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Do Corporate Governance and Gender Diversity Matter in Firm Performance (ROE)? Empirical Evidence from Jordan

Malek Hamed Alshirah [1,*], Faraj Salman Alfawareh [2], Ahmad Farhan Alshira'h [3], Ghaith Al-Eitan [4], Tareq Bani-Khalid [1] and Moh'd Alsqour [3]

[1] Accounting Department, School of Business, Al al-Bayt University, Al-Mafraq 130040, Jordan; tareq_alkhaldi@aabu.edu.jo
[2] School of Economics, Finance and Banking, University Utara Malaysia, Sintok 06010, Malaysia; faraj.salman@yahoo.com
[3] Accounting Department, Faculty of Administrative and Financial Sciences, Irbid National University, Irbid 2600, Jordan; alshraah.ahmad@yahoo.com (A.F.A.); mohsqour@wp.pl (M.A.)
[4] Department of Finance and Banking, School of Business, Al al-Bayt University, Al-Mafraq 130040, Jordan; ghaith.eitan@aabu.edu.jo
* Correspondence: shraamalek@gmail.com

Abstract: The aim of this paper was to examine the effect of managerial/board gender diversity and corporate governance structure on firm performance in a Jordanian business environment—a developing economy that has a distinct environment from that of developed economies. The current study focuses on the unique context of an emerging economy (i.e., Jordan). Data were collected from nonfinancial companies listed on the Amman Stock Exchange from 2018 to 2020. Data analysis was carried out using the random-effects estimator, which was considered as the most suitable for this study. The results disclose that female representation on the board of executives of Jordanian companies had a positive but insignificant effect on corporate performance, as measured by the return on equity, indicating that this variable has no effect on the performance of firms in Jordan. Both family ownership and board size had negative significant effects on performance, but for the moderating effect, corporate governance structure had no effect on the relationship among CEO duality, institution ownership, government ownership, independent directors, and firm performance. The current study only focused on Jordanian industrial firms listed on ASE, thus rendering the findings nongeneralizable to other sectors and nations. Further investigations are urged to broaden the context of the study to achieve more enriched findings. Managers can use the findings to achieve a deeper understanding of the way governance structure affects firm performance. Additionally, regulators at the Jordan Securities Commission can attain valuable insight about the adequacy of the current regulations regarding the role of gender diversity and corporate governance structure in Jordan. The current study contributes to the literature concerning the effect of managerial gender diversity and corporate governance structure on performance. Furthermore, this investigation aims to fill the current research gap in the context of Jordan, which is an emerging economy in the Arab region that is under-represented in this field of research.

Keywords: corporate governance; gender diversity; performance; Amman Stock Exchange

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1. Introduction

Researchers and practitioners in the current business milieu mostly agree that good corporate governance (CG) practices play a vital role in ensuring organizational success (Zaid et al. 2020). CG practices are suggested to drive corporate performance and survivability. Research has demonstrated that a majority of countries with good CG practices achieve tremendous corporate growth, which in turn attracts higher capital investments. Hence, it can be said that organizational competitiveness and sustainability are substantially dependent upon good CG mechanisms (Wahyudin and Solikhah 2017). Firms that emphasize good corporate governance commonly demonstrate greater shareholder value due to greater cash flow and/or lower capital costs. An interesting question has emerged concerning the effect of having female representation on the board of directors on corporate performance (Adams and Funk 2007). In this regard, board diversity, in terms of gender, has been suggested to improve CG practices based on the notion that female directors provide a more diligent monitoring function (Vieira 2018) on top of improving board decision quality and enhancing organizational legitimacy (Low et al. 2015). Effective corporate governance practices can mitigate corporate risks as well as guarantee corporate survivability and a competitive advantage, all of which will ultimately be demonstrated via positive firm values (Tahtamouni et al. 2020).

According to Clarke (2004), economic cycles and corporate governance styles are somewhat comparable, as both depend substantially on board composition. One significant issue in today's public and private management is gender equality. Báez et al. (2018) highlighted several fundamental and mutually dependent principles, the first of which is social justice, which is the provision of equal chances for both women and men with regard to job access. This includes those in senior management, hence applying positive discriminatory actions for solving past weaknesses. The second principle entails diversity, including in terms of gender, as increasing research evidence has indicated that diversity in teams and management boards can lead to substantial improvement in business performance (Báez et al. 2018). The growing involvement of female managers in the domain of CG has shown a positive effect on business management, whilst greater human diversity in management teams has also shown a positive influence on firm performance.

