	406	1.436	0.999	Q1	BIM BMA
JIBS	24	5,001	7.724	5.548	Q1	BIM BMA EE SM MTI
MIR	19	685	2.689	1.564	Q1	BIM SM
JIM	16	894	2.830	1.673	Q1	BMI F SM
TIBR	14	96	1.890	0.631	Q1	BIM GPD PSIR

Note(s): BIM: business and international management, F: finance, MK: marketing, BMA: business management and accounting, EE: economics and econometrics, SM: strategy and management, MTI: management of technology and innovation, GPD: geography planning and development and PSIR: political science and international relations

Table 2.
Most relevant sources

Authors	Articles	TC	PY_start	h_index	g_index	m_index
Buckley, P	10	462	2004	9	10	0.4736842
Meyer, K	10	2,619	2004	10	10	0.5263158
Li, J	10	616	2005	9	10	0.5000000
Cuervo-cazurra, A	6	759	2007	6	6	0.3750000
Luo, Y	8	2,323	1997	7	8	0.2692308
Cui, L	5	261	2009	5	5	0.3571429
Demirbag, M	6	341	2007	6	6	0.3750000
Estrin, S	5	1,292	2009	5	5	0.3571429
Quer, D	6	71	2012	6	6	0.5454545
Rienda, L	6	71	2012	6	6	0.5454545

Note(s): TC: total citations; PY_start: publication year start

Table 3. Most productive authors

$$\text{m\_index} = \frac{h\_index}{(current\,year - PY\_start) + 1}$$

The most productive authors are Meyer, Buckley and Li with ten articles each, followed by Luo, with eight articles. Their research studies focus on MNCs, FDI and internationalization. For example, Buckley *et al.* (2007, 2012) contribute to the research on the effects of FDI spillover on the local industry and linkages and specific advantages of the host-home country as determinants of foreign acquisitions while Meyer contributes to the field of FDI strategies (Meyer *et al.*, 2009). Moreover, Li analyzes the effects of OFDI on regional innovation performance and the role of FDI in knowledge transfer to host economies (Li *et al.*, 2016; Ning *et al.*, 2016).

3.2.4 Country statistics. During the past 46 years, 46 countries contributed to the field. Table 4 presents the top ten productive countries concerning several indicators, like total published articles, citations and average article citations. The USA published 87 articles (81, were single country publications (SCPs) and 6, were multiple country publications (MCPs)), accounting for 16.32% of total published articles. The UK and China rank in the second and third positions, respectively. Moreover, the USA, the UK and China rank top in total citations.

SCP or intra-country collaboration and intercountry (MCP) collaboration are essential factors that allow the development of research directions and also can help identify research

Country	Articles	Freq.	SCP	MCP	MCP_ratio	TC	AAC
The USA	87	0.1982	81	6	0.0690	9,124	104.87
The UK	73	0.1663	61	12	0.1644	4,212	57.70
China	44	0.1002	33	11	0.2500	1,727	39.25
Brazil	24	0.0547	23	1	0.0417	309	12.88
Australia	21	0.0478	20	1	0.0476	679	32.33
Spain	16	0.0364	14	2	0.1250	424	26.50
Canada	13	0.0296	11	2	0.1538	795	61.15
Germany	13	0.0296	13	0	0.0000	831	63.92
France	12	0.0273	11	1	0.0833	336	28.00
India	12	0.0273	12	0	0.0000	346	28.83

Note(s): SCP: single country publication, MCP: multiple country publication, TC: total citation and AAC: average article citation

Table 4. Most productive affiliation countries

niches that interest the audience in a given subject (Tabatabaei-Malazy *et al.*, 2016). It is observed from Table 4 that the publications with the highest rates of SCP and MCP collaboration belong to authors from the USA, the UK, China and Brazil. At the same time, the MCP ratio represents the degree of collaboration between authors and institutions. e.g. the USA has 87 articles, SCP, 81 and MCP, 6. Then, the USA has a 0.069 MCP ratio, an indicator of the weak collaboration between authors from other countries, while the MCP ratio for China and the UK is 0.25 and 0.1644, respectively. Therefore, China and the UK have higher author collaboration. It is worth highlighting that, among the top ten most productive countries, three are emerging countries (China, Brazil and India).

