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A review of the influence of capital structure on the relationship between corporate governance and firm performance

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Abstract: This paper focuses on the relationship between corporate governance and firm performance in the case of Jordan as a developing country. Despite the evolution of the national economy, the government's efforts to attract foreign and domestic investment in order to merge at the global economy, and the stimulation of firms to perform better, the performance of firms in the non-financial sector is still weak. This can be attributed to a lack of clarity regarding the inter-relationships between corporate governance mechanisms and firm-specific characteristics such as capital structure. Therefore, this study presents a comprehensive review of the literature to highlight a theoretical approach that could contribute to clarifying the relationship between capital structure, corporate governance, and firm performance. In addition, it also proposes that a more accurate design be used for practical analysis that takes into account the moderation role of optimal capital structure and the potential presence of a complementary effect between optimal capital structure, corporate governance, and firm performance.

Keywords: capital structure; corporate governance; performance; non-financial firms; Jordan.

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1 Introduction

In the new global economy, good governance practices have become a central issue for both corporations and stakeholders; not least because such practices are considered to act as a shield that can protect firms from exposure to future failures (Ehikioya, 2009; Saleh et al., 2021). Prior literature has documented that when firms abide by good governance practices, this ensures the proper management of firms, enhances their competitive edge, attracts investment to firms and improves their overall performance, as well as protects investors' rights and improves confidence in financial markets, thus contributing to sustainable economic development (Hassan et al., 2017). The issue of good governance has received growing attention from researchers, business communities, and professional bodies, particularly in developing countries where it is seen as a means to enhance confidence in economies with a weak legal environment (Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016). This perceived benefit has increased the demand for the establishment of good governance practices in a number of countries around the world including those in the Middle East (Rashid and Islam, 2013). For instance, recently, the regulatory and legislative authority in Jordan has paid a great deal of attention to consolidating the pillars of corporate governance (Al-Fayoumi et al., 2010) in order to attract foreign and local investors (Saidat et al., 2019; Suwaidan et al., 2013).

Moreover, in the wake of a series financial crises and scandals in the late 20th and early 21st century, reforms of the corporate governance structure in all countries around the world became a matter of urgency (Waweru, 2014). The reforms that have been instituted are basically aimed at regaining investor confidence in listed firms by creating a better system of controls over managerial behaviours and at strengthening the protection of investors (Hashim and Devi, 2008). An additional ongoing driver of the reforms in developing countries is the importance of growing the economy and responding to the growth of globalisation and the process of privatisation (Bhatt et al., 2017; Rajagopalan and Zhang, 2008). Indeed, the World Bank created a forum in order to facilitate improvements in governance practices around the world (Morey et al., 2009) and also to try to avoid exposure to crises that have a deep impact on the macroeconomic environment (Gupta and Sharma, 2014). In Jordan, the bankruptcy of Petra Bank and the so-called Shamaylah Gate scandal forced supervisory bodies to undertake reforms by

issuing a range of new legislation to boost accountability, transparency, and the rule of law in the economic life of the Kingdom, which included the enactment of the corporate governance code in 2009 (Suwaidan et al., 2013).

The last two decades have seen a marked increase in empirical research on the relationship between corporate governance and firm performance in both developed and developing countries (Saleh et al., 2021; Zabri et al., 2016). Recently, the attention of scholars has shifted from focusing on the use of specific mechanisms of corporate governance to explore that relationship to using indices to do so (Bozec and Bozec, 2012). This shift has occurred to compensate for the imperfections in individual mechanisms, such as shareholder protection and disclosure which are often insufficient (Almaskati et al., 2020). This more recent strand of literature shows that the composite measurement of corporate governance provides interesting evidence and can lead to desirable results, such as strengthening shareholders' rights, boosting firm performance, increasing firm value and raising stock prices (Ararat et al., 2017; Gompers et al., 2003). In light of the foregoing, numerous scholars have agreed that the effective assessment of firm performance relies on an overall investigation of corporate governance quality through the use of indices, not just specific mechanisms (Hodgson et al., 2011).

Many past studies have reported a direct relationship between the corporate governance index and firm performance (Sami et al., 2011). Nonetheless, other studies have also found an indirect relationship between them (Akbar et al., 2016). These diverging findings have forced both scholars and firms to employ novel mechanisms to relieve conflicts of interest between management and shareholders in order to reduce monitoring costs (Madanoglu et al., 2016; Saleh et al., 2021). Moreover, previous studies have employed a variety of moderating factors, such as anti-takeover measures (Siddiqui, 2015), franchising (Madanoglu et al., 2016), privatisation (Al-Smadi et al., 2013), organisational capacity (Mustapa et al., 2014), R&D investment (Zhang et al., 2014) and state ownership (Eforis and Uang, 2015), in order to gain a deeper and more refined understanding of the causal relationship between corporate governance mechanisms and firm performance.

Accordingly, numerous scholars such as Cuomo et al. (2015) and Renders et al. (2010) have also strongly recommended that studies on the relationship between corporate governance and firm performance take into account the existence of firm-specific characteristics such as capital structure (how a firm funds its operations and growth). This is due to the expectation that corporate financial decisions in this regard play a key role in the relationship between corporate governance and firm performance and affect the correlation between them (Chen et al., 2007; La Rocca, 2007; Ruan et al., 2011). The rationale for this recommendation is grounded in agency theory, which suggests that an optimal capital structure can reduce agency costs (Jensen, 1986; Jensen and Meckling, 1976). Therefore, it follows that decisions made about the optimal capital structure are critical to firm success (San and Heng, 2011).

Thus, the aim of this paper is to review the related literature concerning the relationship between corporate governance and firm performance from the perspective of capital structure. We take this approach because most firms use debt in their capital structure (Fosberg, 2004). Firms with high debt in their financial capital structure (high gearing) are better controlled by creditors, thereby reducing opportunistic management behaviour and, reducing agency costs and thus improving profitability and performance. This is also due to interest expenses related to debt, which are deductible from income tax, making debt the cheapest resources of finance in capital structure (Garanina et al.,

2016). Therefore, the capital structure is considered to be critical in determining firm performance (Hoffmann, 2014; Okiro et al., 2015; Omet et al., 2015). Hence it is expected that capital structure will enhance the relationship between corporate governance and firm performance (Shahwan, 2015). However, no one, as far as we know, has investigated the moderating effects of capital structure on the relationship between corporate governance and firm performance in the context of a developed or a developing country. Instead, prior literature has focused mainly only on the correlation between each pair of these three factors (Akbar et al., 2016; Hussainey and Aljifri, 2012; Javed et al., 2014). Therefore, this study takes the initiative by presenting the notion of capital structure as a moderating factor in the relationship between corporate governance and firm performance and makes some suggestions which can be used in future practical research on this topic.