On an international level, several past studies have found a positive association between gender diversity in boards of directors and the firms' financial performance. To begin with, companies having a higher number of female board members showed a significantly improved performance over others that did not, with a marked 40% higher return on sales and 53% higher return on equity (Joy et al. 2007). In addition, over 2000 global firms were part of the sample firms examined by Curtis et al. (2012), and their findings indicate that female board representation was related to higher performance and share prices, lower earnings volatility, and lower share prices. Additionally, in a study by Adams and Ferreira (2009), the authors found that the percentage of females positioned in top positions in developed nations' firms is 24% and is expected to increase to 30% in other countries, such as Spain, Italy, and France, owing to their companies' laws. In the context of Norway and Netherlands, by law, companies are mandated to employ a ratio of at least 40% females to males on the board (Reguera-Alvarado et al. 2015), while in France, lawmakers had been attempting to pass a law providing female board quotas since 2006, and by 2011, the law was approved and public companies were mandated to have a ratio of at least 40% female directors to males on the board starting from 2016 (Nekhili Mehdi 2013). On the other hand, the barriers to women's progress in taking management roles in Muslim nations, such as Saudi Arabia, Palestine, Egypt, Tunisia, and Morocco, may be similar in a number of ways to the issues (e.g., Islamic religious, identity, and culture) facing women in Jordan, especially for minority females who seek to attain status in managerial roles (Rizzo et al. 2007; Abdelzaher and Abdelzaher 2019). It remains clear that in most countries in the world, there remains a "glass ceiling" (of variable height and thickness) which prevents women- from attaining the highest ranks in business organizations. When they do succeed, it is often in specialized roles, for instance in human relations management or in specialized technical areas which do not require male-type aggression (Paludi 2013).

In the Jordanian context, an International Finance Corporation (IFC) report (IFC 2012) indicated that 52 out of 237 listed firms in 2011 had female board members, indicating that the gender representation on the boards among the firms in Jordan is quite low, which may be attributed to the culture of the country, preventing women from being corporate board members (Saidat et al. 2020). Additionally, nonfinancial public listed firms in Jordan, from the years 2009 to 2015, showed that only 4.3% of board members were female on average (Al-Rahahleh 2017). It seems that the Jordanian corporate culture is confining the advancement, growth, and development of female entrepreneurs, although a considerable number of firms in the country have been found to be family-dominated, whereby concentrated ownership dominates. Hence, female family members often take part in firm management and have higher positions, such as chairman of the board of directors or senior executive positions. Therefore, this study primarily attempts to examine if gender diversity and CG pose effects on corporate performance in the Jordanian environment.

The results of the current paper contribute to the literature and the Jordanian environment in various ways. Firstly, Jordan is considered one of the stable and competing nations in the Arab region due to its high safety and stability. Jordan is a developing nation with a different economy, business environment, and culture than developed countries (Ibrahim and Hanefah 2016). So, conducting a study in the Jordanian context highlighting its regulatory and institutional features will permit a comparison with developed countries in terms of capital market development and economic growth. Secondly, this study extends the works of Mohammad et al. (2018) and Saidat et al. (2020) through data from industrial companies, different periods of time, and the most up-to-date information about the variables with the existing theories in examining performance, having highlighted the scarcity of studies on this area in Jordanian literature (Saidat et al. 2020), as the majority of the previous studies were conducted in Europe and the USA (Adams and Ferreira 2009; Ahern and Dittmar 2012; Isidro and Sobral 2015; Terjesen et al. 2016; Ahmadi et al. 2018; Green and Homroy 2018; Guest 2019). Furthermore, some prior studies have focused on the economic benefits of woman directors in the boardroom by studying the connotation of gender diversity and company performance, but their findings have provided mixed results (Adams and Ferreira 2009; Yu Liu and Xie 2014; Post and Byron 2015). Several empirical studies have shown that gender diversity on the board has economic advantages and changes boardroom dynamics. For instance, woman managers are more operation-focused than males (Adams and Ferreira 2009; Adams et al. 2011). Thirdly, we added new evidence regarding the effect of gender diversity on firm performance under CG in Jordanian literature, which is categorized as a developing economy but is distinct from developed economies based on its cultural environment. Moreover, past studies in Jordan generally focused on gender diversity and firm performance as a whole, and only a few studies have been conducted on CG (e.g., ownership structure and board characteristics) in the Jordanian literature. They ignored the important effect of gender diversity on CG on firm performance. Thus, this paper seeks to fill this gap in the Jordanian literature.

