

WHAT DOES THE LITERATURE SAY ABOUT BUSINESS GROUPS AND PYRAMIDAL OWNERSHIP?

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Abstract

This paper aims to analyze the results of the research in pyramidal ownership within the scope of the business groups. Next, the research gaps in the business groups and pyramidal ownership will be identified. The research was conducted on two large-scale journals databases (Web of Science and Scopus), using VOSviewer, HistCite™, and Iramuteq software. The textual corpus is consisting of 65 articles and 137 authors and co-authors. Results report that important authors, such as Bae et al. and Almeida and Wolfenzon were among the most cited and with greater relational ties. We infer that searches in pyramidal structures are contained in the field of business groups since they represent of ownership and control. The analysis of the studies scope identifies that a large number of proposals are concentrated in the family-owned. We identify as a theoretical gap the analysis of the political connections and the social role. The interaction between the groups and the government has received a lot of attention in recent decades, exposing the hypothesis that business groups are formed with government support, expanding, and diversifying along with the government.

Keywords: Business groups. Pyramidal ownership. Pyramidal structure. Systematic Literature Review.

1. Introduction

In corporate finance, ownership and control structure are associated with several aspects. La Porta et al. (1997, 1998) suggest that the level of the legal protection of minority shareholders relates to the type of ownership and control structure adopted by corporations. The common law legal system (the United States and the United Kingdom) characterizes capital markets formed by controlling shareholders willing to sell shares to raise funds and diversify, resulting in dissipated structures (La Porta, Lopez-de-silanes, & Shleifer, 1999). Civil law countries tend to have more concentrated structures where controllers may not be willing to diversify, considering being costly to become a minority shareholder. Whereas, common law countries tend to protect their shareholders more than civil law countries (Faccio, Lang, & Young, 2001; La Porta, Lopez-de-silanes, Shleifer, & Vishny, 2000), resulting in better levels of corporate governance and corporate valuation (Chen et al. 2006).

In the context, individuals or families control several companies, forming a hierarchical chain of ownership relations (Wolfenzon, 1999). Pyramidal ownership structures characterize this organizational format. These structures may trigger excess control (ownership of voting shares) and conflicts of interest between majority and minority shareholders (La Porta et al.,

1999), since the final owner uses indirect ownership to maintain control over other companies (Bertrand & Mullainathan, 2003; Khanna & Rivkin, 2001).

In conjunction with the research on pyramidal structures, the business groups are observed. Business groups are legally separate sets of firms but bound by persistent and/or informal relationships (Granovetter, 2005a). They are an interesting and little explored research in the literature (Khanna, 2000), is considered a new organizational form that requires explanation (Cuervo-Cazurra, 2006). They are usually organized in pyramidal ownership structures; forming family business groups (Almeida et al., 2011; Almeida and Wolfenzon, 2006; Chung, 2004; Claessens et al., 2000).

Despite the growing interest in pyramidal ownership structures, there is still no formal theory (Almeida & Wolfenzon, 2006) and a good understanding of its economic role (Holmén & Högfeltdt, 2009). From the perspective of business groups, it is evident its omnipresence (Almeida et al., 2011) and diversity, being a hybrid organizational form between the market and the firm, which can generate new reflections on firm theory and its limits (Khanna & Yafeh, 2007).

This paper aims to analyze the results of the research in pyramidal structures within the scope of the business groups. The research was conducted on two large-scale journals databases, the Web of Science and Scopus in the period 1960 to 2018. The results were analyzed using the bibliometric method and a systematic literature review.

We contribute to contemporary literature by analyzing the pyramidal ownership with the formation of business groups, together. In the literature, the term “business groups” is used in a diversified way (Colpan, Hikino, & Lincoln, 2010); in sociology presupposes the formation of ties (Granovetter, 2005a); in the financial studies evidence the business groups as mechanisms for the expropriation of minority shareholders (La Porta et al., 1998, 1997), using of pyramidal structures (La Porta et al., 1999).

We done a search in the Web of Science with the term "systematic review," refining the results by "business groups," "pyramidal ownership" and "pyramidal structure" (search string in Table 1), to identify previous works. The refinement generated two results. The theoretical importance of research is confirmed, demonstrating there is scope to understand the relationship between these themes and to analyze the evolution of their results systematically.

The current paper contributes to the literature on business groups by clarifying what a “business group” is, because the definitions of a business group vary widely from one study to another (Cuervo-Cazurra, 2006). The research shows the development seen in this area in the last few years. For the empirical contributions, we demonstrate the relationship between business groups and pyramidal ownership, identifying research gaps that can be used to define strategies in groups. In times of crisis, the importance of business groups is identified. The internal capital markets in business groups provide its affiliates with a clear strategic advantage during crisis periods, allowing them to capture market share from standalone rivals with limited access to external capital (Masulis, Pham, Zein, & Ang, 2021).

Some research questions will guide the analysis, such as who are the specialists in the fields of research in business groups and pyramidal ownership? How have these fields developed over time? Also, what are the main topics associated with the study of business groups and pyramidal ownership? (Zupic & Čater, 2015).

This paper is arranged as follows: Section 2 presents a description of the fundamentals; Section 3 assesses the research methodology and the developed framework; Section 4 offers the identification and discussion of results; Section 5 provides the research directions. Finally, Section 6 provides the conclusions.

2. Theoretical background: Business Groups and Pyramidal Ownership

The classic definition of groups is presented by Leff (1978), showing that economic groups represent companies that conduct business in different markets under common conditions of entrepreneurship and financial control, establishing interpersonal trust relationships. In the field of Agency Theory (Jensen & Meckling, 1976), the ties established between the group companies are agency relationships, also occur between majority and minority shareholders (Yiu, Lu, Bruton, & Hoskisson, 2007).

The two main fields of study are identified, by presenting many strands (Khanna & Rivkin, 2001). In one, which is based on sociology, the business groups are analyzed from the perspective of the multiplicity of relationships between companies (Granovetter, 2005a). The second field has a narrower definition, based on economics, highlighting diversification, and family ownership in business groups (Cuervo-Cazurra, 2006). Despite the fragmentation, conceptualization converges in the understanding of networked firms, since they refer to individual firms, which have associations with several links (Yiu et al., 2007), which in many cases are family ties (Almeida & Wolfenzon, 2006; Cuervo-Cazurra, 2006; Khanna & Yafeh, 2007).

The interconnection between business groups and pyramid structures is made in the ownership relations of firms (Almeida & Wolfenzon, 2006; Claessens et al., 2000; Faccio et al., 2001). Cuervo-Cazurra (2006) classified the business groups in three types, according to the characteristics of their ownership. They can be widely held, state-owned, and family-owned, and in the latter classification, an individual or family is involved in group ownership, control and management, and can be organized as pyramids to maintain the family control (Almeida & Wolfenzon, 2006).

Khanna and Yafeh (2007) proposed a taxonomy for business groups, based on three dimensions: group structure, group ownership and control, and group interaction with society. The group's structure considers horizontal diversification (group performance in different sectors), vertical integration (among group companies) and involvement in the financial sector. In the ownership and control of the group, it has the analysis of the pyramidal structure and exercising the familiar control. Finally, the group interaction with society relates to the interconnection of business groups with the State.

In the dimension of ownership and control, attention is focused on the pyramidal structures (Almeida et al., 2011). One point worth highlighting is the legal protection of shareholders (Almeida & Wolfenzon, 2006; La Porta et al., 1999; Shleifer & Wolfenzon, 2002). The weak legal protection favors the controller (at the top of the pyramid), who can transact resources (asset sales, transfers, among others) from bottom to top, which is called tunneling (Bertrand, Mehta, & Mullainathan, 2002; Bertrand & Mullainathan, 2003; Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2000).

Colpan and Hikino (2018) proposed two basic different types of business groups: network and hierarchy types. Network-type business groups adopt the principle of alliance. Individual companies retain autonomy in terms of basic strategic and budgetary decisions. It

generally does not have a single controlling entity. Hierarchical-type groups adopt the principle of authority. The holding company controls legally independent operating units, generally organized as subsidiaries and affiliates, through equity or economic linkage. This participation is usually controlled by a family or business owner, who can also directly control the operating units. Hierarchical-type groups have two major varieties. The first one, from the perspectives of product portfolio and strategy, has the following types: diversified business groups and holding company. As for the ownership and governance perspectives, they are classified as pyramidal business groups.