The rest of the paper is organised as follows: Section 2 is devoted to presenting the background to corporate governance in Jordan. Next, in Section 3, a description of agency theory is provided, which is used to build the theoretical foundation upon which our proposition is based. Then, in Section 4, the literature on and around the issue of corporate governance and firm performance, and its measurement is reviewed. Finally, Section 5 draws some conclusions regarding the future directions for this research topic.

2 Background of corporate governance

2.1 Institutional setting of corporate governance in Jordan

The concept of corporate governance is relatively nascent in countries in the Middle East and North Africa (MENA) region, a region where many countries are categorised as developing, including Jordan, which is a non-oil country with very limited resources (Koldertsova, 2011; Suwaidan et al., 2013). Developing countries are defined as countries that are less developed than those in the mid-stream of development and are mostly found in Asia, Latin America, Africa, and in the Middle East including Jordan (Saleh et al., 2021; Waweru, 2014). In developing markets, there are a lot of imperfections such as poor infrastructure, high inflation, and political instability. These imperfections make it difficult for local and foreign investors to judge the performance of firms correctly. Consequently, investors make irrational investment decisions (Farooq, 2015). Unlike developed countries, corporate governance is still underdeveloped in developing countries (Peris et al., 2017) such as Jordan (Abbadi et al., 2016). In Jordan, the creation of an institutional environment that encourages corporate governance appears to be making fair progress, nevertheless the introduction of some reforms would bolster current efforts (Suwaidan et al., 2013).

Jordan is a country that abides by civil law, so any rights must be supported by legislation. There are various legislative sources in Jordan that had an impact on the work of firms before the development of codes of corporate governance such as Company Law and Securities Law, which are considered the primary sources of corporate law in Jordan, as in the other countries in the MENA region (Al-Najjar, 2010). However, the MENA region is characterised by a weak regulatory environment in general, ineffective judicial systems and thus weak shareholder rights (Al-Akra and Hutchinson, 2013).

The new economic changes in Jordan, such as globalisation and privatisation, have necessitated financial reforms to update new regulations such as Commercial Law,

Banking Law, the Law of Competition and Monopoly, the Law of Investment Promotion, Insurance Law, Accounting Profession Law, and the Law of Privatization (Haddad et al., 2017). Evidently, the new world economy that emerged after the global financial crises has imposed reforms on the governance systems around the world, including Jordan (Al-Akra and Hutchinson, 2013; Nheri, 2014).

Consistent with international trends and based on the recommendation of the World Bank's *Reports on the Observance of Standards and Codes* (ROSC) in 2004 (Zedan and Nassar, 2014), codes of corporate governance were developed in late 2008 by the Jordan Securities Commission. This is due to the awareness of the regulatory and legislative authority in Jordan about the importance of the role of good governance in improving confidence in the national economy, protecting investors, limiting corruption, and attracting foreign and local investors (Piesse et al., 2012). This code is designed to reinforce the performance of the Jordanian economy and boost trust in it and in the investment environment (Abbadi et al., 2016).

The code of corporate governance for shareholding firms listed on the Amman Stock Exchange consists of five chapters. The first chapter displayed the definitions that are used in the code. The second chapter identifies the important criteria for good governance, such as board of directors' elections, the number of board members, the maximum period of serving on the board and the qualifications, knowledge, and experience required of directors, as well as general guidelines and rules and prohibitions regarding the activities that members of boards can undertake and other recommendations. The chapter also contains a section on the tasks and responsibilities of the board of directors and a section about the organisation and formation of various board sub-committees. The third chapter deal with rules on general assembly meetings. The fourth chapter deals with shareholders' rights and is divided into two parts. The first part contains information about general rights, while the second part deal with the rights that fall within the powers of the general assembly. The fifth and final chapter deals with issues related to disclosure and transparency. Three particularly important sections cover the audit committee in terms of its organisation, number of meetings and main functions; the duties of the audit committee; and the powers of the audit committee. The last section of chapter five contains provisions regarding the external auditor [Jordan Securities Commission (JSC), 2009].

At first glance, corporate governance structures in developing countries seem like those in developed countries; however, they may be similar in form but not in substance (Young et al., 2008). Thus, firms in a less-developed nation may face dissimilar agency conflicts, and thus the use of different mechanisms of corporate governance is required to relieve those conflicts (Ararat et al., 2017). Therefore the regulatory authority in such countries needs to reduce the strength of these imperfections to protect shareholders' rights (Rashid and Islam, 2013). The Jordanian code of corporate governance for shareholding firms includes both mandatory provisions based on the obligatory requirements of laws, regulations and instructions, such as company law and securities law, and voluntary provisions that firms can implement under the so-called 'comply or explain approach' (JSC, 2009). This 'soft law' gives firms some flexibility in applying the governance provisions and sufficient time to adapt to them, in order to improve awareness of the guidelines and to reach full compliance gradually (JSC, 2009). Consequently, the awareness of the importance good governance in Jordan has been growing over time, and compliance with the rules of the governance code among

Jordanian firms has also been rising over time, but full commitment has not yet been attained (Abbadi et al., 2016).

Many scholars assert that the comply or explain approach gives firms some much-needed flexibility in implementing the corporate governance rules and allows them to achieve full compliance gradually over a period of time (Elgharbawy et al., 2016). Simultaneously, many others claim that this approach is the main reason for the cases of failure in Jordanian firms (Abbadi et al., 2016; Jrairah et al., 2015; Zedan and Nassar, 2014). Furthermore, many researchers have recommended that all industrial and service firms in Jordan should comply with all the rules of corporate governance to achieve the desired benefits such as an improvement in the quality and reliability of financial reporting (Abbadi et al., 2016), an improvement in the quality of the timeliness of financial reports (Al Daoud et al., 2015), an amelioration of firm performance (Al-Smadi et al., 2013; Zedan and Nassar, 2014) and sufficient protection of minority shareholders (McGee, 2009) and of local and foreign investors (Al-Smadi et al., 2013). In addition, compliance with corporate governance rules is considered to provide effective oversight and thus prevent earnings management in Jordanian industrial firms (Al-Fayoumi et al., 2010), to improve the degree of voluntary disclosure (Albawwat, 2015) and to enhance firm value (Al-Khoury, 2006).