3.3 Collaboration networks

A collaboration network is a social map where authors are the nodes, and links represent co-authorships. The co-authorship network is one of the most well-documented and tangible forms of scientific and social collaboration (Glänzel and Schubert, 2006). To establish the field's social structure, we analyze two collaboration levels: between authors and institutions.

The primary statistics used to analyze social networks are as follows:

(1) Density of the network as metric to measure the connectivity within the network: It is defined as the percentage of the number of existing links concerning the maximum number of possible links in a given network (Wasserman and Faust, 1994).

(2) Diameter, which is the length of the longest geodesic distance (the maximum eccentricity over all the actors of the network) (Robins *et al.*, 2007).

(3) The average path length is the average distance between any couple of nodes and may highlight interesting properties of a given graph (Perez and Germon, 2016).

3.3.1 Author collaboration. Figure 5 shows the authors' collaboration network, representing the degree level of knowledge exchange between authors through the total joint publications in a specific field. It has a size of 919 authors, a density of 0.002, an average path length of 4.664 and a diameter of 12. The node's size demonstrates the author's publications, and the link's thickness indicates the cooperation intensity.

The graph shows that the author's collaboration is grouped in nine clusters marked in different colors on the map, where Li J along with nine other authors (Meyer K, Cui L, Estrin S, Gammeltoft P, Goldstein A, Wang Y, Sutherland D, Flatotchev I and Ning L) occupy the main central cluster (blue). The total number of links between node statistics reveals a very sparsely connected network and the lack of joint collaborative research in the field.

3.3.2 Institution collaboration. The institutions' collaboration network displayed in Figure 6 has a size of 711, a density of 0.002 and a diameter of 8. The size of each node represents the density of the institution's publications, while the line thickness displays the collaboration ties.

The figure reveals five main research communities (clusters) as indicated by colors. The largest cluster, in red, comprises the six most productive universities that produce FDI by MNCs in emerging market-related research. These include China Europe Business School, the National University of Singapore, Simon Fraser University, Copenhagen Business School, the University of Macau and the University of Sussex.

Interestingly, there are two connected (think gray line) clusters (orange and blue clusters) represented by the University of Texas Dallas, the Chinese University Hong Kong and Tsinghua University (the orange cluster) and the University of Sydney, London Business School and Copenhagen University which reflect what is termed in the literature as the "locally-centralized-globally-discrete" type of collaboration (Zou *et al.*, 2018). The figure also demonstrates that European universities are most likely collaborating with Asian

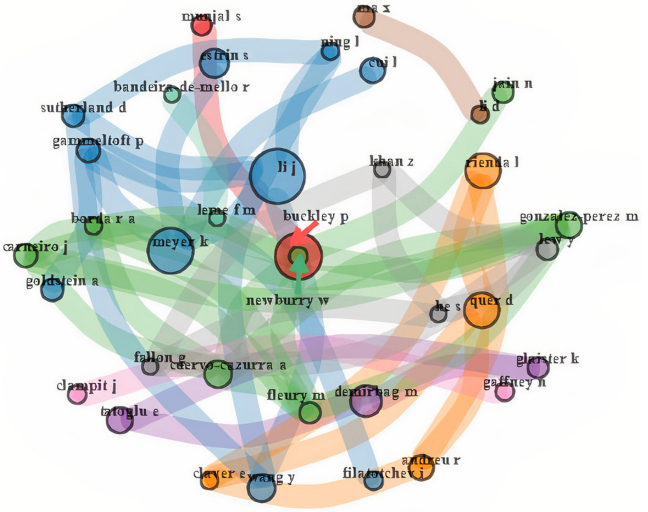

Figure 5.
Author collaboration network

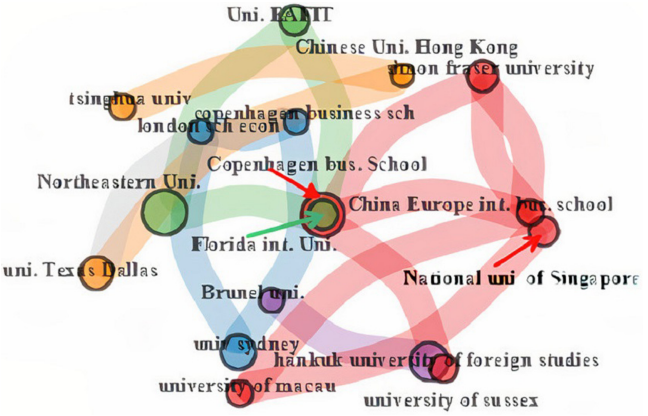

Figure 6.
Institution collaboration network

universities on FDI by MNCs in emerging economies research compared to other countries. Moreover, also shows no collaboration between developing and developed countries' institutions. Overall, our findings confirm the disaggregated nature of the FDI by MNCs in emerging economies research and a lack of knowledge sharing among most research institutions.