Fourthly, this study expects to inform the regulators of the Jordan Securities Commission (JSC) and the Amman Stock Exchange (ASE) of the sufficiency of existing regulations in terms of gender diversity and corporate governance structure, and this paper particularly addresses the debate on the requirements and policies recommending a quota for appointing females on the board in Jordanian firms. Fifthly, this study opens up new research avenues in this field to be explored by other researchers. *Sixthly*, there is a glaring need to study this topic so as to facilitate the understanding among academicians, decision makers, and company board members, particularly in Jordan. Seventhly, the study provides further evidence with a relatively newer and expansive dataset on this topic, which has assumed greater interest among policymakers and practitioners following recent major corporate failures in Jordan, such as the Shamyaleh Gate in 2002. Policymakers have been highly concerned about the crisis, urging them to uphold and promote corporate governance standards. Lastly, the economic, market environment, and political systems of Jordan are distinct from those of the developed nations (Ibrahim and Hanefah 2016), and thus, a study on the regulatory and institutional features of Jordan is expected to contribute significantly to the literature, in light of a developing nation's market and economic development.

The current paper is organized into five sections: Section 1 presents the development of the theoretical background and study hypotheses. Section 2 discusses the research design and study methodology. Sections 3 and 4 contain the presentation of the empirical findings and implications of the study. Lastly, Section 5 concludes the entire study.

2. Theoretical Background and Hypothesis Development

Theoretically, agency theory emphasizes the principal–agent conflict and highlights the vital role played by the board of directors in supervising and governing managers (Fama and Jensen 1983) and resolving agency issues (Reguera-Alvarado et al. 2015; Peillex et al. 2021). Corporate governance studies are primarily underpinned by the agency theory, which supports board diversity and its advantages. Specifically, board gender diversity affects corporate decisions, largely depending on the governance quality of the firm. In firms that have good governance, such diversity can prevent firm value owing to strict monitoring (Adams and Ferreira 2009; Al Farooque et al. 2020). In contrast, it is possible for firms to increase their governance quality through gender-diverse boards as evidenced by Gul et al. (2011), and based on the agency theory, board diversity is likely to enhance the independence of the board owing to the presence of various members' characteristics and backgrounds, facilitating the board's ability to veer off from the original system, which a traditional board may not have the ability to do (Song et al. 2020; Peillex et al. 2021). In other words, there are varying viewpoints when it comes to board diversification and its consequential result in terms of effective monitoring and performance, which mitigates the agency's costs under good CG practices.

Consistent with the above, the resource dependence theory also promotes gender diversity as a tool of corporate governance (Hassan et al. 2015; Gallego-Álvarez et al. 2010). According to the resource dependence theorists, board diversity allows the security of resources that are essential to mitigating risks and enhancing the outcomes of operations (Reguera-Alvarado et al. 2015). The firm's business activities depend on its environments, and gathering suitable resources from such environments is a must for obtaining and maintaining a competitive advantage (Pfeffer 1972). Moreover, the board of directors is responsible for providing various advice, counsel, and legitimacy services to a firm, using their connections to obtain valuable resources from the external firm environment. In this regard, Isidro and Sobral (2015) found that a diversified board is much more capable of providing such resources for enhanced decision making and higher performance of the firm. This implies that increasing gender diversity leads to better governance by offering directors access to a wider talent pool. In other words, the greater inclusion of women in board membership may stimulate more effectiveness in decision making and, overall, improve the firm's performance. In contrast, gender diversity in the administration team is expected to bring weaknesses to the organization. Gender diversity could exacerbate conflicts in the organization (Richard et al. 2004; Bernile et al. 2016), which in turn may result in a slower decision making process (Hambrick et al. 1996). Additionally, females are considered more hazard-averse than men in financial decision making and that way may affect the organization's resource allocation. This different view suggests that gender diversity leads to greater rather than lower firm hazards and outcome volatility.

Numerous theories have been used as the underpinning argument in examining the association between CG and corporate performance, including the agency theory, the resource dependence theory, the institutional theory, and the managerial theory. As a result of the conflicting perspectives, findings on the said relationship have been mostly inconsistent (Kiel and Nicholson 2003). In particular, previous investigations on the effect of board characteristics on financial performance mostly relied on the agency theory and resource dependence theory (Reguera-Alvarado et al. 2015). Therefore, this current study relied on both to determine the contribution of each theory to this research in the Jordanian environment.