The pyramid structure allows for the creation of elites to control most of the corporate sectors (Morck, 2007) that can maintain control (voting rights) with a relatively small fraction of ownership (cash flow rights), creating the deviations of rights (Levy, 2009). However, some pyramidal structures have a low level of separation between ownership and control. Pyramidal structures are very common in some countries, such as Continental Europe, Asia and South America, often being organized into family business groups (Almeida et al., 2011; Bena & Ortiz-Molina, 2013; Chung, 2014; Claessens et al., 2000; Di Carlo, 2014; Faccio & Lang, 2002)

Almeida and Wolfenzon (2006) developed an alternative theoretical model to explain the formation of pyramid structures, being one of the papers most frequently cited in the literature addressing this subject. Pyramids are characterized by companies that need high levels of investment and/or with low profitability. The advantage of financing allows families who already publicly control other companies to develop new ventures, indirectly owning shares in a new company. This pyramid ownership may allow families to benefit from this new ‘financing’, which will not appear profitable to outside investors (Almeida & Wolfenzon, 2006). Figure 1 shows a timeline, highlighting relevant studies in the literature.

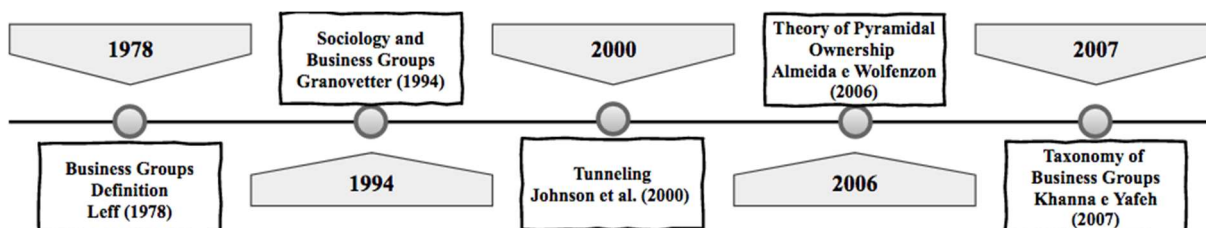


Figure 1. Timeline of the research involving Business Groups and Pyramidal Ownership

Source: Elaborated by the authors

The timeline begins with the classic definition of business groups, as discussed by Leff (1978). In sociology, the relevance of studies by Granovetter (1994) explores the formation of business groups from economic, political, and social ties. With the evolution of group studies and their specificities, issues related to ownership structure and control becomes an important aspect. Cross-company transactions are the focus of Johnson et al. (2000) that presents the concept of tunneling, explored in pyramidal structures. Next, the proposal of a theory for the pyramidal ownership (Almeida & Wolfenzon, 2006) and taxonomy for the study of the business groups (Khanna & Yafeh, 2007).

3. Method

3.1 Selection of studies and criteria

The search strategy considered the keywords related to the themes "business groups" and "pyramidal ownership." For the research of scientific publications concerning pyramidal ownership, the Boolean operator "or" is used to identify the use of similar terms, which correspond to "pyramidal structure." Besides, the search strings considered the word variations (singular and plural) from including the asterisk. The search period covered 1960-2018.

Table 1. Databases and search strings

Databases	Search Strings
Web of Science	TS=("systematic* review*") Refined by: TOPIC: ("business groups" OR "pyramidal ownership" OR "pyramidal structure") Stipulated time: every year. Indexes: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI.
	TS=("business* groups*") Refined by: TOPIC: ("pyramidal* ownership*" OR "pyramidal* structure*") AND LANGUAGES: (ENGLISH) AND TYPES OF DOCUMENTS: (ARTICLE OR REVIEW) Stipulated time: 1960-2018. Indexes: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI.
Scopus ¹	(TITLE-ABS-KEY ("business*groups*")) AND (("pyramidal*ownership*" OR "pyramidal*structure*")) AND (LIMIT TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (LANGUAGE , "English"))

Note. ¹Legend – TS: topic; ABS: abstract; KEY: Keywords; DOCTYPE: document type; ar: an article; re: a review. Source: Elaborated by the authors

Due to the amplitude of the themes, we refined the results by the research protocol with the objective of evaluating whether the selected studies really are important for the analysis. The research protocol of Tranfield, Denyer, & Smart (2003) was used. These authors demonstrate that the conduct of systematic review runs through three major stages: planning the review, conducting the review, and reporting and dissemination.

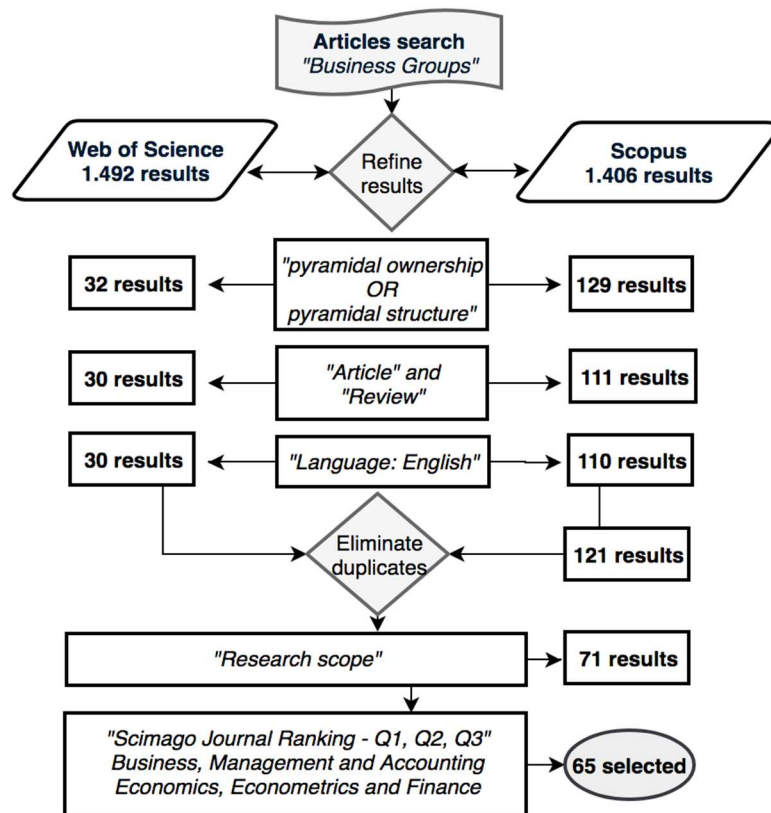


Figure 2. Research protocol of the Systematic Literature Review
Source: Draw.io - Elaborated by the authors

We used the inclusion and exclusion criteria to refine the results and are defined based on the scope of the review. We refined the term of the business search by the topic of pyramidal ownership or pyramidal structure. We found in Web of Science 32 results and in Scopus 129 results. The filters used included articles and review and the English language. We removed the duplicate results, totaling 121 valid results.

After, we identified the adherence of the results to the scope of the research. We read the title and abstract, and the occurrence of the keywords (business groups, pyramidal ownership, and pyramidal structure) throughout the article was verified. The application of these filters resulted in 71 papers, which were refined by the Scimago Journal & Country Rank (SJR), considering the first three-quarters of classification. Thus, the textual corpus of the research comprises 65 articles.

3.2 Conceptual framework to evaluate Pyramidal Ownership in Business Groups

Initially, this work led to various descriptions, methods and proposals that allowed the conceptual framework and its phases to be set up (Figure 2). We evidenced the results of the bibliometric study, based on the three laws of bibliometry: a) Lotka's Law (1926), which estimates the degree of relevance of authors in a given area of knowledge (Lotka, 1926); b) Bradford's Law (1934), which verifies the degree of reputation of periodicals (Bradford, 1934); and c) Zipf's Law (1949), which measures the frequency of occurrence and co-occurrence of words in the text (Zipf, 1949).