The analysis shows that the collaborative coefficient (CC) and modified collaborative coefficient (MCC) indicators were less than 0.5 (0.410 and 0.438, respectively) (Batcha and Chaturbhuj, 2019). Besides, the collaboration index (CI) is 2.02, which means that MNCs had less collaboration in the field of FDI in emerging economies. Moreover, we conclude that some authors who usually work together tend to stay in the same work group without establishing new relationships outside their groups. This lack of collaboration affects the institutions' relationships. Therefore, research collaborations occur internally within the same cluster, and it is typically weak.

The findings from the collaboration network analysis are consistent with our findings in Subsection 3.2.4 (country statistics). Also, these findings align with other studies that state that an author collaboration network is identical to other research fields (Alnajem *et al.*, 2021); most productive authors are independent or tend to work within the same institute (Zou *et al.*, 2018).

3.4 Conceptual structure map

Each research domain has various prime research themes. In this study, we use the keyword co-occurrence analysis to build a conceptual structure map and identify relationships and trends on the studied topic. This verification is done through multiple correspondence analysis (MCA) algorithms that use dimensionality reduction techniques to draw a conceptual structure map of the field to cluster common concepts.

The associations among the categories (clusters) are examined in two-dimensional plot (Figure 7). Dimension 1 accounts for 17.18% of the data variance, and Dimension 2 accounts for 9.44% of the variance between the individual variables (keywords). Table A1 in Appendix represents the prominent studies for each cluster.

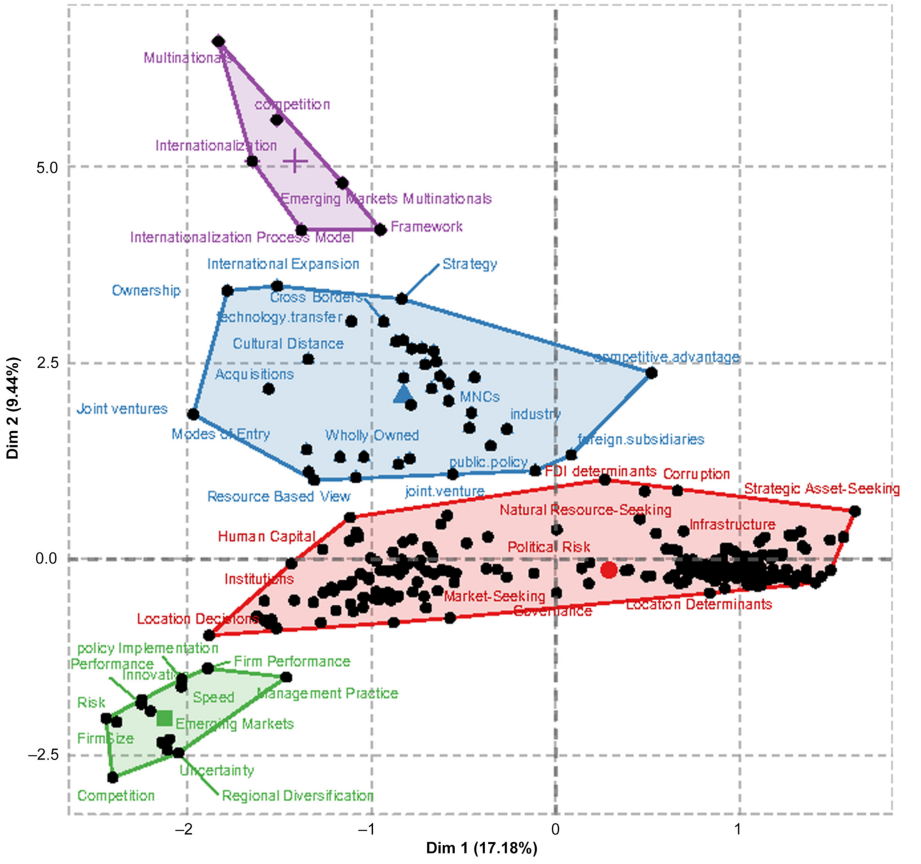

Figure 7.
Conceptual structure map

Following Munim *et al.*'s (2020) approach, we critically reviewed the contents of the articles in each cluster and developed subclusters (when possible) that share the same underlying research topics.