2.1. Gender Diversity

This study mainly focused on the variable "board gender diversity" in the literature; some studies have adopted the percentage of female directors on board (% of women) as a measurement of the variable (e.g., Adams and Ferreira 2009; Owen and Temesvary 2018; Naghavi et al. 2021), while others used the number of female board directors or a dummy variable on the basis of the premise that a critical mass is required prior to the emergence of the influence of female board directors (Lückerath-Rovers 2013). We employed the proportion of woman directors on the board as measure of gender diversity to increase reliability and to facilitate a more dynamic analysis (Ryan and Haslam 2005). Notably, the aspect of gender diversity has been receiving growing attention due to the increasing demand for regulation in many developed countries ensuring females are given more and/or equal representation on company boards (Fernández-Temprano and Tejerina-Gaite 2020). On top of ethically oriented factors, there have also been economic implications suggesting that equal gender representation can significantly affect firm performance. However, in developing countries, having no or very little female representation on the board of companies is still a very common practice (Abdullah et al. 2016). The resource dependence theory claims that the presence of female directors on the board of companies can provide assurance to stakeholders about the companies' practice of diversity as well as improve their legitimacy and relationship with the surrounding environment (Lückerath-Rovers 2013). Findings on the influence of female managers on firm and financial performance have been inconsistent. A positive correlation was found between the aforementioned variables in the studies of Terjesen et al. (2016), Vieira (2018), Abdullah et al. (2016) and Ahmadi et al. (2018). Meanwhile, a negative association was found by Ahern and Dittmar (2012) and Marimuthu Maran (2009), whilst several other investigations failed to find any correlation (Chapple and Humphrey 2014; Bennouri et al. 2018; Ararat and Yurtoglu 2021). So, the resource dependence theory and agency theory assert that female representation on the boards of companies can improve corporate performance and relationships with the surrounding environment. Hence, this current study proposes the following hypothesis:

Hypothesis 1 (H1). *High female representation on company boards significantly and positively affects business performance.*

2.2. Chief Executive Officer (CEO) Duality

CEO duality means that the roles of chief executive officer (CEO)and board chairperson in a company are held by the same individual (Hsu et al. 2021). Along with CEO duality is decision making concentration, as a result of which there is domination of the CEO over the board of directors, as a result of which opportunistic behavior from the dominant CEO may follow (Alshirah et al. 2020). According to the agency theory, CEO duality could likely cause dominant behaviors, no- transparency and no- accountability, and eventually negative corporate performance and growth (Tian and Lau 2001). The theory suggests that the roles should be separated to enable more effective board monitoring as well as to prevent CEO entrenchment (Mahadeo et al. 2012). However, the current view is that managerial actions such as achievement and responsibility can bring organizational benefits. Existing empirical proof demonstrates the conflicting theoretical perspectives of the correlation between CEO duality and firm performance. For example, Kao et al. (2019) and Mahadeo et al. (2012) asserted that CEO duality is negatively associated with firm performance, whilst Palaniappan (2017) demonstrated a significant and positive correlation between CEO duality and performance. The author claimed having the chairman of the board and the chief executive be the same person is a good idea, as it decreases bureaucracy in the decision-making process. In the context of Indian manufacturing firms, Arora and Sharma (2016) found no effect of CEO duality on firm performance. Similarly, in the context of Jordan, prior studies, i.e., (Rodriguez-Fernandez et al. 2014; Puni and Anlesinya 2019) have shown that CEO duality has no effect on firm performance. Therefore, this current study proposes the following hypothesis:

Hypothesis 2 (H2). *CEO duality significantly and negatively affects firm performance.*

2.3. Board Size

It has been suggested that firm performance can be enhanced by having a smaller board size (Jensen 1993). The agency theory asserts that a larger board size complicates coordination and decision making, thus reducing efficiency and performance due to greater difficulties in achieving consensus (Alareeni 2018). Hence, smaller board sizes are much preferred (Fama and Jensen 1983). The findings of Chen and Al-Najjar (2012) and Larmou and Vafeas (2010) indicate that size positively affects corporate performance. Thus, a larger board size with more highly skilled members could be able to assist organizations in acquiring resources and providing advice more effectively than a smaller board (Al Farooque et al. 2020). Whilst Arora and Sharma (2016), Nguyen et al. (2014), and Haider and Fang (2016) found a negative association between the two (board size and firm performance). Meanwhile, Wintoki et al. (2012) and Ghazali (2020) found no association at all. Based on the agency theory, the current study hence proposes the following hypothesis:

Hypothesis 3 (H3). *Board size significantly and negatively affects corporate performance in the context of Jordan.*

2.4. Independent Nonexecutive Directors

Both the resource dependence theory and the agency theory assert that a higher number of nonexecutive directors (NEDs) on the company board can lead to better monitoring and control of executive directors and, ultimately, better corporate performance (Fama and Jensen 1983). Evidence of the effect of director independence on corporate performance has been inconsistent. Some prior studies asserted that the presence of more independent directors on the company board can improve performance (Yu et al. 2015; Ahmed Sheikh and Wang 2012; Tanjung 2020). Others indicate that a higher number of independent directors does not essentially lead to better performance (Yammeesri and Herath 2010; Arora and Sharma 2016). Meanwhile, Afrifa and Tauringana (2015) and Rodriguez-Fernandez et al. (2014) failed to establish any correlation between independent directors and firm performance. Hence, based on all the above, this current study proposes the following hypothesis for testing

