Oleh Pasko, Zhang Li. Exploring the hotspots and frontiers of corporate governance in emerging markets: a bibliometric analysis based on Web of Science Core Collection and CiteSpace. 

Through using co-citation analysis, this paper presents a general picture of the research hotspots and research frontiers in corporate governance in emerging markets. Paper’s sample for analysis consists of 2980 original research articles and review articles dated 2000-2019, retrieved from Web of Science Core Collection. With the help of the whole variety of tools, CiteSpace offers authors conduct a visual domain analysis of corporate governance in emerging markets research. The findings allow authors to conclude that current research hotspots are corporate governance, emerging markets, corporate social responsibility, firm performance, ownership structure, etc. Besides, thirteen still active terms are collected from the Strongest Citation Bursts that can be considered as the research fronts of corporate governance in emerging markets. The latest citation bursts that smoothly flow into the present are: panel data (2017-2019), Indian firms (2017-2019), moderating role (2017-2019) and institutional ownership (2017-2019) and the longest citation burst streak are associated with audit committee (2016-2019). 

This study has provided a scientometric review that could be valuable to those who are interested in this topic and complement other types of research in this field.

Key words: Corporate governance, emerging markets, Citespace, Web of Science Core Collection, knowledge map.
trend analysis as an instrument of obtaining general information about the main topics of the field of study. This instrument is based on a large database of research papers and is widely used in scientific research in various fields. The paper presents a bibliometric review of the most active areas of research in the field of corporate governance in emerging markets.

**Keywords:** Corporate governance, emerging markets, Citespace, Web of Science core collection, knowledge map.

**Introduction.** Co-citation analysis is one of the widely utilized scientometric methods which helps to identify the intellectual structure as well as the evolution of a chosen research field (Yang, 2016). Resorting to various types of citation analysis (author, journal and document co-citation analysis) researchers can avail themselves of the opportunity to effectively analyze the evolution of the ever-evolving and emerging research topics they are active in as well as see the big picture of a knowledge base pertaining to a specific research area (Bornmann et al., 2018; Wei & Zhang, 2020).

In recent decades, various researchers have dedicated ever-escalating attention to the new trends and emerging topics in the domain of corporate governance (Kent Baker et al., 2020; Masulis & Zhang, 2019; Melón-Izco et al., 2019; Musleh Alsatrawi, 2019; Stein & Zhao, 2019; Wu et al., 2019; Zaid et al., 2020). However, corporate governance is a rapidly growing and fast-moving interdisciplinary field of study, involving ownership, boards of directors, top management teams, and corporate governance practices and reform. It is still a staple of discussion in corporate boardrooms, academic meetings, and policy circles around the globe because corporate governance has become a mainstream concern (Bereskin et al., 2015; Gupta & Singh, 2018; Kim et al., 2020). Evidence shows that good corporate frameworks benefit firms, also if a country’s governance system is weak voluntary and market corporate governance mechanisms have less effect (Avcın & Balcıoğlu, 2017). In the most recent financial crises, corporate sector’ behaviour affects entire economies, corporate governance’ deficiencies impact global financial stability. The corporate world recognizes the long-term consequences of weak corporate governance systems endanger the economy (Kim et al., 2020). How corporate governance regimes change with time and how this impacts firms are receiving more and more attention recently (Kim et al., 2020; Masulis & Zhang, 2019; Neville et al., 2019; Shan, 2019; Stein & Zhao, 2019). As research in these areas advances rapidly, it is critical to keep abreast of emerging trends and critical turns of the development of collective knowledge.
Against this background, this paper aims to find research hotspots and frontiers of corporate governance in emerging markets with a special focus on emerging markets. In this article, unless stated otherwise, the literature is reviewed as of December 2019. The Web of Science Core Collection has 1640 records between 2000 and 2019 based on a topic search of the term ‘corporate governance and emerging markets’ in titles, abstracts, author keywords, or keywords plus. If we expand retrieve but do not use the term ‘corporate governance and emerging markets’ explicitly, the number could be like 10 times higher. Although Web of Science Core Collection is not the biggest database in the world (Gusenbauer, 2019) for example we have found that there are 1,510,000 publications on corporate governance in emerging markets on Google Scholar and 1169 publications on Scopus, however, Web of Science filters the information and has strict criteria in use (unlike Google Scholar) to the content included in the database. Given this Web of Science Core Collection was chosen as a source for our study. Using CiteSpace software based on information obtained from the Web of Science Core collection, the article analyzes the period from 2010 to 2019.