We used bibliometric methods of citation, co-citation, and bibliographic coupling. Most bibliometric studies provide citation analysis to demonstrate a measure of influence since the authors cite the documents; they consider to be important (Zupic & Čater, 2015). The analysis of co-citation is understood as the frequency with which two units (documents, authors, periodicals) are cited together by a list of more current references, being exposed by Small (1973). The strength of co-citation is determined by the reaction of the scientists to the published articles (or authors) (Marshakova, 1981). The co-citation image reflects the state of the field in a dynamic way, which may change with time, thus making it a prospective method (Zupic & Čater, 2015).

Another form of citation analysis, that is, the method of bibliographic coupling, was introduced by Kessler (1963) and showed that two works are bibliographically coupled when they refer to at least one publication in common. When measuring the proximity between articles, from the references they share, one can identify similarities, such as theoretical and methodological questions. The bibliographic coupling is still not widely used in the management area, is a method with great potential (Zupic & Čater, 2015).

Next, we did a detailed literature analysis by applying the conceptual framework. The works were classified according to three perspectives: widely-held, state-owned, and family-owned (model proposed by Cuervo-Cazurra, 2006). According to the categories, the main characteristics of a pyramidal ownership were compiled.

Widely-held business group: there is no distinct majority shareholder who exercises control. Ownership is dispersed among many shareholders, each of whom does not have a controlling stake.

State-owned business groups: ownership is legally vested in the citizens of the country, since the firms are officially owned by the government, either at the national level or at a sub-national or local level.

Family-owned business group: an individual or family are involved in the ownership, control, and management of the business group (Cuervo-Cazurra, 2006, p.424).

4. Results

4.1 Characterizing the works

The results report a total of 65 articles, 137 authors and coauthors, distributed in 42 scientific journals over the years. The results start in the year 2002 and end in the year 2018, being characterized as more recent themes in the literature. The results are in Figure 3.

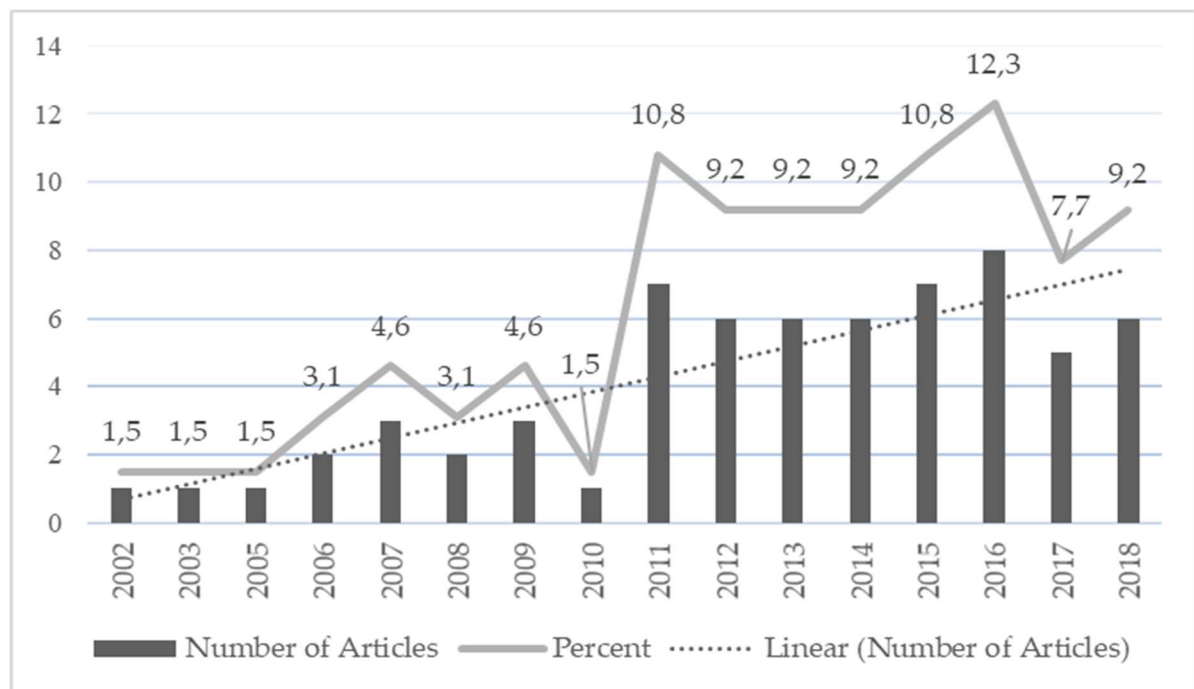


Figure 3. Temporal distribution of the textual corpus

Source: Elaborated by the authors

The time distribution reports that the publications in business groups with the topics of pyramidal structures and ownership start in the year 2002, having no results in 2004. They present a linear distribution after the year 2010. A highlight was the year 2016, with eight articles and 12.3% of the total, and the years 2011 and 2015, with seven articles and 10.8% of the textual corpus. Two articles stand out, being the main ones of the textual corpus of research. The first one is by Bae et al. (2002), titled “Tunneling or value added? Evidence from mergers by Korean business groups”, published in the *Journal of Finance*, with a total of 391 citations. The second article is by Almeida and Wolfenzon (2006), entitled “A theory of pyramidal ownership and family business groups,” and published in the *Journal of Finance*, with 216 citations in total.

We analyzed the number of authors per article, considering the temporal distribution. They were divided into articles with only one author, two authors, three authors, and four or more authors. The frequencies obtained by HistCite™ show that two authors developed the

largest number of articles (23 papers), representing 35% of the sample. There is a partnership between three authors (21 papers), a single author (12 papers) and four or more authors (9 papers). Until the year 2010, the articles were carried out mainly by two authors, and as of 2011, articles with three authors become the main format. Also, there are works with partnerships covering publications of four or more researchers.

Afterward, we analyzed the geographic distribution of the corpus, based on the results of HistCite™ (analyzes the country of the first author). The emphasis is on the general characterization of the work, identifying the distribution of research in 22 countries, with 101 records in total.

The results show that the five most representative countries in the number of authors comprise 57.43% of the textual corpus. The United States is responsible for 21.78%, with the presence of 22 records. South Korea is in second place with 13 occurrences. In this way, the influence of US research in the area of finance is confirmed. As for South Korea, the relationship between Asian countries and business groups is highlighted. The other countries have a smaller number of registries, emphasizing that many may have been produced in partnership with more representative countries.

4.2 Analysis of Authors and Co-authors

We analyzed the citation of documents from the perspective of the citation indicators available in HistCite™, that is, Global Citation Score (GCS) and Local Citation Score (LCS). The GCS refers to a global criterion, which analyzes the number of citations to the document from all sources, according to data from the Web of Science database. The LCS refers to the number of citations to the article within the collection, being in this case, the textual corpus (Garfield, Pudovkin, & Istomin, 2003).

For the analysis of the GCS, we considered as a criterion values equal to or greater than 10. The results show the connection of 25 articles, which are called "nodes." The connections between these nodes represent 35 links, with the minimum citation value equal to 11 and the maximum value equal to 391. In an analysis of representativeness, we found that, together, the five papers of the textual corpus most cited by GCS, represent 63% of the total (25 papers selected for analysis).

Respectively, they are characterized: Bae et al. (2002) titled "Tunneling or value added? Evidence from mergers by Korean business groups", published in the *Journal of Finance*; Almeida and Wolfenzon (2006), entitled "A theory of pyramidal ownership and family business groups", also published in the *Journal of Finance*; Masulis et al. (2011) entitled "Family Business Groups around the World: Financing Advantages, Control Motivations, and Organizational Choices", published in *The Review of Financial Studies*; Almeida et al. (2011), entitled "The structure and formation of business groups: Evidence from Korean chaebols", published in the *Journal of Financial Economics*; and Cuervo-Cazurra (2006), entitled "Business groups and their types", published in the *Asia Pacific Journal of Management*.

We identified the works with higher levels of LCS, to present the most important citation links in the textual corpus. For this verification, the count limit of 15 is the criterion. This limit indicates that the 15 papers with the highest levels of internal interconnections will be displayed. Figure 4 shows the demonstration of the results in the analysis period.