Keywords in our dataset were grouped in four clusters according to the association strength method as follows:

3.4.1 FDI determinants (red). This cluster focuses on FDI determinants, which affect FDI flows into the market. This cluster is considered the most comprehensive cluster. It gathers close together studies discussing topics, among others, the effects of knowledge infrastructure and institutional, human resource distance on FDI entry to the market, governance infrastructure and market size effects on FDI, the effects of human capital and skilled labor abundance on the FDI geographic distribution, political risks, economic freedom, trade costs, investment costs and corruption effects and FDI decision-making, and how FDI location choice is determined based on country-specific advantages.

We found two interconnected subclusters, institutional determinants and economic determinants.

3.4.1.1 Governance determinants. This subcluster focuses on institutional factors that affect and attract FDI into the specific economy. Such as control of corruption, voice and accountability, political stability, government effectiveness . . . This subcluster is composed of three empirical articles – those of Estrin *et al.* (2009), Globerman and Shapiro (2002) and Busse and Hefeker (2007).

Globerman and Shapiro (2002) adopted developed indices for examining the governance infrastructure effects on FDI inflows and outflows for a broad sample of developed and developing countries over 1995–1997. Moreover, they examined other forms of infrastructure, such as human capital and the environmental effects on FDI flows. The results reveal that governance infrastructure is a significant determinant of FDI flows. Also, investing in governance infrastructure attracts more FDI inflows and helps domestic MNCs to emerge and invest abroad.

Busse and Hefeker (2007) examined the effects of political risk and socioeconomic and institutional factors on FDI inflows, using a data sample for 83 developing countries from 1984 to 2003. The results show that government stability, conflicts, law and order, ethnic tensions, and bureaucratic quality highly influence FDI. Moreover, to a lesser degree, corruption and democratic accountability are important determinants of foreign investment flows. Finally, their results show that political risk and institutional variables influence the most when MNCs decide where to invest abroad. In the same vein, Filippaios *et al.* (2019) found a positive relationship between a country's political governance and its ability to attract FDI.

Estrin *et al.* (2009) investigated the role of human resource's distances on foreign investors' entry decisions by combining institutional and resource-based theories. Analyzing a dataset of 55 countries that invest in six emerging economies in Europe, Asia and Africa, their results show that the larger the distance between formal institutions and resource endowment, the more likely a greenfield entry will be the first choice. However, the impact of distance in informal institutions is found to be curvilinear.

3.4.1.2 Economic determinants. This subcluster gathers close together studies discussing topics, among others, the role of market size, skilled labor abundance, trade costs, geographic distance, infrastructure development in the host country, economic freedom, human capital and location choice in attracting and encouraging FDI inflows. For example, Noorbakhsh *et al.* (2001) investigated the influence of economic determinants such as market growth, macroeconomic stability, energy availability and human capital in attracting FDI by analyzing data sample which covers the period from 1980 to 1994 for 36 developing countries in Asia, Africa and Latin America. The results show that human capital is the most important determinant that affects FDI inflows, and its importance is increased over time while

Jiménez (2011) claimed that human capital and infrastructure development attract more FDI inflows. Also, Cieślik and Hien Tran (2019) adopted the theoretical knowledge model to investigate the determinants of FDI outflows from emerging economies using a panel dataset of FDI flows from 38 emerging countries to 134 host countries for the period 2001–2012. The results show that market size, skilled labor abundance, investment costs, trade costs and geographic distance are significant determinants of outward FDI from emerging economies. While, Galan *et al.* (2007) claimed that when MNCs decide to invest abroad, managers usually choose strategic asset-seeking factors when the chosen location is in a developed economy.