The contributions of this paper are twofold. First, the paper contributes to the literature in terms of utilising quantitative as opposed qualitative research method which allows opening a new perspective on this research field. Besides, the mix of a literature review and a scientometric research method results in providing a high-view look at the progress of research in the field of corporate governance in emerging markets to researchers as well to practitioners.

The rest of this paper is organized as follows. The second section is devoted to elucidating the method of the paper including research method as well as data collection. Section 3 provides readers with the main finding of the study and paper concludes with the discussions and conclusions.


2.1. Research method.

In order to understand emerging trends and the knowledge structure of a research field, scientometrics is used to analyze scientific literature patterns. An array of science mapping tools are widely available to researchers and analysts, scientific publications in the literature are used as an input by science mapping tools to generate interactive visual representations of complex structures for statistical analysis and interactive visual exploration. Many science mapping techniques in terms of networks of co-cited references characterize the structure of intellectual knowledge and are originated from the idea of co-citation analyses. We utilize CiteSpace – a Java application for analyzing and visualizing co-citation networks, developed by C.M. Chen at Drexel University in 2004 (Chen, 2004). CiteSpace is a citation visualization analysis software that is “developed in the context of scientometrics and data visualization with a focus on analyzing the potential knowledge contained in scientific analysis” (Wang & Lu, 2020, p. 8175).

2.2. Data Collection.

The study utilizes a combination of the results from multiple topic search queries to the Web of Science Core Collection as input data to generate the review paper. First, we would like to ensure that currently widely used topic such as corporate governance, corporation governance, the company governs and the corporate government are covered by our topic search query. Thus, publications that mention any of these words group in their titles, abstracts, author keywords, or keywords plus lists have been included. This query generates 30,726 records of the types of Article or Review in English as Set #1 between 2000 and 2019.

Second, since the paper with a special focus on emerging markets, the second query focuses on the object of emerging markets, including topic terms such as emerging markets, emerging market, emerged markets and emerging. Also, publications that mention any of these words group in their titles, abstracts, author keywords, or keywords plus lists have been included. This query produces 583,379 records of the types of Article or Review in English as Set #2 between 2000 and 2019.

The final dataset is Set #3, containing 3118 bibliographic records of the types of Article or Review in English between 2000 and 2019 by using “and” combine Set #1 and Set #2.

3. Results.

3.1. Visualization and Analysis

The Set #3 contains 3118 records cited 26,229 references published in the range of 2000–2019. After filtering out less representative record types such as proceedings papers and Editorial Material, the dataset was reduced to 2980 original research articles and review articles. CiteSpace constructs networks of cited references by co-citation analysis function. To generate the landscape view (Figure 1), we used terms metadata in CiteSpace: (1) 1 year per slice from 2000 to 2019; (2) term type =noun phrases; (3) node type =term; (4) selection of top 100 most cited or occurred items from each slice; (5) pruning= pathfinder, pruning sliced networks, pruning the merged network.
Figure 1. Hot keywords clustering.

The size of a node indicates how many citations the associated noun phrase received. Each node is depicted with a series of citation tree-rings across the series of time slices. The connectivity between the nodes represents how often they are cited by the same articles. It has been shown that networks formed in this way capture the research focus of the underlying scientific community (Chen C., 2012).