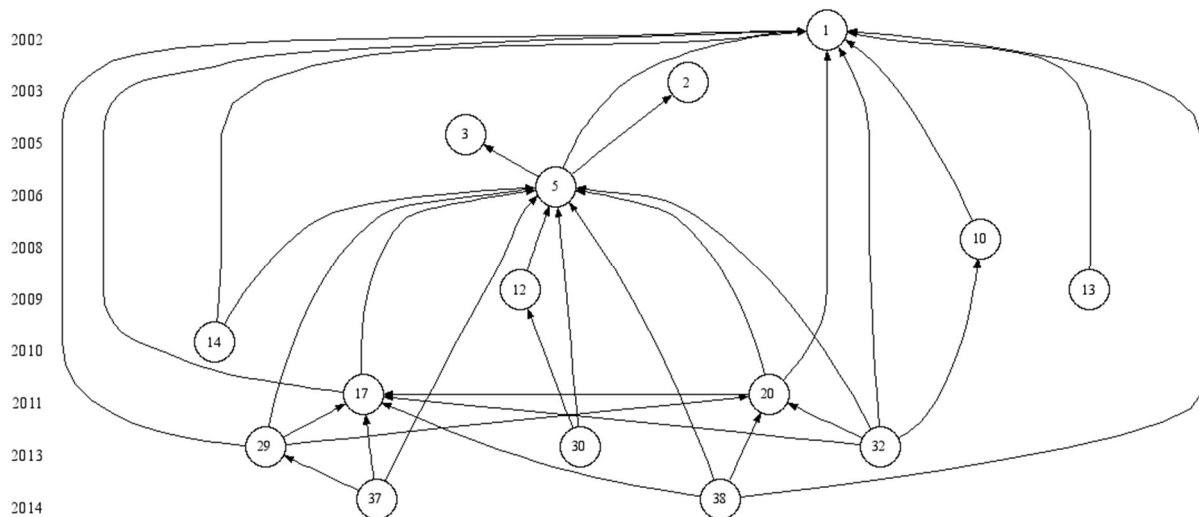


Figure 4. Local citation score network

^aLegend: 1. Bae et al. (2002); 2. Demirag and Serter (2003); 3. Cestone and Fumagalli (2005); 5. Almeida and Wolfenzon (2006); 10. Bae et al. (2008); 12. Levy (2009); 13. Dow and McGuire (2009); 14. Bhaumik and Gregoriou (2010); 17. Almeida et al. (2011); 20. Masulis et al. (2011); 29. Bena and Ortiz-Molina (2013); 30. Chung (2013); 32. Byun et al. (2013); 37. Gopalan et al. (2014); 38. Buchuk et al. (2014).

Source: HistCite™ - Elaborated by the authors

The 15 papers with higher levels of local citation score form the nodes in the network, being the minimum value of 2 and the maximum value of 37 in the LCS. In general, it is noted that there is at least one interconnection between all articles. The oldest ones are also the most cited, confirming the expansion of the themes from the previous literature, which serves as the main basis for developing new research.

We concluded that in the textual corpus under analysis, the beginning of the thematic discussions comprises the paper number 1 of Bae et al. (2002), which was cited by 20 other papers also included in the corpus (9 are in Figure 4). This paper is also the most cited at the global level. Its representativeness can be attributed to the goal of exploring the nature of business groups in emerging markets (Korean Business Groups), from two competing views in the literature: the "value added view" of Khanna and Palepu (2000) and the "tunneling view" of Johnson et al. (2000). In the first one, it assumes an added value for the member firms of the business groups, while in the second it is assumed as an opportunity the transfer the wealth and benefits to the controlling shareholders. The evidence found is consistent with the tunneling view.

The paper number 5 by Almeida and Wolfenzon (2006) is the most cited by other papers of the textual corpus (LCS of 37). This work continues to be cited over time, for most of the textual corpus. The relevance is the presentation of a theory for pyramidal ownership and family business groups. The authors developed a theoretical model for pyramidal structures, which demonstrates the creation of new companies and the advantage of financing. Almeida and Wolfenzon (2006) also cite three other papers of the corpus, being Bae et al. (2002) to exemplify the expropriation in pyramid structures, Cestone and Fumagalli (2005) that present some benefits in the formation of business groups and that of Demirag and Serter (2003) to expose the empirical implications of pyramidal structures.

Other papers to be highlighted are those of numbers 17 and 20, with the respective authors: Almeida et al. (2011) and Masulis et al. (2011). The papers were published in the same

year and have an LCS of 16. According to their arrangement in Figure 3, they appear to form small clusters, connected by more recent works. In the connection between Almeida et al. (2011), Bena and Ortiz-Molina (2013) and Gopalan et al. (2014), it is noted that, despite the specific objectives of each article, there are some common discussions, as the intra-group investments and dividend policy in business groups. The connections between Masulis et al. (2011), Byun et al. (2013) and Buchuk et al. (2014) can be represented by the context of debt and the advantages of financing in pyramidal ownership and business groups.

Figure 4 shows the timeline until the year 2014, when the papers with the highest citation indicators are included. The most recent work will still be cited over time and, therefore, less representative indicators are warranted. Although the citation analysis demonstrates the relevant publications and researchers, it does not explore the relational aspect of citations. Therefore, two other methods are used: co-citation analysis (prospective coupling) and bibliographic coupling analysis (retrospective).

To verify the co-citation of authors, we established the total counting method (each co-citation has the same weight) and a minimum number of citations by authors equal to 25, based on 1,555 authors. It is worth mentioning that the nodes of the network are represented by the first author of each article in the set of references cited in the textual corpus. With the defined criteria, 16 authors presented ties between them.

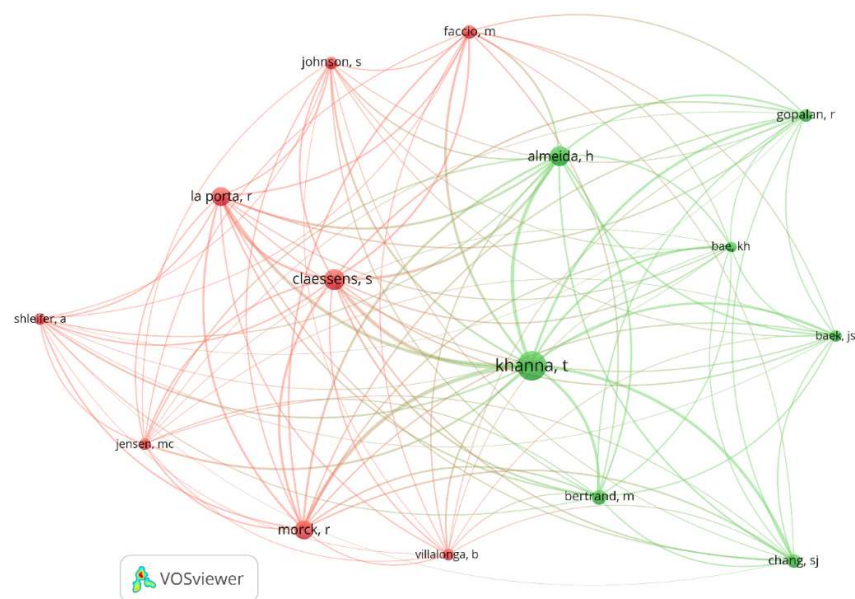


Figure 5. Co-citation of cited authors

Source: VOSviewer - Elaborated by the authors

The results report that the formulation of 2 clusters: Cluster 1 (C1): red color and Cluster 2 (C2): green color. The thickness of the nodes is proportional to the frequency of citations received by the co-cited authors, and the straight segments represent the relations between the authors. From the analysis of the clusters, it is possible to identify the approximation of the authors from the citing articles. Thus, observing who are the most influential authors in a field of research.