One of the greatest challenges facing industrial and service firms in Jordan is weak performance (Almajali et al., 2012; Sharabati et al., 2013; Zedan and Nassar, 2014). Past studies have indicated that corporate governance and capital structure are the most important elements in determining firm performance in developing countries (Abdel-Jalil, 2014; Almajali et al., 2012; Dimitropoulos, 2014; Hoffmann, 2014; Okiro et al., 2015; Omet et al., 2015). Several studies have adopted a review analysis to highlight a research area and explore a deep investigation of a research field (e.g., Eddine et al., 2021; Dash et al., 2018; Pawar et al., 2017; Oyegoke, 2016; Almaqtari et al., 2020). Therefore, this paper presents a critical review of the works in this area, which could contribute to clarifying the relationship between capital structure, corporate governance and firm performance. Moreover, this review may be able to indicate ways in which to enhance the performance of non-financial firms in Jordan. However, before discussing the details of this review, a brief overview of agency theory is presented because it is employed to provide a theoretical underpinning to the proposition that capital structure, corporate governance and firm performance are interrelated, with capital structure potentially playing a crucial moderation role in that relationship.

2.2 *Agency theory*

Agency theory is considered the prevailing theoretical research framework for the exploration of corporate governance issues (Cuomo et al., 2015). A great many corporate governance studies have been inspired by the conception of agency theory (Filatotchev et al., 2013). The theory deals with corporate financial decisions (Adewuyi and Olowookere, 2013) and postulates that the conflict of interest between agents and principals could have an effect on firm performance (Jensen and Meckling, 1976).

Agency theory was introduced by Jensen and Meckling (1976), who defined an agency relationship as a contract under which one or more persons (principal/ shareholder) hires another person (agent/manager) to do some business and services on their behalf, and the contractual relationship requires the delegation of certain powers, such as making decisions, to the agent/manager. The agents are compensated for their

work in the form of salaries, bonuses, or some other form of incentive such as stock options (Bonazzi and Islam, 2007). Thus, this theory seeks to clarify the relationship between the owners and top management of a firm. The main problem that agency theory seeks to address is how to lessen the agency problem that creates the circumstances for opportunistic behaviour by managers. The appearance of a conflict of interest is due to managers performing activities and instituting policies for the purpose of maximising their own wealth rather than that of the firm's owners (Aman and Nguyen, 2013), and these opportunistic behaviours are conducted at the expense of shareholders (Al-Najjar, 2010). These conflicts lead to some substantial problems such as increased agency costs which are connected to control costs and additional costs by management (Hussainey and Aljifri, 2012) which lead to a decline in profitability and harm performance (Madanoglu et al., 2016). The main challenge is to discover ways in which to alleviate agency problem (Bozec et al., 2010). For instance, monitoring mechanisms could be implemented to minimise conflicts of interest between the principals and the agent (Fama and Jensen, 1983).

The quality of corporate governance that ensues from agency theory is seen as crucial in mitigating the conflict of interest between principal and agent by acting as control mechanism that is designed to line up the goals of management with those of shareholders (Al-Najjar and Clark, 2017), and thereby reduce agency costs, which ultimately improves shareholders' wealth (Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016), by ensuring that managers do their best for the firm (Funchal and Pinto, 2018) and thus boost the value and performance of the firm (Rashid and Islam, 2013; Zhang et al., 2014). In addition, it provides for compensation packages for managers that act as an incentive to lessen the agency problem (Elgharbawy et al., 2016), which is reflected in maximising the value and increasing the performance of the firm (Epps and Cereola, 2008).

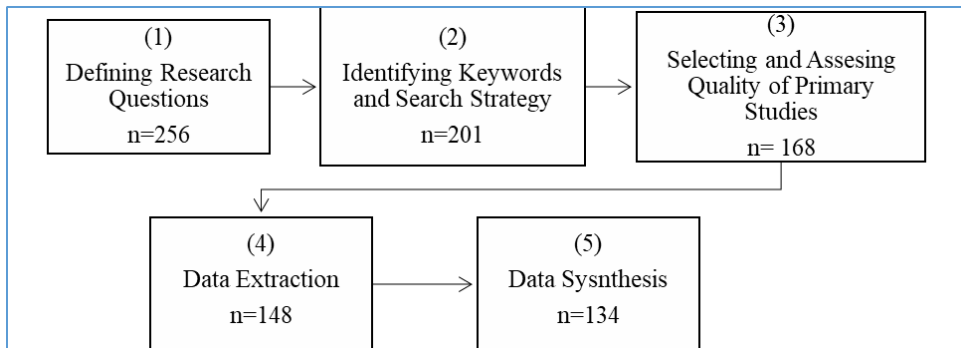
Ceteris paribus, agency theory also suggests that an optimal capital structure can reduce agency costs (Jensen and Meckling, 1976; Jensen, 1986). Accordingly, the agency problems between principal and agent might be properly addressed by capital structure decisions where external financing acts as an effective corporate governance mechanism (Hoffmann, 2014). Corporate governance mechanisms and capital structure can be considered more favourable for firms which are used such that mechanisms to decrease the conflict between the management and shareholders through reduction the agency costs of free cash flow obtainable to managers (Hoffmann, 2014; Hussainey and Aljifri, 2012; Jensen 1986). Corporate governance and capital structure are intended to alleviate the agency problem, and consequently they are related through their link with agency costs (Butt and Hasan, 2009).

3 Research methodology and design

Several studies investigated the strand literature of corporate governance in different contexts. The majority of these studies used a systematic review approach (e.g., Almaqtari et al., 2020). Tranfield et al. (2003) suggest that systematic review is a legitimate piece of investigation science and boosts the quality of the review. Tranfield et al. (2003) presented three stages with nine phases to perform a systematic review in management research. However, Ahmad and Omar (2016) in their systematic study of

corporate governance adapted these phases into five-step procedure which are depicted in Figure 1.