Hypothesis 4 (H4). *Independent nonexecutive directors significantly and positively affect firm performance.*

2.5. Family Ownership

Business information and knowledge are better provided by family-owned businesses as the owners tend to have been involved in the business since its inception (Ataay 2018). However, family-owned firms can also be set back by vague roles between the owners and the managers (Sciascia and Mazzola 2008). In this context, the advantage of being able to save on agency costs is offset by the inefficient and/or ineffective decisions made by the owners, hence causing the non-maximization of shareholder returns. Family-owned firms typically have issues with performance improvement irrespective of nonfamily ownership (Schulze et al. 2003). Such issues include free-riding (Schulze et al. 2003), adversative selections (Lubatkin et al. 2005), greater prevalence of entrenchments (Gomez-Mejia et al. 2001), privilege distinction or owner reimbursements (Yoshikawa and Rasheed 2010), non-motivation for wealth sharing, and the intake of undeserved benefits (Chrisman et al. 2004). Despite all that, Buachoom (2018) and Chu (2011) demonstrated that family-owned firms have a distinct type of corporate governance that provides reduced agency costs and higher performance. Meanwhile, Buachoom (2017) and Al Farooque et al. (2020) indicated that family ownership has a negative effect on firm performance. The work of Bhatia and Srivastava (2017) found no support of the influence of family ownership on firm performance. Based on all the above, this current study thus suggests the following hypothesis:

Hypothesis 5 (H5). *Family ownership significantly and negatively affects firm performance.*

2.6. Institutional Ownership

The "term institutional owners" refers to large investors, including banks, investment firms, and other major legal shareholders. Theoretically, institutional owners positively contribute to the corporate governance of a firm, thus making them an important corporate governance tool for controlling agency problems and safeguarding investor interests. Nevertheless, previous research findings on this matter have been inconsistent. Institutional ownership has been indicated to have a positive effect on corporate performance by Harasheh and Nijim (2010), Hutchinson et al. (2015), and Lin and Fu (2017), but Epps and Cereola (2008) and Fazlzadeh et al. (2011) have asserted it has negative effects. According to their studies, institutional ownership could improve firm performance, but it has a detrimental effect when institutional ownership is concentrated. It indicates that institutional investors should not own a large percentage of a firm's shares in order to enhance their performance. The management team would be influenced by their power rather than pursue the advantages of all shareholders who own the majority of shares in the firm. Some other studies indicated an insignificant association between the variables, as exemplified by Moradi et al. (2013). Based on all the above, this study suggests the sixth hypothesis:

Hypothesis 6 (H6). *Institutional ownership significantly and positively affects firm performance.*

2.7. Governmental Ownership

Governmental ownership has been indicated to cause poor corporate governance and be less effective in comparison to private ownership (Buallay et al. 2017). Theoretically, firms whose major shareholders are made up of governments demonstrate poor performance as compared to wholly privatized firms (Haji 2014). Despite the general belief, there has been empirical proof that governmental ownership is positively associated with firm performance (Fauzi and Musallam 2015; Li et al. 2009; Shao 2019). Additionally, government-owned businesses also demonstrate greater levels of risk and benefit sharing (Chen et al. 2009). Meanwhile, Bai et al. (2004) and Alipour (2013) showed a negative correlation between the two variables, further explaining that governments typically focus more on achieving social and political objectives instead of maximizing shareholder wealth. Moscu et al. (2015) found that state ownership does not have any statistically significant effect on firm performance. Moreover, government ownership was employed in the second model because of the response to calls for a new study to employ this variable in this field (Alkurdi et al. 2021). This variable may be an important factor that may affect the organizations' success, for instance by enhancing the company's market share. Hence, based on all the above, this current study proposes the following hypothesis:

Hypothesis 7 (H7). *Governmental ownership significantly and negatively affects firm performance.*

2.8. Control Variable

In this current study, three control variables were used (i.e., company size, liquidity, and sales growth), all of which are supposed to have a direct effect on financial performance. These variables have been used in previous studies. Firm size. Several previous studies have employed this variable (e.g., Buallay et al. 2020; Alfawareh et al. 2021a). It is proposed that firm size has a positive link with firm performance. Sales growth. Prior studies have highlighted a positive relationship with performance. It has been argued that a high growth rate to earn maximum profits is possible, which in turn can increase firm value and investment opportunities. Likewise, Mohamed Tailab (2014) found that growth has a negatively significant effect on performance. Liquidity is important for all organizations in all situations Alfawareh et al. (2021b) argued that liquidity plays an important role when organizations are in a good situation but is most important during troubled periods. They also found a significant positive influence of the liquidity ratio on financial performance. Similarly, Nguyen and Nguyen (2020) employed return on asset and Tobin's Q for firm performance and leverage for capital structure, with liquidity as a control variable. The findings indicate that there is a negative significant influence of liquidity on financial performance.