In the first cluster (C1), eight co-cited authors are visualized (Claessens, S., Faccio, M., Jensen, MC, Johnson, S., La Porta, R., Morck, R., Shleifer, A. Villalonga, B.). The highest levels of citation and bond strength are for Claessens, S. (88 citations and 1,181 connections),

Morck, R. (77 citations and 1,062 connections) and La Porta (76 citations and 912 connections). In the second grouping (C2) we have the presence of 7 co-cited authors (Almeida, H., Bae, KH, Baek, JS, Bertrand, M, Chang, SJ, Gopalan, R, Khanna, T). In this cluster, two other authors stand out for the levels of citation and interconnection with the others: Khanna, T. (177 citations and 2,079 connections), Almeida, H. (84 citations and 1,160 connections) and Bertrand (46 citations and 720 connections).

Many links between the authors of cluster 1 and cluster 2 are visualized. These links also expand, since there is also interaction among all authors analyzed. In the first group (C1) some authors usually emphasize in their work, issues related to agency relations, legal protection of minority shareholders, and deviations of rights. Authors like Johnson, S., La Porta, R., and Shleifer, A. have a joint work entitled “Tunneling,” published in the American Economic Review in the year 2000, which made an important contribution to the literature. La Porta, R. and Shleifer, A., can also be considered highly connected since they have several studies published jointly, some cited in the introduction and theoretical reference of this literature review.

In the second grouping (C2), the author with the highest connection in the network is highlighted (Khanna, T). Moreover, he has articles, which emphasize business groups, bringing contributions to their understanding in emerging markets. It is also noticed that the papers that cite this author, also mention the other authors of the cluster (C2), as a function of theoretical approximations. We inferred that the authors produce articles on the topic of Tunneling in business groups, and in some cases, focus on the Asian markets, such as the Korean Business Groups. From the co-citation of authors, can notice which are the most representative for the field of studies under analysis and, which are interconnected, from the citations together in the literature.

Further, proceeding the citation analysis, we adopted the method of document coupling, considering a minimum number of 10 citations, which generated 25 coupling documents in total.

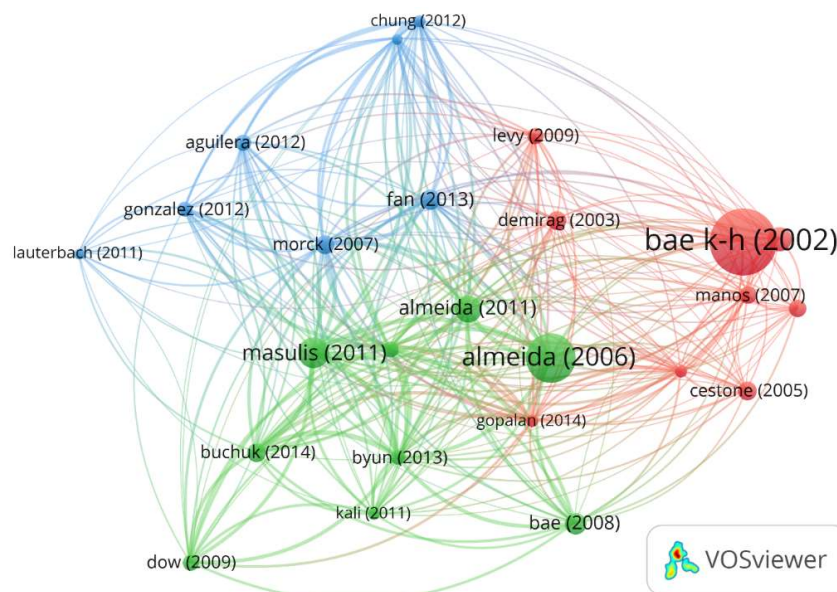


Figure 6. Bibliographic coupling of documents

Source: VOSviewer - Elaborated by the authors

Moreover, by observing Figure 6, it is possible to verify that the most intensively coupled authors are distributed in three clusters: Cluster 1 (C1) represented by red color and nine documents; Cluster 2 (C2) in green color and nine documents; and Cluster 3 (C3) in dark blue color and seven documents. In this case, the thickness of the nodes is based on the total number of citations received by the documents. In C1, the documents with greater coupling were of Almeida (2006) with 216 citations and 176 connections and of Masulis (2011) with 86 citations and 210 connections. Only the quotations from Almeida (2006) represent 41% of the total citations in this cluster. It should be noted, concerning connectivity that the articles that make up the first grouping have ties of connections greater than 90, demonstrating that they are coupled when referencing joint publications. The work with the greatest number of connections (227) is from Bhaumik (2010).

As for the second cluster (C2), we highlight the representativeness of Bae's article (2002), with 391 citations (64% of the total) and 50 connections. However, the paper with the greatest number of connections (122) is from Gopalan (2014), revealing its theoretical proximity to the other works. In cluster 3, we observed seven coupled documents, which have a smaller number of citations than the documents allocated in C1 and C2. The document in highlight is Fan (2013) with 35 citations and 117 connections. The number of citations of this work represents 24% of the total of the cluster. The greatest connectivity is the article of Morck (2007), corresponding to 169 connections (23% of the total of C3).

4.3 Evaluation of Reputation of Journals

Based on the HistCite™ results, we mapped Bradford's Law procedures, identifying the total of journals, the number of papers in each, and the productivity indicators. Regarding the bibliometric indicators, the journal title, the SJR citation quarts, the number of articles published in each journal (N°), the SJR Index, and the H index were mapped for 2017.

Table 2. Bibliometric indicators of the textual corpus' journals

Zones	Title	SJR Q	N°	SJR Index	H Index	Country
Z1	Journal of Corporate Finance	Q1	4	1,46	77	Netherlands
	Emerging Markets Finance and Trade	Q2	5	0,40	24	United States
Z2	Journal of Finance	Q1	2	18,3	249	United Kingdom
	Review of Financial Studies	Q1	3	14,2	145	United Kingdom
	Journal of Financial Economics	Q1	3	12,5	206	Netherlands
	Journal of Family Business Strategy	Q1	3	1,28	27	Netherlands
	Asia Pacific Journal of Management	Q1	3	1,19	60	United States
	Corporate Governance - An International Review	Q1	3	1,14	62	United Kingdom
	Emerging Markets Review	Q1	2	1,11	39	Netherlands
	Journal of Comparative Economics	Q2	2	0,99	69	United States
	BRQ-Business Research Quarterly	Q1	2	0,50	12	Netherlands
	Asia-Pacific Journal of Financial Studies	Q3	3	0,22	9	United Kingdom
Z3	Strategic Management Journal	Q1	1	8,01	232	United States
	RAND Journal of Economics	Q1	1	3,65	92	United States
	Small Business Economics	Q1	1	1,94	98	Netherlands
	Journal of World Business	Q1	1	1,72	87	United Kingdom
	Journal of Law Economics and Organization	Q1	1	1,59	60	United Kingdom
	Journal of Banking and Finance	Q1	1	1,50	126	Netherlands
	Journal of Economic Surveys	Q1	1	1,46	76	United Kingdom

Journal of Business Ethics	Q1	1	1,28	132	Netherlands
Pacific Basin Finance Journal	Q1	1	1,13	43	Netherlands
Journal of Economics and Management Strategy	Q1	1	1,11	58	United Kingdom
International Business Review	Q1	1	1,01	73	United Kingdom
Advances in Strategic Management	Q1	1	0,97	24	United Kingdom
Journal of Business Finance & Accounting	Q1	1	0,91	60	United Kingdom
Finance Research Letters	Q2	1	0,56	21	Netherlands
Journal of Management and Organization	Q1	1	0,54	25	United Kingdom
Management Decision	Q1	1	0,54	77	United Kingdom
Journal of Multinational Financial Management	Q2	1	0,53	34	Netherlands
Business History	Q1	1	0,52	27	United Kingdom
Quarterly Review of Economics and Finance	Q2	1	0,50	42	Netherlands
Journal of Economics and Business	Q1	1	0,50	43	Netherlands
Journal of Management and Governance	Q2	1	0,44	41	Netherlands
Global Finance Journal	Q3	1	0,37	26	Netherlands
Corporate Governance (Bingley)	Q2	1	0,34	43	United Kingdom
Journal of Contemporary Accounting and Economics	Q3	1	0,33	12	Netherlands
Journal of Asia Business Studies	Q2	1	0,24	8	United Kingdom
Enterprise and Society	Q3	1	0,24	21	United Kingdom
Asian Review of Accounting	Q3	1	0,22	15	United Kingdom
Journal of Chinese Economic and Business Studies	Q3	1	0,21	11	United States
Journal of Applied Business Research	Q3	1	0,20	14	United States
International Journal of Managerial Finance	Q3	1	0,20	16	United Kingdom

Note. SJR = SCImago Journal Ranking. ^aJournals ranked by the higher to lower SJR index. For SJR quartiles and index, the reference year adopted was 2018.