Figure 1 Systematic review steps (see online version for colours)



3.1 *Defining research questions*

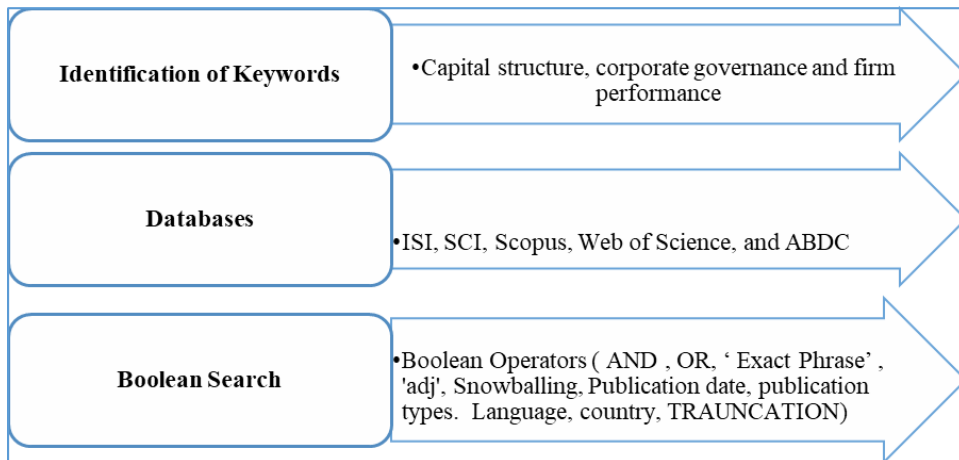
The present study seeks to answer two main research questions in order to address the relationship between capital structure, corporate governance and firm performance. Following are the research questions of the current study:

- RQ1 What are the research outlets that are used by researchers to publish studies related to capital structure, corporate governance and firm performance?
- RQ2 How the relationship between capital structure, corporate governance and firm performance has been addressed by prior studies?

At the initial stage, there were 256 study related to this topic. However, some of these studies were either related to some other countries or out of the scope of the present study.

3.2 *Identifying keywords and search strategy*

Various keywords were employed to retrieve the research studies needed for the current study. Regardless of the topic or component of the investigation, capital structure, corporate governance and firm performance terms were utilised at the outset. This resulted in a plethora of studies and reports. Some of these sources were out of the scope of the current study. As a result, various Boolean search operators were used to retrieve the required research from databases and search engines. AND was initially used to connect distinct notions and narrow our search. Then, Boolean search operators such as AND, OR, 'Exact Phrase', 'adj', Snowballing, Publication date, publication types, language, country, and TRAUNCATION were utilised to broaden the search and extract the related studies. These studies were extracted from several databases including: ISI, SCI, Scopus, Web of Science, and ABDC. Following is Figure 2 that shows the identifying keywords and search strategy. Accordingly, after applying the research strategy, this step led to 201 studies.

Figure 2 Identifying keywords and search strategy (see online version for colours)

3.3 Selection of studies and quality assessment

The present study has applied the following criteria for inclusion and exclusion of a research study in order to minimise duplications and choose relevant and high-quality publications: Including articles that only related to India or have empirical evidence from India.

- a studies related to capital structure, corporate governance and firm performance
- b studies related to capital structure, corporate governance and firm performance in Jordan
- c published studies in peer-reviewed journals from ISI, SCI, Scopus, Web of Science, and ABDC.

Based on the above research criteria, the present study yielded 168 articles.

3.4 Data extraction

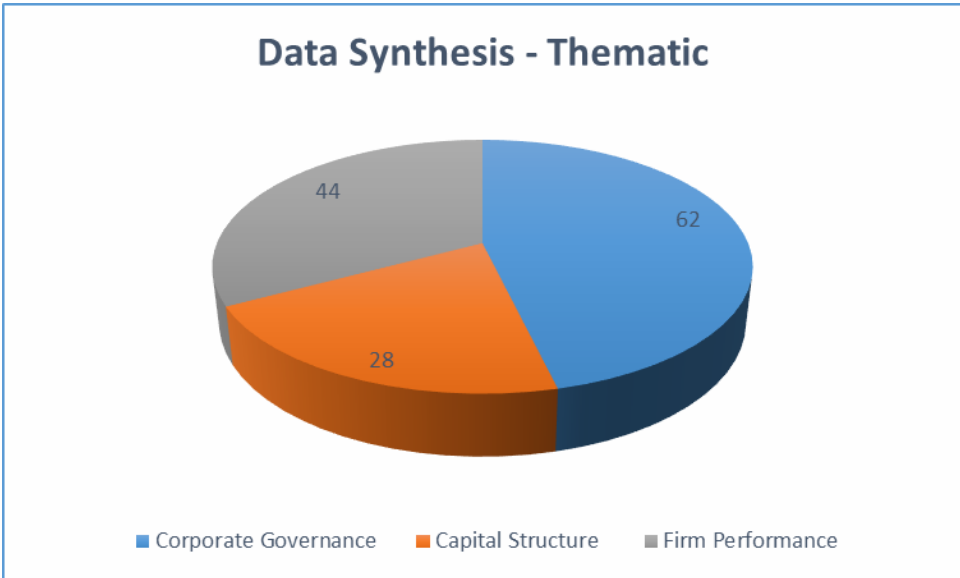
After applying the proceeding steps, 148 published study have been considered as an initial sample for the present study. However, some of these studies have been excluded either due to unavailability of the original manuscript or unsuitability to the scope of the current research. This led to a final sample of 134 articles that are analysed and considered for the next step.

3.5 Data synthesis

3.5.1 Data synthesis – thematic

The results in Figure 3 show that there are 62 studies that examine corporate governance attributes in different contexts, 28 published studies are related to capital structure, and 44 articles that investigate several issues related to firm performance.

Figure 3 Thematic frequency (see online version for colours)



3.5.2 Research studies by years of publication

The results in Table 1 show that there is an increasing number of studies over the years from 2006 up to 2021. The majority of the published studies were found in the years from 2016–2021 (82 articles) which constitute 61% of the published studies. Further, 24 recent articles were found in the year 2021. However, 20 studies and eight studies were published in 2011–2015, and 2006–2010 respectively. Figure 4 shows yearly-wise research studies.