3. Methodology

The methods involved in the data analysis of this study are explained in this section, including the sample and data selection and the variables' definitions and measurements, as well as the model's specifications.

3.1. Sample and Data Collection

The current study population entails all small and large industrial firms listed on ASE from 2018 to 2020. The industrial sector has been facing a decline in GDP in the last few years due to the unrest in Iraq and Syria, as well as other external environmental factors as a result of the Arab Spring, which have affected the performance of Jordanian industrial firms because the Jordanian market depends on the markets of these countries (Alfawareh et al. 2021a). Moreover, according to Alghad (2020), there are fluctuations in the number of companies listed on ASE, particularly in non-financial firms, because of the recent coronavirus outbreak. However, the Jordanian government, through various initiatives, has strongly encouraged this sector to enhance its productivity and contribute to the nation's economic growth. This study focuses on the manufacturing sector as the characteristics of service firms typically cause them to be excluded from this study due to the special regulatory environment in which they operate and variances in financial reporting (Alhadab et al. 2016). The required data from all the industrial firms were available for our sample. Consequently, the 52 industrial firms listed on ASE were selected as the study sample. Based on the observations conducted, 156 were readily available and useable for analysis. Companies with missing data were removed. The data was obtained from the firms' annual reports, derived from the ASE website. The size of the study sample is relatively bigger compared to other corporate governance studies conducted in developing nations (e.g., Assenga et al. 2018).

3.2. Dependent Variable

As part of performance management, institutions use measures of financial performance, and among the financial manager's responsibilities is to evaluate and monitor such performance. The decision lies in the manager's hands as to the method of evaluation, the collection of data concerning the enterprises' performance, and development of a set of measurement standards of performance (Alshirah et al. 2021). Unsatisfactory performance would require management to determine and adopt strategies for its improvement. Following the suggestions of earlier studies (i.e., Chen et al. 2018; Abdalkrim 2019; Buallay et al. 2020), this study used the return on equity (ROE) for measuring performance over other comparable performance indicators. ROE was used as one of the accounting performance indicators and denoted as the net income to total equity.

3.3. Independent Variables

Several explanatory variables may influence corporate performance in the performance models. Table 1 presents the independent variables used for explaining the board structure (i.e., independence of directors, board size, duality of CEO, and directors' gender) and the ownership structure (i.e., institutional ownership, family ownership, and governmental ownership) along with their respective measurements.

Table 1. Measurement of variables.

Dependent Variables	Codename	Definition	Authors
Performance	ROE	After tax profit divided total equity	Buallay et al. (2020)
Independent variable			
Gender diversity	Pwomen	Proportion of females on the board %	Owen and Temesvary (2018)
CEO duality	DUAL	Dummy 1, when the CEO and the board chairman are the same person, and 0 if not.	Fernando et al. (2020), Ataay (2018)
Board size	BSIZE	The total number of board members	Vairavan and Zhang (2020), Qa'dan and Suwaidan (2019)
Independent directors	IND	Independent directors' ratio	Haji (2014)
Family ownership	FamilyOW	The percentage of stocks held by family members	Kao et al. (2019)
Institutional ownership	InstitutionOW	The percentage of stocks held by institutional shareholders	Qa'dan and Suwaidan (2019), Alhadab et al. (2016)
Government ownership	GovOW	Ratio of government shares	Ghazali (2020), Haji (2014)
Control variables			
Firm size	FSize	The natural logarithm of total assets	Talavera et al. (2018)
Liquidity	LiQ	Current assets to current liabilities ratio	Abdalkrim (2019)
Sales growth	SalesGrth	The change in net sales revenue from the previous year.	Fernando et al. (2020)

Source: previous studies.

3.4. Control Variables

Several firm-related variables were used in this study for the purpose of hypothesis testing. They were control variables in the regression tests that may affect firm performance. The variables included firm size, firm-level sales growth, and liquidity.