3.2. Research Hotspots

According to these citation counts, we can find the current research hotspot about corporate governance in emerging markets (Table 1). The top-ranked item by citation counts is corporate governance which has the largest circle with citation counts 643. Followed by emerging markets, emerging economies, corporate social responsibility, practical implications, firm performance, emerging market, ownership structure, emerging economy, business group, etc.

<table>
<thead>
<tr>
<th>Count</th>
<th>Noun phrases</th>
<th>Count</th>
<th>Noun phrases</th>
</tr>
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<tbody>
<tr>
<td>643</td>
<td>corporate governance</td>
<td>95</td>
<td>ownership concentration</td>
</tr>
<tr>
<td>420</td>
<td>emerging markets</td>
<td>95</td>
<td>empirical evidence</td>
</tr>
<tr>
<td>268</td>
<td>emerging economies</td>
<td>90</td>
<td>agency theory</td>
</tr>
<tr>
<td>223</td>
<td>corporate social responsibility</td>
<td>90</td>
<td>firm value</td>
</tr>
<tr>
<td>217</td>
<td>practical implications</td>
<td>84</td>
<td>developing countries</td>
</tr>
<tr>
<td>200</td>
<td>firm performance</td>
<td>79</td>
<td>financial performance</td>
</tr>
<tr>
<td>180</td>
<td>emerging market</td>
<td>78</td>
<td>emerging countries</td>
</tr>
<tr>
<td>133</td>
<td>ownership structure</td>
<td>72</td>
<td>independent directors</td>
</tr>
<tr>
<td>124</td>
<td>emerging economy</td>
<td>70</td>
<td>board independence</td>
</tr>
<tr>
<td>97</td>
<td>business group</td>
<td>68</td>
<td>corporate governance mechanism</td>
</tr>
</tbody>
</table>

Analysed keywords permitted an overview of related topics in which corporate governance in emerging markets researchers have been employed. Four topics emerge from these most cited noun phrases. The most significant noun phrases are “corporate governance” and “emerging markets”. As Table 1 represents, studies related to these noun phrases are concerned with the actual behaviour of corporations, in terms of such measures as performance, efficiency, growth, financial structure, and treatment of shareholders and other stakeholders in emerging markets. The experience of family-controlled firms in emerging markets is drawn upon to illustrate the family-controlled firms’ competitive advantage (Carney, 2005). Klapper & Love propose investor protection and performance of corporate governance in emerging markets (Klapper & Love, 2004), whereas Baek, Kang, & Park suggest that
change in firm value during a crisis is a function of firm-level differences in corporate governance measures (Baek, Kang, & Park, 2004). A related agency problem is raised in the management field by Michael N Young, Peng, Ahlstrom, Bruton, & Jiang’s article, where they introduce the principal-principal perspective corporate governance in emerging markets, particularly with majority owners such as families or the state (Michael N Young, Peng, Ahlstrom, Bruton, & Jiang, 2008).

The second line of research is the ownership structure and business group. The nature of the corporate governance problems importantly varies between countries and over time depending on ownership structures. The literature (Morck, Wolfenzon, & Yeung, 2005) suggests key determinants of economic entrenchment but has many gaps where further work exploring the political economy importance of the distribution of corporate control is needed. This study of W. Li & Zhang is first to directly examine the relationship between the dispersion of corporate ownership and CSR in emerging markets, depict that it is important to consider ownership type in assessing CSR in an emerging market where state ownership is still prevalent such as China (W. Li & Zhang, 2010). Bhaumik, Driffield, & Pal suggest that family firms and firms with concentrated ownership are less likely to invest overseas and that strategic equity holding by foreign investors facilitates outward FDI (Bhaumik, Driffield, & Pal, 2010). Khanna & Yafeh argue that business groups are responses to different economic conditions and that, from a welfare standpoint, they can sometimes be “paragons” and, at other times, “parasites” (Khanna & Yafeh, 2007).