Figure 4 Yearly-wise research studies (see online version for colours)

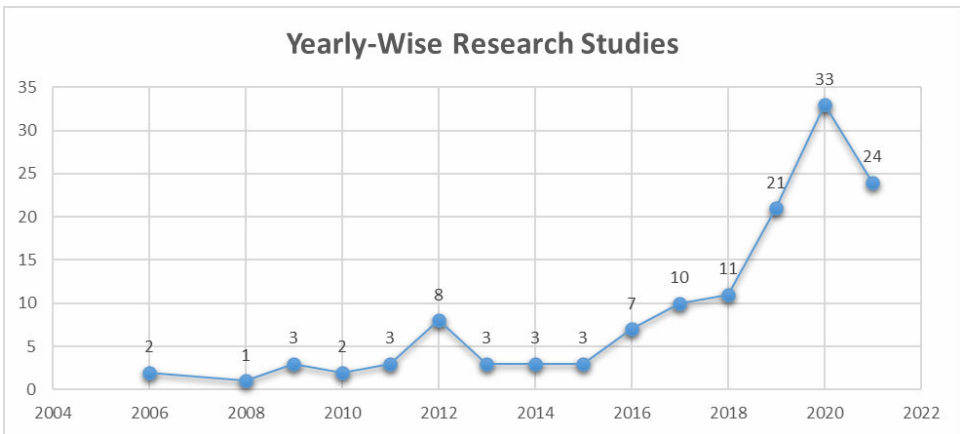


Table 1 Research studies by years of publication

<i>Year</i>	<i>2006–2010</i>	<i>2011–2015</i>	<i>2016–2020</i>	<i>2021</i>	<i>Total</i>
No.	8	20	82	24	134

3.5.3 Publishers' outlets

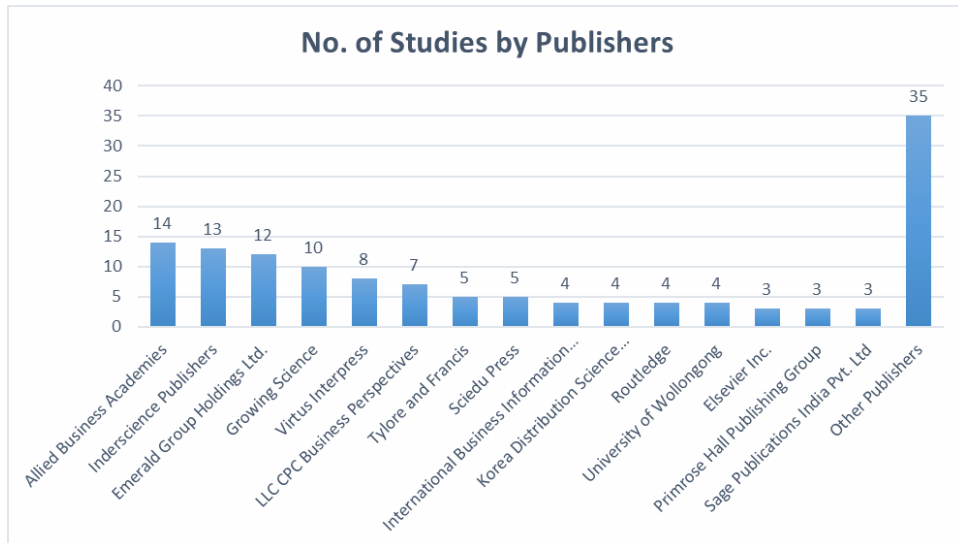
Table 2 shows research studies by publishers. 48% of the published studies were published in Allied Business Academies (14), Inderscience Publishers (13), Emerald Group Holdings Ltd. (12), Growing Science (10), Virtus Interprets (8), and LLC CPC Business Perspectives (7). Further, Tylore and Francis, and Sciedu Press studies have five articles each. In the same context, International Business Information Management Association, Korea Distribution Science Association, Routledge, and University of Wollongong have four studies each. Similarly, Elsevier, Primrose Hall Publishing Group, and Sage Publications each have three published studies. Figure 5 shows publishers' outlets.

Table 2 Research studies by publisher

<i>Publisher</i>	<i>No. of studies</i>
Allied Business Academies	14
Inderscience Publishers	13
Emerald Group Holdings Ltd.	12
Growing Science	10
Virtus Interpress	8
LLC CPC Business Perspectives	7
Tylore and Francis	5
Sciedu Press	5
International Business Information Management Association, IBIMA	4
Korea Distribution Science Association (KODISA)	4
Routledge	4
University of Wollongong	4
Elsevier Inc.	3
Primrose Hall Publishing Group	3
Sage Publications India Pvt. Ltd	3
Other Publishers	35
Total	134

4 Results and discussion

This review of the literature focuses on the relationships between corporate governance, firm performance and capital structure, and begins with the debate on the relationship between capital structure and firm performance.

Figure 5 Publishers' outlets (see online version for colours)

4.1 *Capital structure and firm performance*

The capital structure can be seen as a mechanism that can contribute to reducing the agency problem (Jensen and Meckling, 1976). Moreover, according to the modern finance literature, optimal capital structure can be considered as a major factor in determining firm performance (Farooq et al., 2016; Fosu et al., 2016; Taani, 2014; Zeitun and Tian, 2014). Thus, the optimal capital structure can play a pivotal role in addressing the issue of alleviating agency costs as a result of conflicts of interest between managers and shareholders which mainly arise due to the separation of ownership and control in modern firms (Dawar, 2014). The optimal capital structure can mitigate agency problems in a variety of ways. First, one way to diminish agency conflicts is by increasing managerial ownership in the firm, which serves to modify the kinds of rewards and incentives received by management (La Rocca, 2007; Elsayed, 2011). According to Jensen and Meckling (1976), when managerial ownership in a firm increases, the interests of all the stakeholders become more aligned. Second, when firms increase the use of debt for financing to the optimal level, the activities of management become limited because of the presence of watchdogs such as financiers, creditors and shareholders who monitor their activities, which means that greater control is exercised over management that reduces managerial opportunistic behaviour, and consequently minimises agency costs (Garanina et al., 2016; Jensen, 1986; La Rocca, 2007). Thus, the optimal capital structure can serve as a control mechanism (Farooq et al., 2016). Third, due to increased use of debt, commitments are increased in the form of interest and principle payments to financiers, which helps to alleviate the problem of free cash flow as well (Dawar, 2014; Hussainey and Aljifri, 2012; Jensen, 1986; Jiraporn et al., 2012; Ahmed Sheikh and Wang, 2012). Finally, a high level of debt also increases the likelihood of bankruptcy and liquidation. This increased risk may further force managers to consume fewer perks and perquisites, thus they become more efficient in reducing the possibility of distress and bankruptcy (Margaritis and Psillaki, 2007), which would result