Meanwhile, a group of authors studied how specific advantages affect the MNCs' decision to locate abroad (De Beule and Duanmu, 2012). How country-specific linkages and advantages could explain MNC location choice in light of foreign acquisitions (Buckley *et al.*, 2012). De Beule and Duanmu (2012) argued that when MNCs decide to choose a location; they will generally search markets that are big and open, while trade openness is an important factor in enabling exports and imports. Moreover, the natural resource availability factor is a significant trigger for choosing the location. Furthermore, Buckley *et al.* (2012) argued that when MNCs choose the location, natural resources is a key role, together with the open economy factor. Both variables are important determinants for choosing new locations.

3.4.2 Entry mode (blue). Choosing an entry mode strategy for a new foreign economy is a crucial decision because the future strategic success or failure in that new economy and international expansion is tied to the chosen strategy (Schellenberg *et al.*, 2018).

Studies in this cluster discuss a wide range of topics, such as MNCs' modes of entry strategies and how host economy institutional context influences the entry strategy and MNC performance (Chan *et al.*, 2008; Filatotchev *et al.*, 2008; Meyer *et al.*, 2009; Meyer and Nguyen, 2005), the effects of cultural distance on the mode of entry and MNC performance and diversification (Tihanyi *et al.*, 2005).

Among the studies in this cluster, we found three literature reviews. The first review focuses on the importance of the resource-based view in IB (Peng, 2001). The second is on the importance of studying developing economies' MNCs to extend recent internationalization theories and models (Cuervo-Cazurra, 2012), and the last is on the strategies of MNCs that invest in developing economies (Spencer, 2008).

Sun *et al.* (2012) discussed why emerging economies MNCs (EEMNCs) (the case of Chinese and Indian MNCs) choose cross-border mergers and acquisitions as a primary strategy mode of internationalization, by developing a new comparative ownership advantage framework. The finding of Sun *et al.* (2012) show that value creation, institutional facilitation, dynamic learning, national industrial factor endowments and national industrial factor endowments are triggering the emerging economies' MNCs' competitive advantage and helps them improve their skills and capabilities in cross-border mergers and acquisition integration. The relationship between institutional distance and ownership strategy is discussed by Liou *et al.* (2016). Liou *et al.* (2016) argued that large institutional distances in home-host countries' institutional environments will have opposite effects on EEMNCs ownership strategies. So, EEMNCs prefer higher ownership control to benefit the governance efficiency when they invest in a developed formal institutions' host economy, while large informal institutional distance force EEMNCS to lower their ownership control to reduce legitimacy concerns.

3.4.3 MNCs and FDI performance (green). Topics in this cluster discuss a wide range of topics such as firm performance, FDI performance and innovation and also proposes a new conceptual framework that helps to explain the determinants of MNCs' performance in emerging economies (Thakur-Wernz and Samant, 2019) and the effects of globalization on firm performance (Sledge, 2006). While some studies focus on innovation determinants in emerging economies (Wang and Kafouros, 2009), how home economy innovation can influence the MNCs' investment strategies abroad (Luo and Wang, 2012), the linkages between host

economy industrial policies and MNCs' innovation practices (Jormanainen and Koveshnikov, 2012) and the effects of both international experience and interfirm mobility on innovation performance (Liu *et al.*, 2010; Thakur-Wernz and Samant, 2019) others focus on MNC performance (e.g. Chan *et al.*, 2008; Estrin *et al.*, 2016; García-García *et al.*, 2017; Qian *et al.*, 2008).

3.4.3.1 Innovation performance. The literature on internationalization gave an improved understanding of innovation performance determinants. However, little research has been done to understand the innovation performance determinants in emerging economies. Wang and Kafouros (2009) proposed a framework that evaluates international trade, FDI and research and development (R&D) together, for a better understanding of their effects on innovation performance. This framework can help emerging economies to increase FDI inflows by focusing more on R&D. Innovation performance is not only important for attracting FDI inflows for emerging economies but also can play a key role in drawing the home economies' FDI outflow strategies and future international expansion (Luo and Wang, 2012). Moreover, Franco *et al.* (2011) found that innovation performance helps EEMNCs who invest in emerging economies to create positive spillovers in the host economy and create a useful transnational network of knowledge.