The third line of research on corporate social responsibility. In this field Porter & Kramer propose social responsibility as an opportunity rather than as damage control or a PR campaign requires dramatically different thinking, become increasingly important to competitive success (Porter & Kramer, 2006). Shamir suggests that the moralization of markets further sustains, rather than undermining, neo-liberal governmentalities and neo-liberal visions of civil society, citizenship and responsible social action (Shamir, 2008). Brammer, Jackson, & Matten examine the potential contributions of institutional theory to understanding CSR as a mode of governance (Brammer, Jackson, & Matten, 2012).

The relationship of independent directors and empirical evidence the fourth and last research direction. D. A. Singh & Gaur suggest that firms need to balance the need for oversight with the need for advice while selecting independent directors (D. A. Singh & Gaur, 2009), whereas Jizi suggests that boards with higher female participation and independence boost the legitimacy of CSR reporting (Jizi, 2017). Black, De Carvalho, & Gorga suggest that country characteristics strongly influence both which aspects of governance predict firm market value, and at which firms that association is found (Black, De Carvalho, & Gorga, 2012).

3.3. Research fronts

Burst detection is a computational technique that has been used to identify abrupt changes in events and other types of information (C. Chen, 2017). Citation rings (Figure 1) in red indicate the time slices in which citation bursts, or abrupt increases of citations, are detected. Citation bursts provide a useful means to trace the development of research focus. Figure 2 presents 13 terms that CiteSpace indicates to have the strongest citation bursts, which describe fast-growing topics with surging citations (Chen Y. & Wu, 2017). 13 still active terms are collected from the Strongest Citation Bursts that can be considered as the research fronts of corporate governance in emerging markets (Figure 3).
From Figure 3, we can see that corporate governance, emerging markets and business group not only research hotspots but also research fronts. These terms will sustain in the future, especially corporate governance with the strongest citation burst of 28.63 from 2000 to 2007 and 643 citation counts, the word remains in use although the bursting period has passed and even more active than before (Figure 2). There are 87 citation counts in 2018 and 90 citation counts in 2019 involved in corporate governance. There are 54 and 81 citation counts in 2018 and 2019 related to emerging markets. 17 and 11 citation counts concerned with a business group in 2018 and 2019.

As new research interest, panel data, Indian firms, moderating role and institutional ownership occurred from 2017 to 2019 and audit committee occurred between 2016 and 2019. There are 15 citation counts in 2018 and 6 citation counts in 2019 involved in panel data, drawing on panel data and in-depth interviews, for example, Wang, Wijen, & Heugens examined the influence of the Chinese state at multiple levels on the environmental actions of publicly listed firms (Wang, Wijen, & Heugens, 2018). As an emerging market, there are more and more articles abstract Indian firms, examples are the effects of the institutional environment on firm performance (Zattoni, Pedersen, & Kumar, 2009) and the relationship between board structure and risk-taking behaviour of emerging market firms (D. Singh & Delios, 2017). The moderating role is another new research concerned with the moderating role of government regulation and organizational slack affect corporate environmental responsibility on financial performance (Li D. et al., 2017). Institutional ownership is focused specifically on the relationship between ownership structures and firm innovation performance (Choi, Lee, & Williams, 2011), conflicts between ownership concentration and aligning ownership and control (Lin & Chuang, 2011). An audit committee is relatively prolonged citation burst lasting from 2016 to 2019, it has been more actively pursued in corporate governance in emerging markets, concerning internal audit quality (Roussy & Brivot, 2016) and the relationship between engagement auditors, audit committee members and audit outcomes (He, Pittman, Rui, & Wu, 2017). This group of terms recently emerge and become current research and will lead future research directions need to take more focus.