in the loss of their job (Ahmed Sheikh and Wang, 2012). Also, high leverage can be used as a disciplinary device to diminish cash flow misuse by management through the threat of bankruptcy (Margaritis and Psillaki, 2007). In light of the above, the better monitoring and control of managerial behaviour coupled with greater alignment with all stakeholders' interests will translate into higher cash inflows and accordingly this will be reflected in enhanced firm performance (Love, 2011). Many studies have explored the relationship between capital structure and firm performance (Bandyopadhyay and Barua, 2016; Berger and Di Patti, 2006; Dawar, 2014; El-Sayed Ebaid, 2009; Farooq et al., 2016; Margaritis and Psillaki, 2007; Nireesh, 2012; Taani, 2014; Zeitun and Tian, 2014). Moreover, several empirical studies on this issue in the USA context, such as Berger and Di Patti (2006), Grossman and Hart (1982), Roden and Lewellen (1995), Taub (1975) and Williams (1987), emphasise that capital structure reduces agency costs, boosts firm outcomes and improves firm efficiency and performance. Similar findings have been reported in New Zealand (Margaritis and Psillaki, 2007, 2010). The findings of those studies are consistent with agency theory and the theoretical predictions initially suggested by Jensen and Meckling (1976). Furthermore, numerous studies based in different countries have found a positive association between leverage, firm performance and profitability, such as Fosu (2013) in South Africa, San and Heng (2011) and Salim and Yadav (2012) in Malaysia, Salehi and Biglar (2009) in Iran and Bandyopadhyay and Barua (2016) and Khan et al. (2016) in India. In the Jordanian context, Abu-Tapanjeh (2006) found that debt has a substantial positive influence on profitability. Also, Taani (2014) found other empirical evidence about capital structure and bank performance. In addition, Almajali et al. (2012) found that leverage has a positive significant influence on the financial performance of insurance companies in Jordan. Therefore, this study expects that capital structure would exert pressure to enhance firm performance in the non-financial sector in Jordan.

4.2 Corporate governance and firm performance

There is a common view that higher levels of corporate governance practices are related to better firm performance (Peris et al., 2017). Based on agency theory (Jensen and Meckling, 1976), good governance practices greatly improve the performance of firms by reducing agency costs (Nerantzidis, 2016) and enhance the alignment between the interests of managers and shareholders (Al-Najjar and Clark, 2017). Good governance practices usually involve proper incentives and remuneration for both the board of directors and management in order to track the interests of firm's management and shareholders, which encourages effective oversight of managerial behaviour and promotes the efficient use of resources by managers (Al-Najjar, 2010). This in turn ultimately enhances overall firm performance (Shahwan, 2015).

Love (2011) states that complying with the rules and provisions of governance can improve the firm performance in numerous ways:

- 1 Governance provisions provide better control over management behaviours, which drives them to invest in worthwhile projects that maximise shareholders' wealth and improve the efficiency of operations. Consequently, fewer resources are lost in non-productive activities.

- 2 Enhancing corporate governance leads to a reduction in management defrauding shareholders, maintains corporate assets and reduces transactions with related parties.
- 3 Good governance practices protect shareholders and reduce the risk of asset loss, which prompts investors to accept low returns on their investments, reduces firms' cost of capital and improves their income.
- 4 Corporate governance can also improve the availability of external financing, which contributes to providing the funds for growth and increased productive opportunities.

Recently, many researchers have focused on investigating the effect of corporate governance mechanisms on firm performance in both developed and developing countries (Arora and Sharma, 2016). However, the vast majority of previous studies are limited to advanced markets, for example, Baber et al. (2012), Brown and Caylor (2009), Gompers et al. (2003), Larcker et al. (2007) and Love (2011).

One strand of literature examines the association between mechanisms of corporate governance and measures of firm performance (Mishra and Mohanty, 2014; Shank et al., 2013). Some studies focus on a single measure of corporate governance (Zedan and Nassar, 2014), such as board characteristics (Rostami et al., 2016), board size (Elsayed, 2011), board composition (Ahmed et al., 2006), disclosure and transparency (Hassan, 2012), audit committee (Kallamu and Saat, 2015), CEO duality (Tang, 2017) and ownership structure (Ghazali, 2010). Such studies have yielded results that are either positive, negative or mixed, and some have found no relation at all between corporate governance and firm performance (Al-Najjar, 2014; Darko et al., 2016; Zhang et al., 2014). Hence is no consensus among scholars on the strength and direction of the relationship, and a possible explanation for this is that the disparities in the results are due to the variety of corporate governance mechanisms and corporate performance metrics adopted by researchers (Shank et al., 2013).

This view is supported by Baber et al. (2012) and Wirtz (2011), who emphasise that the potential explanation for this divergence in results is that the relationship between all the corporate governance mechanisms themselves is complementary, which means that the attributes of corporate governance are working simultaneously and that the choice of specific mechanism to test the relationship between corporate governance and firm performance may not always be the correct one. Furthermore, recent evidence presented by Wahba (2015) suggests that the mechanisms of corporate governance should be evaluated holistically. This view is also supported by Baber et al. (2012), Bauer et al. (2008), Bhagat et al. (2008), Bhagat and Bolton (2008), Brickley and Zimmerman (2010), Brown et al. (2011), Chen et al. (2007), Elsayed (2011), Filatotchev and Nakajima (2010), Ho (2005), Larcker et al. (2007) and Wirtz (2011), who have concluded that the quality of a firm's corporate governance does not rely on just one or two specific components, but rather depends on the overall system of corporate governance (Mansour et al., 2020). Thus an evaluation of corporate governance that is based on specific mechanisms might not demonstrate the same influence as overall corporate governance quality on firm performance. In other words, it is not possible to measure the overall quality of corporate governance through the use of a single or a few mechanisms. Instead, researchers should use a composite governance measure to ensure a more accurate measurement of the quality of corporate governance (Mansour et al., 2020). The investigation of an individual corporate governance mechanism may ignore

the potential complementary effects that other mechanisms may have and this may thus lead to inaccurate results. Therefore this study believes that a composite governance measure should be used to measure the overall quality of corporate governance.