3.4.3.2 MNC performance. Performance is an important objective because it is the only way that keeps MNCs innovative, expanding, developed and competitive. This subcluster discusses some factors that affect MNCs performance, such as host economy institutional development, regional diversification and speed of internationalization.

MNCs prefer to invest in host economies where the economic and political situations are stable, but do host economy development matter? Chan *et al.* (2008) found a negative relationship between the level of institutional development and the level of foreign affiliate performance. Qian *et al.* (2008) found that most MNCs internationalize regionally, not globally, to reduce diversification costs. Moreover, the relationship between regional diversification and MNC performance has a U curve, meaning the more regional diversification, the less performance. The last topic in this subcluster focuses on the speed of internationalization and its effects on MNC performance in the presence of technology (technological knowledge) and experiential knowledge in international markets. Based on a knowledge-based view and the organizational learning theory, García-García *et al.* (2017) proposed an integrated theoretical framework to explain the effects of internationalization speed on MNC performance. The findings show that low and moderate speed levels positively affect performance in the long run, while rapid internationalization with high levels of technological knowledge decreases MNC performance. Moreover, when levels of diversifications increase, García-García *et al.* (2017) found a U-shape relationship between the speed of internationalization and long-term performance. This explains why the rapidly expanding abroad MNCs enjoy increasing the diversity of their host-country portfolio.

3.4.4 Internationalization process (purple). The internationalization process theory (IPT) states that firms are more likely to expand in economies not so far from their home economy (Amdam, 2009). The relevance of the IPT to IB and international management (IM) is its ability to explain foreign entry under the assumption that firm internationalization results from decisions based on accumulated knowledge over time (Amdam, 2009). Host economy environments differ from the home economy. Then, some factors will affect the MNC internationalization process. Santangelo and Meyer (2011) found that the host economy's high institutional voids increase the cost of adaptation for subsidiaries and reduce the postentry adjustments, while high institutional uncertainty increases the chance for entrepreneurial opportunity recognition. Amal *et al.* (2013) and Bonaglia *et al.* (2007) found that strong brands, product innovation and important networks help MNCs to internationalize in foreign markets. Regarding EEMNCs, Thite *et al.* (2016) show that selected Indian MNCs have efficiently leveraged their knowledge in regional markets to expand in developed markets and applied the linkage–leverage–learning approach (LLL) in

their internationalization process. Contrarily, Cuervo-Cazurra (2008) found that Latin firms' internationalization process and building their competitiveness advantages on the international level is influenced by the home country's structural reforms to overcome the limitations of generating FDI and becoming MNCs.

The rapid development and international expansion of EEMNCs questioned the IPT and the ability of classical theories to explain whether all MNCs behave the same regarding the internationalization process or does EEMNCs' internationalization process shapes new strategies that require new theories (Chittoor, 2009; Guillén and García-Canal, 2009; Masiero *et al.*, 2017). Since advanced economies MNCs internationalize by using their knowledge (gradually learned to internationalize), EEMNC's motive for internationalization is learning. This makes EEMNCs expand globally before reaching the maturity stage in their home market, as the internationalization process helps EEMNCs achieve advantages and capacities they lack as latecomers on the international stage (internationalize to learn) (Girod and Bellin, 2011). Marchand (2018) show that EEMNCs should accelerate their internationalization process pace to compete and expand globally.

To this end, Marchand (2018) used empirical data for testing EEMNCs' practices and strategies to update and extend some parts of two major IB/IM theories (the internationalization process and post-acquisition integration). Results suggest that constructs and frameworks for both theories are still valid (the IPT still can answer the internationalizing questions, the where (location) and the how (entry modes)). Moreover, the post-acquisition integration framework as they organize the two major decisions to be made (levels of organizational and operational integration).

Clusters 1 and 2 (red and blue, respectively) have the most keywords, which means the researchers' attention to the study's subject matter.

The analysis above shows that almost all studies in each cluster have referred to one or more theoretical standpoints. Following Øyna and Alon's (2018) approach, we identify 17 theories and models that are considered as background for researching the FDI by MNCs in emerging economies (Figure A1 in Appendix).

The most important theoretical background is the institutional theory referred to by all clusters. It is not a surprising finding because MNCs' choices in internationalizing depend on their capabilities, industry conditions, and formal and informal constraints of their institutional environments (Peng *et al.*, 2008). Also, this theory can explain MNCs' strategies during expansion phases (Sahin and Mert, 2022).