3.5. Regression Model Specification

The study's multiple regression models were developed for investigating the effects of boardroom gender diversity and corporate governance structures on the performance of ASE-listed industrial firms for the years from 2018 to 2020. Thus, a quantitative method was used in this study using 3-year data. Panel data techniques were deemed as the most suitable model for this study to determine the effects of managerial gender diversity and corporate governance structures on corporate performance in the context of Jordan. The panel data techniques used for testing the study hypothesis included OLS, fixed effect (FE), and random effect (RE). The three tests were followed up with the F-test (Breusch and Pagan 1980; Hausman and Taylor 1978) for choosing the best-fitting regression. The F-test decides the best out of the OLS and FE regression models; the Lagrange multiplier test (LM) identifies the best out of the OLS and RE regression models, whilst the Hausman test discerns the best out of the FE regression and RE regression outcomes. Additionally, owing to the possibility of the issue of endogeneity, specifically causality between gender diversity and corporate performance (Adams and Ferreira 2009; Shahzad et al. 2020), this study adopted the Hausman specification test (Hausman and Taylor 1978) to examine the fitness of the 2SLS. Accordingly, Phase 1 involved the testing of the endogeneity issue between gender diversity (PWOMEN) and firm performance (ROE), and this was carried out following the guidance of previous literature (Conyon and He 2017; Li and Chen 2018; Shahzad et al. 2020). At this stage, the influence of PWOMEN on ROE was analyzed, and gender diversity was instrumented by using lagged values of corporate governance proxies (e.g., institutional ownership, board size, and independence of directors) as instrumental variables as suggested by (Larcker et al. 2007; Reguera-Alvarado et al. 2015; Ali et al. 2020; Shahzad et al. 2020). This was followed by Stage 2, where the first phase residuals were used. Further, the robust standard errors were used to deal with heteroscedasticity and autocorrelation problems in this paper.

Model 1

$$
\begin{aligned}
Perfmnce_{it} = \; & \beta_0 + \beta_1 \; PWOMAN_{it} + \beta_2 DUAL_{it} + \beta_3 BSIZE_{it} + \beta_4 IND_{it} + \beta_5 \; FamilyOW_{it} \\
& + \beta_6 InstitutionOW_{it} + + \beta_7 FSize_{it} + \beta_8 LiQ_{it} + \beta_9 SalesGrth_{it} + \varepsilon_{it}
\end{aligned} \tag{1}
$$

Model 2

$$
\begin{aligned}
Perfmnce_{it} = \; & \beta_0 + \beta_1 \; PWOMAN_{it} + \beta_2 DUAL_{it} + \beta_3 BSIZE_{it} + \beta_4 \; FamilyOW_{it} + \beta_5 InstitutionOW_{it} \\
& + \beta_6 GovOW_{it} + \beta_7 FSize_{it} + \beta_8 LiQ_{it} + \beta_9 SalesGrth_{it} + \varepsilon_{it}
\end{aligned} \tag{2}
$$

4. Empirical Findings and Discussions

4.1. Descriptive Statistics

Table 2 shows the descriptive statistics of our samples of Jordanian firms. It is evident from the table that the mean for ROE was only 32.7 percent. The low mean value for the accounting-based measure may be caused by the declining market value of Jordanian stocks due to the sluggish economy and instability in the Arab region. Jordan has a very low percentage of gender diversity, according to recent statistics. According to the World Bank, only 15.8 percent of companies in Jordan have female participation in ownership structure, and only 2.4 per cent have a female top manager. These statistics are low even when compared to the averages of North African countries' statistics and those of the Middle East (World Bank Group 2013). As shown in the table, female directors made up an average of 2.1 percent of the overall number of board members (i.e., lower than that of developed countries). DUAL showed a mean value of 14.7 percent, indicating that 85.3 percent of the sampled firms adhere to the requirements of the Jordanian Corporate Governance Code (JCGC) guidelines concerning CEO role separation. The BSIZE was between 5 and 12 directors, and the mean was 8 directors, which is in line with the findings of Qa'dan and Suwaidan (2019). The mean of IND was 0.35, suggesting that just less than half of Jordanian firms are broadly in line with ASE recommendations of having at least one-third independent board members, which is also in line with the findings of Al-Haddad and Whittington (2019). Moreover, the ownership structure as presented in Table 2 shows that 23.1 percent of the shares in the firms were family-owned. Institutional shareholders owned 32.3 percent of the remaining shares. The average for governmental ownership (Gov-OW) was 2.2 percent, suggesting that the Jordanian government's ownership is low due to its decision to focus more on privatizing businesses, which has been ongoing since the early nineties. Lastly, the control variable of FSIZE had a mean value of 7.26, which is in line with the finding reported by Idris et al. (2018). Aside from the above, the Jordanian industrial firms' mean LiQ of 2.526 indicates a good level of liquidity, which assists them in meeting their short- and long-term obligations. Sales-Grth had a mean of 1.279, indicating different levels of growth among the industrial firms.

Table 2. Descriptive Statistics.