4.3 The development of corporate governance indices

In the aftermath of high-profile financial scandals and corporate failures, the attention of scholars refocused away from investigating specific corporate governance mechanisms to developing corporate governance indices by which to explore the relationship between corporate governance and the performance of firms (Nerantzidis and Filos, 2014). The use of a corporate governance index as an assessment tool for measuring the state of governance in firms offers a solution to the problem of an inadequate corporate governance system, especially in less developed nations, and can encourage firms to establish optimal corporate governance mechanisms (Chang et al., 2015).

The corporate governance index has been defined as a compound valuation of several corporate governance practices that are applied by firms (Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016). Thus, this index quantifies the quality of corporate governance (Ertugrul and Hegde, 2009). Such an index is useful because it integrates all the mechanisms of corporate governance into a single value, which be used to judge the corporate governance quality in firms (Al-Malkawi et al., 2014). The main objective of a corporate governance index or rating is to assess, by means of an overall score, how well firms adhere to and apply the provisions of the corporate governance code imposed by a regulatory agency (Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016). The index can also be used to measure the efficiency of corporate governance mechanisms (Chen et al., 2007).

It is worth mentioning that the new programme of the World Bank and the Organization for Economic Cooperation and Development emphasises the advantages of the corporate governance index as a good score on such an index gives firms the opportunity to distinguish themselves in the market (Tanjung, 2020). In this regard, firms that are shown to have good governance practices could inspire greater confidence among investors and be identified as safeguarding shareholders' rights (Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016). Thus, the cost of capital could be lower for such firms and the firms would be stimulated to use available resources more efficiently (Rose, 2016).

Numerous researchers of corporate governance are now using a composite measure instead of focusing on individual mechanisms (Gupta et al., 2009; Mansour et al., 2020) and are developing their own indices to assess the quality of corporate governance (Nerantzidis, 2016; Mansour et al., 2020), because they perceive this approach to be more dependable instrument. According to Korent et al. (2014), researchers who wish to explore the relationship between corporate governance quality and firm performance should develop their own index. This view is also supported by Fuenzalida et al. (2013), who recommended that future studies should build indices of corporate governance when studying its impact on the performance of firms, especially in developing countries as a good step to a good corporate governance rating. Furthermore, Chen et al. (2007) there is no single model of good governance practices. Accordingly, this study agrees with Price et al. (2011) that the corporate governance index can be used as a measure of corporate governance strength.

4.4 Corporate governance index and firm performance

The advent of the new approach of utilising a corporate governance index can be considered a turning point in the governance literature, and in recent years this has stimulated scholars and commercial governance ratings agencies to construct governance indices to measure the quality of governance in firms (Brown et al., 2011). This is due to few dependable metrics of corporate governance mechanisms (Ertugrul and Hegde, 2009). The main benefit of employing a corporate governance index is that it summarises all the elements and mechanisms of governance as a single value, making it easier to make comparisons between firms in terms of their commitment to the rules of good governance (Mansour et al., 2020; Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016). The recent research interest in developing corporate governance indices can also be attributed to the absence of any systematic technique or standardised system to measure compliance with corporate governance codes (Al-Malkawi et al., 2014; Mansour et al., 2020), which, if it did exist, would enable investors to assess and compare firms more accurately before making any investment decisions (Epps and Cereola, 2008).

As mentioned above, some of studies have indicated that the identification of any relationship between individual corporate governance mechanisms and performance is not clearly evident or is difficult to prove, especially when only one measure is utilised. So, theoretically, an index comprised of many measures has the potential to shed more light on the relationship between corporate governance quality and firm performance, (Bhagat et al., 2008; Bhagat and Bolton, 2008; Valenti et al., 2011). The indices that are used by researchers and firms can be either self-constructed or bought from commercial corporate governance ratings agencies (Bozec et al., 2010) such as Institutional Investor Services, the Corporate Library (TCL ratings), Governance Metrics International (GMI ratings), the Investor Responsibility Research Center, Standard & Poor's, and Credit Lyonnais Securities Asia (Bhagat and Bolton, 2008; Brickley and Zimmerman, 2010; Daines et al., 2010; Larcker et al., 2007). These companies advise firms on how to improve the quality of governance and help investors to make comparisons between firms (Bozec and Bozec, 2012).

Nowadays, numerous scholars support the idea put forward by Hodgson et al. (2011) that an assessment of firm performance should rely on an overall examination of corporate governance mechanisms through the use of a governance index (Mansour et al., 2020), not just a particular attribute of corporate governance. Moreover, many scholars have identified the corporate governance index as the main predictor of the quality of corporate governance practices (Al-Malkawi et al., 2014; Bhagat et al., 2008; Brown et al., 2011; Bozec and Bozec, 2012). Therefore, several attempts have been made to constructed corporate governance indices in developed and developing countries using different corporate governance provisions (Love, 2011). Nevertheless, such studies have concluded that good governance practices are not often universal (one size mostly fits all), but rather depend strongly on the attitudes of each country and the characteristics of each firm (Hashim, 2011). Yet, the basic underlying assumption of the corporate governance index remains, namely that it can adequately capture the quality of corporate governance (Nerantzidis, 2016). Also, a number of studies have emphasised that the corporate governance index has a positive impact on firm performance, such as Abdallah and Ismail (2017), Bhatt et al. (2017), Cheung et al. (2011) and Renders et al. (2010). Therefore, this study encourages the use of a corporate governance index as a proxy for

corporate governance quality when considering its relationship with firm performance, especially in developing countries, in order to acquire accurate outcomes.

4.5 The capital structure, corporate governance index and performance

The corporate governance index and capital structure can be considered as having the potential to decrease the conflict of interest between management and shareholders through decreasing the agency costs associated with managers having access to free cash flows (Hussainey and Aljifri, 2012; Hoffmann, 2014; Jensen, 1986). The rationale for this argument is based on the agency theory perspective which assumes that the capital structure can reduce agency costs (Jensen, 1986; Jensen and Meckling, 1976). During the last period, especially in the wake of global financial crises, many researchers have paid significant attention to examining the effect of corporate governance mechanisms on firm performance in both developed and developing countries (e.g., Afrifa and Tauringana, 2015; Akbar et al., 2016; Arora and Sharma, 2016; Bauer et al., 2008; Bhagat and Bolton, 2008; Brown and Caylor, 2009; Gompers et al., 2003; Mishra and Mohanty, 2014; Shleifer and Vishny, 1997; Zabri et al., 2016). While many studies point out that there is a direct relationship between corporate governance mechanisms and firm performance (Chauhan et al., 2016; Balasubramanian et al., 2010; Bhagat and Bolton, 2008; Bhatt et al., 2017; Brown and Caylor, 2006, 2009; Gompers et al., 2003), others have found evidence for an indirect relationship (Akbar et al., 2016; Bebchuk et al., 2008; Core et al., 2006; Epps and Cereola, 2008; Gupta et al., 2009). Thus, the findings regarding the effect of corporate governance on firm performance are contradictory in both developed and developing countries (Peris et al., 2017).