The second framework is the ownership, location and internalization (OLI) framework (referred to by three clusters). It explains MNC's IB activities modes and identifies the MNCs' competitive advantage, which allows them to compete in host economies and facilitates the location choices and entry mode strategies into the host economy (Dunning, 1977).

The third framework is the resource-based view (referred to by three clusters), which identifies MNCs' employed resources to expand in the international markets (Øyna and Alon, 2018).

Finally, the internalization theory (referred to by three clusters) states that firms invest in host markets to exploit tangible and intangible assets to benefit from financial market imperfections which lower investment and operating costs and minimize their risk of business failure through greater income diversification (Buckley and Casson, 1976; Rugman, 1981).

The results obtained from the keyword analysis and the application of the statistical algorithms helped us answer the question "What is the conceptual structure of this literature"?

4. Conclusions

We conducted a bibliometric analysis of FDI by MNCs' publications in the IB field focused on emerging economies. The review's main objectives were to identify the most productive

journals, the main authors and the articles that contributed the most to the field development and growth and besides, to show the intellectual structure of this literature and the potential opportunities for further research.

The first contribution of this research is regarding the methodology. We analyzed the relationships between authors and keywords using statistical techniques and mathematical algorithms to clarify how the field is structured. A comprehensive bibliometric analysis technique has not been used before in the topic studied to draw future research agenda using the conceptual structure map. Previous bibliometric reviews were limited to showing the articles' numerical change over time, the article's relevance through citations, the most productive journals and author collaboration, among other descriptive results. Moreover, they often studied specific topics relating to FDI such as taxes, inward FDI to China and OFDI from or to developing economies.

The second contribution is the application of bibliometric laws (those of Lotka and Bradford), which have not been previously carried out in this field. In this regard, we can assume that our dataset follows those rules.

Concerning the descriptive part of the studies, we can draw some conclusions. First, we find a progressively growing literature study on FDI by MNCs in emerging economies research. Specifically, since 2007, academics have increased studies about location choice, the impacts of FDI and the need for model developments and new theories to explain the emerging economies for internationalization.

We find that a small number of authors dominate the field, especially regarding citations same as the countries where the publications are written. There is a high geographic concentration of this topic's research. In total 18% of the countries are responsible for 49% of all publications and received 74% of the citations.

Collaborations between research groups are also unusual. Authors who work together typically do it within the same group rather than establishing new networks outside. Moreover, we find a high level of single-authored documents compared to other fields.

On the other hand, journals from different disciplines are interested in this research, mainly economics, international business, and planning and development. However, it should be highlighted that a few journals of high perceived quality are the target for publications.

Another contribution of this review is the co-word analysis theme (the intellectual structure theme). From the conceptual map, we can identify four clusters related to different aspects of the FDI by MNCs in emerging economies: (1) focused on MNCs' internationalization processes and approaches, (2) related to entry mode strategies, (3) focused on FDI and MNCs' performance in emerging economies and (4) related to determinants and factors affecting FDI decision-making for the host economy.

5. Future research directions and limitations

By mapping the FDI field through the literature analysis, we can answer our last research question: What are the potential opportunities for FDI future research?

More research can be done to examine whether existing internationalization theories can explain the internationalization process of EEMNCs either in another emerging country or overseas in general. Maybe changing the object of study can lead to different results. As has been seen, many of the authors addressing the topic are from China, Brazil or India. Perhaps they can delve into this topic by conducting qualitative studies that shed light on this aspect and furthermore, examining to what extent the going global together phenomenon is a relevant entry strategy. Also, more research can be done to evaluate the effects of governmental collaboration in the home country and host country to reduce market uncertainties. Also, investigate the recent determinants of FDI in emerging economies, such as exchange rate fluctuations, political and economic risks regarding host economies and the

effects of terrorism on attracting FDI from developed economies. At last, more studies can address the relationship between direct taxes and FDI and investigate the performance of emerging markets' MNCs.

On the other hand, more efforts are needed to increase the relationship between international scientific collaboration. Multinational partnerships will improve FDI research effectiveness and quality, especially on this topic. Also, carry out more studies that encourage the adoption of collaboration indices (CC, MCC and CI) as a measurement of evaluating researchers in disciplines.