Source: Elaborated by the authors

We report that the subjects under study have good coverage and comprise of 42 different journals. Many of these journals focus on business, economics, and finance. The distribution by quartiles shows that most journals (26) are classified in the first quartile since, in the second and third quartiles, there are eight periodicals in each.

The core consists of two journals, the Emerging Markets Finance, and Trade with five articles published on the subject and the Journal of Corporate Finance, with the publication of 4 articles. It can be concluded that zone 1 represents about 14% of the total articles of the textual corpus. Even with a small number of journals in this area (only two), it can still be concluded that it is the most representative in terms of production.

In the second zone, ten journals are present, with a total of 26 articles representing 40% of the total. Most of these journals are in the first quartile and also your scope focused on economic and financial areas. In the third and last zone, there are a greater number of journals (30), each having an article published on the topic, which represents 46% of the total. Thus, it is noticed that in this zone, there is a greater number of periodicals than the others, demonstrating that the publication is dispersed.

Considering the indicators presented in the previous table, we have the SJR (SCImago Journal Rank) indicator and H-index. The SJR measures the impact, influence or prestige of journals by means of the average number of weighted citations recorded in the selected year, and by the documents published in the journal three years earlier. The H-index representing the number of articles in the journal (h) that received at least 'h' citations throughout the period. Both indicators are developed by Scimago Institutions Rankings and are listed for the year

2017. Journal citation measures are important for bibliometric studies, because show different aspects, such as quality or prestige as perceived by scholars (Glänzel & Moed, 2002).

We attributed the highest levels of SJR to three periodicals that compose zone 2, being the Journal of Finance, the Review of Financial Studies and the Journal of Financial Economics. As for the H index, the Journal of Finance also has the highest value, with an indicator of 249. The same is followed by the Strategic Management Journal (232) and the Journal of Financial Economics (206). At the core, the journal with the highest scores on these indices is the Journal of Corporate Finance, which has a SJR of 1.46 and an H index equal to 77. The interpretation of the results described in H index, taking as an example the Journal case of Finance, whose value was equal to 249, shows this journal had 249 of its articles quoted at least 249 times, which reflects a high reputation of this scientific magazine.

A total of 16 publishers are noteworthy, with the highest productivity being found in the Elsevier group, which is responsible for the publication of 16 periodicals (38% of the total) and is present in all three journals countries. Following is Emerald Group Publishing Ltd., with six journals and Blackwell Publishing Inc. with five journals. Thus, it can be said these publishers, when placed together, represent 64% of the total analyzed in the textual corpus.

4.4 Word Co-occurrence Analysis

The free software IRAMUTEQ (Interface for Multi-Dimensional Analysis of Texts and Questionnaires) was used, which is anchored in software R and allows different forms of textual corpus analysis. We considered the cloud of words and the analysis of similarity. The word cloud, with a frequency indicator, will show those that have importance in the textual corpus, and the similarity analysis represents the link between words.

For the word cloud formulation, we considered a minimum co-occurrence of 20, to illustrate the more frequent words in simple lexical analysis. For similitude, we chose the co-occurrence score, with the presentation of the results based on the Fruchterman-Rheingold algorithm. The results are shown in Figures 7(a) and 7(b), respectively.



Figure 7a - Word cloud

Source: IRAMUTEQ - Elaborated by the authors

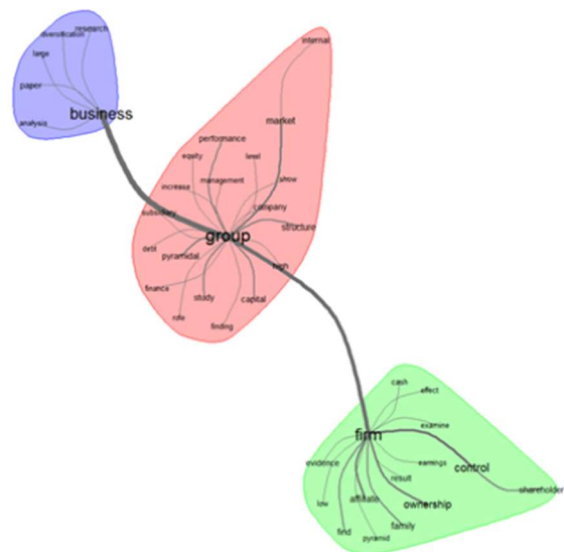


Figure 7b - Similarity of words

We noted that out of 9,719 occurrences of the textual corpus. We selected those that had at least 20 co-occurrences (frequency of occurrence), resulting in 41 words, which are illustrated in the cloud. The emphasis is on "group," "firm," and "business." Each of the words "group" and "firm" represents 12% of the total occurrences of the cloud, while the word "business" represents 8% of that total. In general, the terms "business" and "groups" are worked together, characterizing firms with ties to each other. Moreover, it should be noted that the words referring to the pyramidal structure did not obtain this prominence, being related to the themes of control structure and ownership, which appear more frequently in the cloud. Still, it is worth noticing the presence of the element "family" (4% of the total of the cloud), characterizing the literature on family business groups.

In the similarity analysis, the formulation of the word "communities" represented by three haloes (blue, pink, and green). We inferred the proximity of the terms "business," "group," and "firm," which have a range of words connected between them. In summary, the communities formed by the words "business" and "group" represent the focus of much of the selected studies. In the community represented by the color green, it is noticed a grouping around the word "firm." It is connected to some specific expressions of the structure of the firm, such as ownership and control. The intensities of the lines that connect the words of the nucleus with the others show their relevance to the content structure of the textual corpus.

4.5 Conceptual framework

We infer as a conceptual framework that searches in pyramidal structures are contained in the field of business groups since they represent a form of organization and representation of ownership and control. Based on the reading of the works, we identified the study proposal, the type research and the type of ownership studied based on the Cuervo-Cazurra (2006) model.

Table 3. Brief description and purpose of Reviewed Papers.

Authors	Brief description of the study	Type research	Type of ownership
Aguilera & Crespi-Cladera (2012)	Repercussions of firm (strong) family control on corporate governance practices in largely family-owned firms.	Theoretical	Family-owned
Almeida & Wolfenzon (2006)	Model for pyramidal ownership in family business groups.	Theoretical	Family-owned
Almeida et al. (2011)	Study the evolution of Korean chaebols (business groups).	Empirical	Family-owned
Bae et al. (2002)	Explore the nature of business groups in emerging markets and examine two competing views of them: the "value added view" (Khanna and Palepu, 1997, 2000) and "tunneling view" (Johnson et al., 2000).	Empirical	Family-owned
Bae et al. (2008)	Explore the direct evidence of propping within affiliated firms in Korean chaebols.	Empirical	Family-owned
Basu & Sen (2015)	Investigate whether corporate financial decisions that create internal capital markets are influenced by the extent of insider ownership in business groups in India.	Empirical	Not identified
Bena & Ortiz-Molina (2013)	The role of pyramidal ownership structures in the creation of new firms.	Empirical	Not identified
Bhaumik & Gregoriou (2010)	Examine the role of earnings management in facilitating tunnelling, and evidence about the incidence of earnings management in family firms.	Theoretical	Family-owned
Buchuk et al. (2014)	Study business groups' capital markets using a unique data set on intra-group lending in Chile (1990-2009).	Empirical	Not identified
Bunkanwanicha, Gupta, &	This paper investigates how banks and finance companies operate in business groups in Thailand.	Empirical	Family-owned