Subsequently, diverging views forced firms and researchers to use new and different governance mechanisms to mitigate conflict of interest for lowering monitoring costs (Madanoglu et al., 2016). However, the growing reliance on corporate governance raises questions about whether corporate governance has a significant effect on firm performance or whether there are other factors that moderate and support the relationship between them (Bhagat and Bolton, 2008; Cuomo et al., 2015; Iqbal and Javed, 2017; La Rocca, 2007; Shahwan, 2015). Indeed, previous studies point out that several mechanisms can moderate the relationship between corporate governance and firm performance, such as anti-takeover measures (Gompers et al., 2003; Siddiqui, 2015), franchising (Madanoglu et al., 2016), privatisation (Al-Smadi et al., 2013), organisational capacity (Mustapa et al., 2014), R&D investment (Zhang et al., 2014) and state ownership (Eforis and Uang, 2015).

The methodology of incorporating moderation variables into models is now commonly used in the social sciences to refine and gain a better understanding of the causal relationship between variables (Wu and Zumbo, 2008). Therefore, numerous scholars strongly recommend investigating the inter-relationships between corporate governance and firm performance by taking into consideration the existence of certain firm-specific characteristics such as capital structure due to the key role that corporate financial decisions are expected to play in the correlation between corporate governance compliance and firm performance (Al-Najjar, 2010; Setia-Atmaja, 2009; Bhagat and Bolton, 2008; Bokpin and Arko, 2009; Chen et al., 2007; La Rocca 2007; Ruan et al., 2011). Moreover, Cuomo et al. (2015), in a recent survey, has evoked to test some of the key variables in the firms such as capital structure and its impact on the relationship between compliance with the code of corporate governance and corporate performance.

Hence, many scholars have suggested that it is necessary to examine the extent of the complementary association among capital structure, corporate governance and firm performance (Dimitropoulos, 2014; Kajanathan, 2012; Okiro et al., 2015).

However, in spite of these recommendations, prior literature has tended to focus only on the correlation between each pair of these three factors, such as the effect of corporate governance on firm performance (Akbar et al., 2016), the effect of corporate governance on capital structure (Hussainey and Aljifri, 2012; Ahmed Sheikh and Wang, 2012), or the effect of capital structure on firm performance (Javed et al., 2014). Nevertheless, it is expected that capital structure (corporate financial decisions) would enhance the relationship between corporate governance and firm performance (Hussainey and Aljifri, 2012; Shahwan, 2015). The capital structure is considered a governance mechanism because it plays a decisive role in decreasing the agency costs of free cash flows by prohibiting investments in negative net present value projects (Akbar et al., 2016). This means that optimal capital structure could restrict the freedom of managers to deal with free cash flows (Dimitropoulos, 2014).

In general, managers have the absolute right to make capital structure decisions (Bokpin and Arko, 2009; La Rocca, 2007). However, managers could decide to select a sub-optimal capital structure to serve their own interests instead choosing a capital structure to maximise shareholders' wealth (Dawar, 2014; Farooq et al., 2016; Fosu et al., 2016; Jiraporn et al., 2012). Good governance can provide checks and balances through improving the alignment between the interests of managers and those of shareholders and thus alleviate this type of agency problem (Brown et al., 2011; Dimitropoulos, 2014). Essentially, corporate governance offers the possibility of a trade-off between stakeholders and management (Chang et al., 2015) and to be effective, good corporate governance must be able to prevent any of the opportunistic behaviour practised by management such as the selection of a sub-optimal capital structure (Dimitropoulos, 2014; La Rocca, 2007; Del Carmen Briano-Turrent and Rodríguez-Ariza, 2016).

Thus, it seems that the optimal capital structure can be considered a substitute for corporate governance in mitigating agency conflicts (Jiraporn et al., 2012). This means that financial leverage is like corporate governance in terms of its ability to mitigate agency costs (Farooq et al., 2016; Fosu et al., 2016; Hoffmann, 2014; Hussainey and Aljifri, 2012). Thus, the capital structure can be viewed as a third variable and its influence on the relationship between corporate governance quality and firm performance should be explored (La Rocca, 2007).

In addition, Hodgson et al. (2011) argue that firms with higher leverage (external financing) can improve their corporate governance standards and reduce the cost of capital. Thus, the capital structure can serve as a discipline mechanism (Farooq et al., 2016; Fosu et al., 2016). In addition, firms that wish to adopt new governance mechanisms such as control and monitoring (Akbar et al., 2016) to mitigate conflicts of interest and that also wish to minimise the monitoring costs associated with the corporate governance structure could employ the capital structure to this end (Shahwan, 2015). Therefore, this study suggests that researchers test the complementary correlation between capital structure and corporate governance and firm performance in a developing country by using Jordanian data because some firms in the country rely heavily on debt (high gearing) as a main source of financing in order to enhance the capability of the capital structure to act as a control mechanism.

5 Conclusions

This study defined a theoretical approach that could contribute to clarifying the relationship between capital structure, corporate governance, and firm performance. The capital structure can serve as a discipline mechanism by restricting the freedom of action of managers to deal with free cash flows. The capital structure appears also to substitute for corporate governance in mitigating agency conflicts, and this means that the optimal capital structure is like corporate governance in terms of its capability to alleviate agency costs. Therefore the capital structure is expected to exert pressure to enhance firm performance. Thus, the capital structure can be used as a third variable and its influence on the relationship between corporate governance quality and firm performance merits further exploration. In addition, this study highlights the need for a more accurate design for use in practical analyses which takes into account the moderation role of the optimal capital structure and the presence of a complementary effect between the optimal capital structure, corporate governance, and firm performance.

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