Despite this review's contributions to IB, it has some limitations. Concerning technical limitations, the results' interpretation might be limited to our functional human skills as researchers in text and information processing using algorithms and statistical calculations. Moreover, we used a limited number of databases (WoS and Scopus). However, we could have considered other databases, such as Journal Storage digital library (JSTOR), Sage publishing (SAGE) or Google Scholar. Finally, regarding the inclusion criterion, we only considered English articles that might underestimate research written in other languages.

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Supplementary material

The dataset retrieved from Scopus and WoS in the bib. format and *R*-language script that support the findings of this study is available in the https://osf.io repository with the identifier q9dax.

Appendix

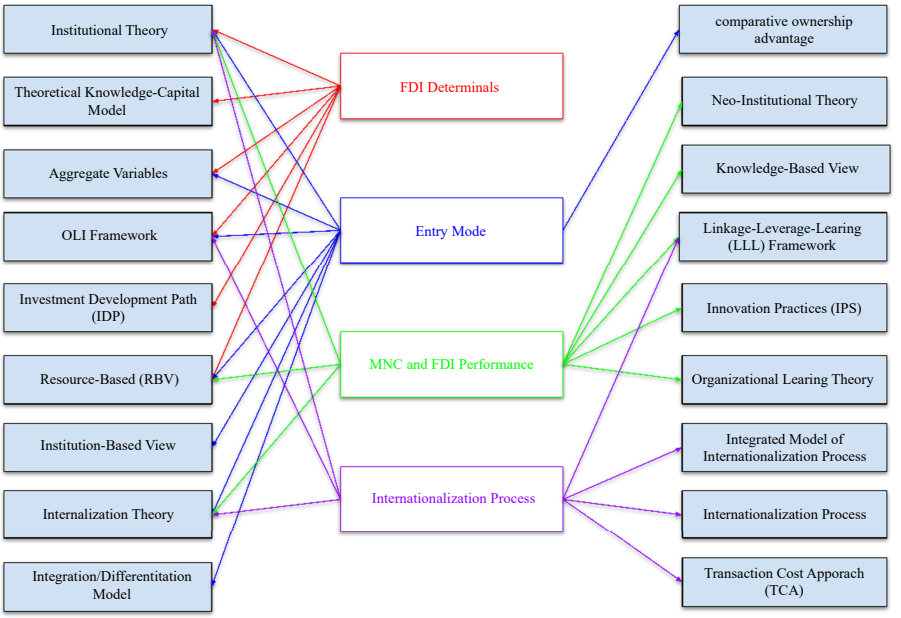

Figure A1. Theoretical foundation in clusters

Table A1.
Cluster-wise studies

Cluster 1 FDI determinants	Cluster 2 Entry modes	Cluster 3 MNCs and FDI performance	Cluster 4 Internationalization process
Estrin *et al.* (2009)	Chan *et al.* (2008)	Thakur-Wernz and Samant (2019)	Santangelo and Meyer (2011)
Globerman and Shapiro (2002)	Filatotchev *et al.* (2008)	Sledge (2006)	Amal *et al.* (2013)
Busse and Hefeker (2007)	Meyer *et al.* (2009)	Wang and Kafouros (2009)	Bonaglia *et al.* (2007)
Noorbakhsh *et al.* (2001)	Meyer and Nguyen (2005)	Luo and Wang (2012)	Thite *et al.* (2016)
Jiménez (2011)	Tihanyi *et al.* (2005)	Jormanainen and Koveshnikov (2012)	Cuervo-Cazurra (2008)
De Beule and Duanmu (2012)	Peng (2001)	Liu *et al.* (2010)	Chittoor (2009)
Buckley *et al.* (2012)	Cuervo-Cazurra (2012)	Chan *et al.* (2008)	Guillén and García-Canal (2009)
Galan *et al.* (2007)	Spencer (2008)	Estrin *et al.* (2016)	Girod and Bellin (2011)
Cieślik and Hien Tran (2019)	Sun *et al.* (2012)	García-García *et al.* (2017)	Marchand (2018)
Filippaios *et al.* (2019)	Liou *et al.* (2016)	Qian *et al.* (2008) Franco *et al.* (2011)	Masiero *et al.* (2017)

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