Wiwattanakantang (2016)			
Byun, Lee, & Park (2018)	This study investigates the effect of product market competition on the ownership choice of controlling shareholders in the Korean business groups known as chaebols.	Empirical	Not identified
Byun et al. (2013)	This paper examines the relation between business group affiliation and the cost of debt capital.	Empirical	Not identified
Cainelli & Iacobucci (2011)	This paper aims to show that the business group is the most appropriate unit to study the behavior and organization of firms and define their boundaries.	Theoretical	Not identified
Cestone & Fumagalli (2005)	This article is one of the first attempts to model the allocation of internal resources among group members.	Theoretical	Not identified
Chandera, Utama, Husodo, & Setia-Atmaja (2018)	This study examines the relation between co-insurance, represented by the position of a firm in a pyramid, and the firm's bank loan price.	Empirical	Family-owned
Chang & Chen (2016)	This study examines whether the firms' multiple network ties within business groups benefit member firms or whether they provide a channel for controlling shareholders to tunnel.	Empirical	Family-owned
Chung (2013)	This study uses agency theory to examine the impact of family management and ownership on diversification decisions in family business groups.	Empirical	Family-owned
Chung (2014)	This research examines the impact from family management and ownership on semi-globalization pattern of globalization in family business groups from an integrated framework.	Empirical	Family-owned
Chung & Chan (2012)	This research attempts to shed light on the issue of family leadership by examining ethnic Chinese family business groups in Taiwan.	Empirical	Family-owned
Colli & Colpan (2016)	This article addresses the diverse and fragmented literature about the corporate governance of business groups.	Theoretical	State-owned and family-owned
Colli & Vasta (2015)	Provides a methodology of analysis which aims at reconstructing the boundaries and the relevance of business groups in Italy.	Empirical	State-owned and family-owned
Cuervo-Cazurra (2006)	Clarify what business groups are and analyze their various types.	Theoretical	Widely-held, state-owned, and family-owned
Della Piana, Vecchi, & Cacia (2012)	The purpose of this study is to introduce an analytical framework aimed at critically assessing the governance associated with inter-organisational relations in a Family Business Group.	Empirical	Family-owned
Demirag & Serter (2003)	The purpose of this paper is to document the prevalent ownership concentration, structure and control in the top 100 companies listed on the Istanbul Stock Exchange.	Empirical	Not identified
Di Carlo (2014)	The aim of this paper is to answer the following three research questions: Does the controlling shareholder, through the parent company at the top of the pyramidal group, always exercise the direction activity of the subsidiaries? If not, why does the parent company not exercise that activity, delegating it to its subsidiaries? What is the degree of separation between control and direction within the group?	Empirical	Family-owned
Di Carlo (2014b)	The purpose of this paper is to consider the interest of the business group and the directing activity of the parent company for the interpretation of the related party transaction.	Empirical	Family-owned

Dow & McGuire (2009)	Examine the response of horizontal and vertical keiretsu to the changing economic and regulatory climate in Japan from 1987 to 2001.	Empirical	Not identified
Fan, Wong, & Zhang (2013)	This article considers an explanation for pyramids built by the state: separating firms from political interference.	Empirical	State-owned
Fan, Jin, & Zheng (2016)	This paper empirically studies the trade-off between the negative and positive roles played by intra-group capital flows and tests the efficiency implications of such trade-off.	Empirical	State-owned
Gavious, Hirsh, & Kaufman (2015)	We examine the association between a pyramidal ownership structure and the intensity of high-tech companies' investments in innovation.	Empirical	Not identified
Gonenc, Kan, & Karadagli (2007)	We compare the performance of firms affiliated with diversified business groups with the performance of unaffiliated firms in Turkey, an emerging market.	Empirical	Not identified
Gonenc & Hermes (2008)	This article investigates propping in Turkish business group firms for the period 1991–2003.	Empirical	Not identified
Gonenc (2009)	Examine how business groups utilize internal capital markets among affiliated firms within the group.	Empirical	Not identified
González, Guzmán, Pombo, & Trujillo (2012)	This study examines the relationship between financial performance and family involvement for 523 listed and non-listed Colombian firms over 1996–2006.	Empirical	Family-owned
Gopalan et al. (2014)	We argue that internal capital market imperatives of business groups i.e., reallocation of capital across group firms, influences an affiliated firm's dividend policy.	Empirical	Not identified
Guzzini & Iacobucci (2014)	Develop a model of R&D investment that considers firms' participation in business groups.	Empirical	Not identified
He, Mao, Rui, & Zha (2013)	We investigate whether business groups in China act as internal capital markets.	Empirical	State-owned
Hernández- Trasobares & Galve-Górriz (2016)	Analyses the impact of family control on decisions regarding the specialization and diversification of large business groups whose parent companies are listed on Spanish stock exchanges.	Empirical	Family-owned
Holmes, Hoskisson, Kim, Wan, & Holcomb (2018)	This paper reviews the business group literature and presents a future research agenda, highlighting their implications for international strategy.	Theoretical	State-owned and family-owned
Jara, Pinto-Gutiérrez, & Núñez (2018)	This paper examines the effects of family control and pyramidal ownership on firms' capital structure decisions.	Empirical	Family-owned
Jara-Bertin, López-Iturriaga, & Espinosa (2015)	We analyze the effect of two types of corporate diversification (business diversification and ownership diversification) on the market value of the Chilean firms.	Empirical	Not identified
Kali & Sarkar (2011)	Understanding of the motives behind business group diversification in emerging economies and the costs of group affiliation.	Empirical	Not identified
Kang, Anderson, Eom, & Kang (2017)	We propose a new determinant of firm value within a business group: controlling shareholders' value (CSV), the value of controlling shareholders' stake in an affiliate divided by their stake in all affiliates.	Empirical	Family-owned
Kim, Kim, & Yang (2015)	In this paper, we empirically examine what motivates a business group to start a new firm.	Empirical	Not identified
Kim, Kim, & Park (2012)	This paper examines the effects of a series of regulatory changes that facilitated business groups in Korea to switch from a complex circular shareholding or "loop" structure to a more simplified and transparent pure holding company structure.	Empirical	Family-owned

Kwon, Han, & Lee (2016)	Examine the negative spillover from one group-affiliated firm to other group-affiliated firms in the same business group, using credit rating downgrade announcement data in Korea.	Empirical	Family-owned
Larrain & Urzúa I. (2016)	Why do business groups form and how do they evolve? In this paper we try to shed light on these questions by analyzing Chile's business groups in the last 20 years.	Empirical	Not identified
Lauterbach & Yafeh (2011)	Study the effects of a regulatory change that induced the unification of most dual class shares in Israel in the 1990s.	Empirical	Not identified
Lee, Choi, & Moon (2017)	This study examines whether the effect of funding through internal capital markets on investment efficiency is differentiated by the incentives of controlling shareholders as measured by the divergence between cash flow rights and voting rights of controlling shareholders.	Empirical	Not identified
Levy (2009)	Different methods exist to isolate control from ownership. This paper attempts to better understand these different models and their implications.	Theoretical	Not identified
Mahmood, Zhu, & Zaheer (2017)	Develop a framework that specifies how centralization of intragroup equity ties affects the performance of group affiliates.	Empirical	Family-owned
Manos, Murinde, & Green (2007)	The main argument of this study is that information asymmetries, agency conflicts, tax and risk considerations, as well as other distortions that influence the firm's capital structure decision, are also central to understanding the business groups' phenomenon.	Empirical	Not identified
Masulis, Pham and Zein (2011)	Investigates the motivations for family-controlled business groups.	Empirical	Family-owned
Messa (2015)	This paper investigates the optimal contract between a principal and an agent that manages a business group and diverts funds among its projects.	Theoretical	Not identified
Mindzak & Zeng (2018)	The purpose of this paper is to investigate the relationship between pyramid ownership and earnings management.	Empirical	Not identified
Morck & Nakamura (2007)	We propose that pyramidal business groups are private-sector mechanisms for coordinating big push growth, and that competition between rival groups induces efficiency unattainable in a state-run big push.	Theoretical	Family-owned
Nakamura & Fruin (2012)	We are interested in the organizational and behavioral similarities and dissimilarities between Japanese and Chinese firms.	Theoretical	State-owned and family-owned
Poczter (2018)	Paper synthesizes the literature and posits that three main problems hinder its explanatory power; the difficulty of defining and identifying business groups, the focus on social welfare implications, and that the embeddedness of the central theories in a decidedly Anglo-American, developed economy perspective.	Empirical	Not identified
Sutherland, Ning, & Beatson (2011)	This paper considers evidence on business group productivity performance in China.	Theoretical	Not identified
Szemerédi (2017)	This paper provides a primer on European multinational business groups (BGs) and their subsidiaries.	Empirical	Not identified
Torres, Jara Bertín, & López-Iturriaga (2017)	We analyze the effect of pyramidal ownership levels on the performance of Chilean firms by considering the impact of business groups.	Empirical	Family-owned
Wang & Lin (2013)	This paper investigates the role internal capital markets play in mitigating earnings management of group firms.	Empirical	Family-owned