The third strongest citation burst was policy implications and it has occurred between 2009 and 2012. For better investigate the relationship between internal governance structures and financial performance, (Jackling & Johl, 2009) concerns policy implications. Aharony, Wang, & Yuan highlight a potential additional investment risk has policy implications for China and other emerging markets (Aharony, Wang, & Yuan, 2010).
The agency problem is also a common problem in corporate governance, concerns firms’ agency costs (Cuervo-Cazurra & Dau, 2009), secondary (principal-principal) agency problems (Singla, Veliyath, & George, 2014). Conflicts between controlling shareholders and minority shareholders have been identified as a major concern of corporate governance in emerging economies (Michael N. Young, Peng, Ahlstrom, & Bruton, 2002). Effectiveness protection for minority shareholders (Johnson, Boone, Breach, & Friedman, 2000) can improve corporate governance. But limited protection of minority shareholders intense traditional principal-agent problems (Dharwadkar, George, & Brandes, 2000).

Emerging countries face corporate challenges derived from weak institutional environments, which could partly be tackled by improving corporate governance practices. In this regards, Aguilera & Cuervo-Cazurra propose implications for convergence of corporate governance practices (Aguilera & Cuervo-Cazurra, 2009) and Garay & González give investors a quantitative tool of governance practices (Garay & González, 2008).

**Discussions and Conclusions.** Through using co-citation analysis, this paper presents a general picture of the research hotspots and research frontiers in corporate governance in emerging markets. Our sample for analysis consists of 2980 original research articles and review articles dated 2000-2019, retrieved from Web of Science Core Collection. We present with the help of the whole variety of tools CiteSpace offers a visual domain analysis of the corporate governance in emerging markets research. This study has provided a scientometric review that could be valuable to those who are interested in this topic. The study has confirmed that corporate governance in emerging markets research has grown significantly and will likely to sustain in the foreseeable future. Using CiteSpace allowed us to map the networks of co-citations in corporate governance in emerging markets research. The conclusions of this study are as follows.

First, the main findings allow us to conclude that current research hotspots are corporate governance, emerging markets, corporate social responsibility, firm performance, ownership structure, etc. Four main lines of research were identified: 1) the actual behaviour of corporations, in terms of such measures as performance, efficiency, growth, financial structure, and treatment of shareholders and other stakeholders in emerging markets; 2) ownership structure and business group; 3) corporate social responsibility; 4) The relationship of independent directors and auditors and empirical evidence the fourth and last research direction. This means that most studies in this area were related to these topics and they prevailed in the literature during the study period. This aspect of our study concerned the past, while the next, which also concerned the past, but the past, which grows into the future.

Second, through bursts detection of the research fronts, we find that corporate governance, emerging markets, panel data, policy implications, Indian firms, agency problem, institutional ownership, minority shareholders, audit committee and corporate governance practices represent the research trends and research fronts. We have detected those topics by analyzing the strongest citation bursts, which describe fast-growing topics with surging citations. Thirteen still active terms are collected from the Strongest Citation Bursts that can be considered as the research fronts of corporate governance in emerging markets. These terms will sustain in the future, especially corporate governance with the strongest citation burst of 28.63 from 2000 to 2007 and 643 citation counts, the word remains in use although the bursting period has passed and even more active than before. The latest citation bursts that smoothly flow into the present are: panel data (2017-2019), Indian firms (2017-2019), moderating role (2017-2019) and institutional ownership (2017-2019) and the longest citation burst streak are associated with audit committee (2016-2019).

Our findings should be considered along with its limitations. First, it is the restriction to the Web of Science Core Collection database only and study period limited to 2000-2019. Second aspect pertaining to exclusively papers in English was considered for analysis. Although it is the most widely used language in the world, at the same time we are aware that such approach excludes from the scope of research an array of information that could reveal new perspectives of interest to researchers. This should be kept in mind when making decisions based on our research. Finally, we only considered original articles and reviews, so this also limited the scope of our study due to exclusions from it all other research. Therefore, further studies could explore other databases, other times and literature in a language other than English. It would be very interesting to compare the results of such future research with the results of our study.

**References:**