Wee (2011)	A theoretical model is built to explore the organizational form of a diversified conglomerate, which depends on the competitive structure of the product market.	Theoretical	Not identified
Yang (2016)	Examine if a valuation method for unlisted firms adopted by the Korean inheritance tax code allows economic agents to counterplot and leads to the establishment of pyramids.	Empirical	Not identified
Zhang, Lu, Zhang, & Jiang (2015)	Investigate how the equity ownership of business group insiders affects subsidiary cash holdings.	Empirical	Not identified

Source: Elaborated by the authors

In general, these papers analyze the presence, structure, and formation of business groups, especially those controlled by families. The analysis of the studies scope identifies that a large number of proposals are concentrated in the family-owned (26 documents). As for the relationship with pyramidal structures, the literature on family groups predominantly studies this type of structure, which is prevalent in many markets because it facilitates the maintenance of family control. The themes of corporate governance, tunneling, and internal capital markets have been recurrent in the articles.

La Porta et al. (2000) reports that corporate governance is, to a large extent, a set of mechanisms through which outside investors protect themselves against expropriation by the insiders (managers and controlling shareholders). Corporate governance is explored in business groups because the control and ownership structure are one of the main determinants of corporate governance (Shleifer & Vishny, 1997).

The themes of tunneling and the internal capital market are related. Johnson et al., (2000), use the term “tunneling” narrowly to refer to the transfer of resources out of a company to its controlling shareholder. The transfer of resources between companies through tunneling can be a way to guarantee the availability of internal resources. When a country’s external capital market is not well developed, the operation of an internal capital market within a business group enables those firms with the best projects within the group to obtain resources (Bae et al., 2002). According to our literature review, the contributions related to themes is the examine how business groups utilize internal capital markets among affiliated firms within the group.

The most representative approach is empirical (51 documents), reporting mostly results from firms in Asian countries. Business group studies focus on developing countries because of their ownership and control characteristics. Close examination reveals that the largest firms in many developing countries, particularly in Asia, are widely diversified and have multiple links to many other companies. Researchers refer to these diversified sets of firms as business groups, and view them as a new organizational form that requires an explanation (Cuervo-Cazurra, 2006).

Therefore, there are multiple names for business groups that differ according to countries and regions. In Asian countries, there are *Chaebols* in South Korea, *Keiretsu* in Japan, *Qiyе jituan* in China and *Guanxi qiye* in Taiwan (Yiu et al., 2007). In Chaebols, for example, there is a concentration of ownership and control in a few families or individuals. On the other hand, Keiretsus originate from family business groups (*Zaibatsu*) that existed in Japan before World War II, which developed companies in conglomerates (Khanna & Rivkin, 2001; Orts, 2013). Specific denominations are also identified in other countries, such as *Business houses* in India, *Economic groups* in Latin American countries, *Groups* in Spain and *Family holdings* in

Turkey (Granovetter, 1994; Yiu et al., 2007). Due to the diversity of names and characteristics, it is important to study business groups in different countries.

5. Research directions

We did a detailed literature analysis, and we identify as a theoretical gap the analysis of the political connections and the social role of the business groups. Few papers discussed the interaction of business groups with the government. From the ties between the companies that form the groups, it is possible to analyze the elements that differentiate these structures and define their performance in the market. Granovetter (2005) reports that it is important to pay attention to political forces, which can indirectly impact business groups.

The interaction between the groups and the government has received a lot of attention in recent decades, exposing the hypothesis that business groups are formed with government support, expanding, and diversifying along with the government. In Brazil, for example, groups benefited from state protection via state funding. Protection was reduced in the 1990s, but the government continues to help Brazilian companies affiliated to business groups, through support for research and technology (Khanna & Yafeh, 2007). In Chile, there are also examples of the importance of political elements in the definition of business groups, as the social complexes, called Kinecon, control the main corporations in the country, using pyramids and having prominent leading members in the state structure (Zeitlin, Ratcliff, & Ratcliff, 1975).

The business groups approach also includes social issues, which examine the relationship of groups with society, including elements of Social Network Analysis (Granovetter, 2005b; Lazzarini, 2011). In this way, pyramids can be seen as “netchains”, with vertical relationships, based on the sequence of control and horizontal relationships, through the interdependencies between companies or owners (Lazzarini, 2011).

The analysis of social elements is relevant in terms of clarifying how groups and pyramidal ownership can be positive or negative for social well-being. The evidence is still ambiguous, as countries with underdeveloped economic institutions can benefit from these structures through monitoring and financing. On the other hand, the monopoly power acquired by business groups tends to be detrimental to the general social well-being (Khanna & Yafeh, 2007).

We suggest, therefore, a research agenda that contemplates political and social elements in the relation of business groups and pyramid structures. We report as an example of the concept of rent-seeking, derived from the performance function as a search for economic income from the manipulation of the political and social environment. The political and social appreciation of business groups contributes to the investigation of motivations for the formation of pyramid structures. This association makes it possible to bring together classical research on corporate finance, with theoretical lines of economic sociology, explaining the role of government and the interdependence relationships between companies.

Another item on the research agenda is the enlargement of the countries analyzed. Most of the work uses the Asian and European markets. We consider it important to analyze different countries, enabling more comprehensive practical comparisons. In developing countries, for example, empirical evidence suggests that business groups can facilitate efficient allocation of capital and managerial resources (Bae et al., 2002).

6. Conclusions

This article aimed to analyze the results of the research in pyramidal structures within the business groups, based on a systematic literature review. This work contributes to knowledge about how business groups and pyramidal ownership relate between 1960 and 2018. Both themes are commonly dealt with in the literature, with pyramidal structures being considered the main form of organization of ownership and control of business groups.

After reviewing 65 works, we went on to specifically analyze the main topics associated with the research fields. We identified that most of the studies analyze the formation and evolution of business groups, especially in Asian countries. The researchers consider the pyramidal structure as predominant in the ownership of groups. The most recurrent themes in the research proposals correspond to corporate governance, tunneling and the internal capital market.

Corporate governance is important for the management of groups, mitigating private benefits for the controlling shareholders. The analysis of tunneling and the internal capital market help to understand the ties established between the companies that form the groups, especially in the transfer of resources between companies. Having applied the framework, the systematic vision of the addressed studies indicated that the vast majority were in the family-owned. The family develops a system of social norms, detains intragroup transaction costs, and encourages the dissemination of information between group companies (Khanna & Palepu, 2000). This concentration of control rights gives the family the option of using private benefits by transferring resources along the chain of ownership (Hicheon Kim, 2010).

Moreover, by checking, we verified that there is a similarity between the terms “business,” “group,” and “firm.” The terms “business” and “group” are highly related due to the conceptualization of firms with interconnections between them. Therefore, the term “firm” completes the understanding of this thematic chain. The word cloud also showed the presence of the topics related to ownership and control structure, which characterize, for example, the pyramids. It also ratifies the relevance of family control, since the family was one of the main topics highlighted in the analyzes.

In the avenues for future research, the social and political dynamics, used by Granovetter (2005) to understand groups, may represent an advance in pyramid research. As limitations, we highlight the multidisciplinary of the business group’s theme, opting to explore it in the areas of Business, Management, Accounting, Economics, Econometrics, and Finance. Additionally, any projection on avenues for future research has a bias of subjectivity.

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