Variables	Mean	Std. Dev.	Min	Max
Perfmnce	0.327	20.364	−62.033	89.071
Pwomen	0.021	0.053	0	0.286
DUAL	0.147	0.356	0	1
BSIZE	7.827	2.104	5	12
IND	0.351	0.277	0	0.954
FamilyOW	0.231	0.253	0	0.919
InstitutionOW	0.323	0.273	0	0.902
GovOW	0.022	0.059	0	0.35
FSize	7.26	0.638	5.861	9.083
LiQ	2.526	1.734	0.61	6.67
SalesGrth	1.279	4.58	−0.954	19.739

Notes: performance_ROE; gender diversity_Pwomen; CEO duality_DUAL; board size_BSIZE; independent directors_IND; family ownership_FamilyOW; institutional ownership_InstitutionOW; government ownership_GovOW; firm size_FSize; liquidity_LiQ; sales growth_SalesGrth.4.2. Correlation analysis.

As presented in Table 3, None of the variables were found to have a high correlation (i.e., none of the coefficients have values greater than 0.8 (Kennedy 1985), indicating the nonexistence of a collinearity issue in the model. Multicollinearity is indicated by a correlation value higher than 0.9 (Hair et al. 2010). In the current paper, the highest positive correlation was between FSize and GovOW (i.e., 0.55). This study had no multicollinearity issues as the independent and control variables demonstrated variance inflation factor (VIF) values lower than 10. Finally, we applied the robust option in Stata software to try to overcome the autocorrelation and heteroscedasticity problems (Torres-Reyna 2007).

Table 3. Correlation analysis.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	VIF
(1) Perfmnce	1.000											
(2) Pwomen	0.028	1.000										1.371
(3) DUAL	0.038	0.375 *	1.000									1.334
(4) BSIZE	−0.097	−0.054	−0.181 *	1.000								1.431
(5) IND	−0.151	−0.100	−0.272 *	0.001	1.000							1.268
(6) FamilyOW	−0.089	0.343 *	0.155	−0.163 *	−0.313 *	1.000						1.918
(7) InstitutionOW	−0.046	−0.215 *	−0.056	−0.194 *	0.051	−0.521 *	1.000					1.683
(8) GovOW	0.069	−0.080	−0.083	0.343 *	−0.006	−0.182 *	0.155	1.000				1.636
(9) FSize	0.287 *	-0.168 *	−0.059	0.345 *	−0.063	−0.296 *	0.168 *	0.554 *	1.000			1.686
(10) LiQ	0.119	0.196 *	−0.067	0.156	0.006	0.093	−0.188 *	0.077	−0.119	1.000		1.157
(11) SalesGrth	−0.005	−0.029	−0.119	0.029	0.094	−0.027	0.012	−0.063	0.060	−0.075	1.000	1.036

Notes: performance_ROE; gender diversity_Pwomen; CEO duality_DUAL; board size_BSIZE; independent directors_IND; family ownership_FamilyOW; institutional ownership_InstitutionOW; government ownership_GovOW; firm size_FSize; liquidity_LiQ; sales growth_SalesGrth. * $p < 0.1$.

4.2. Panel Regression Results

As shown in Table 4, the panel regression findings for both models were compiled and are now summarized. Two models were developed using the performance measure of ROE, whereby each model generated three regression outcomes, namely OLS, FE, and RE. Next, three optimal tests were performed, namely the F-test, the LM test, and the Hausman test, to obtain the most optimal regression result from the OLS, FE, and RE. The findings of this study show that the F-test had a 1 percent level of significance for all the models, indicating that FE is superior to OLS. The LM tests also showed significant outcomes, indicating that RE regression is better than OLS. The Hausman tests all showed insignificant outcomes, implying that RE is superior to FE. Consequently, the RE model was adopted as the underpinning model for the empirical analysis.

The regressions were carried out using random effects as represented in Model l and Model 2. The coefficient of Pwomen was positive and insignificant for Perfmnce (ROE) in (Models 1 and 2). The result does not support H1 but is in line with that of Bennouri et al. (2018), Chapple and Humphrey (2014) and Bennouri et al. (2018). In the context of Jordanian firms, the presence of women managers on the board seems to have an insignificant effect on firm performance, which is most likely due to difficulties in appointing them to the board. There are many other reasons, such as those related to religion and culture. For instance, the view of many Jordanians is that the role of females should be limited to the household and must not extend to the workplace and business world. According to Taha Almarayeh (2021), gender diversity has no influence on the financial performance of Jordanian companies. Ming and Eam (2016) asserted that female directors would need to make up at least 15 percent of the board composition to have any valuable impact on firm performance.

In this study, DUAL demonstrated a negative and insignificant coefficient for Perfmnce; hence, H2 is rejected, which is consistent with Puni and Anlesinya (2019) and Makhlouf et al. (2017). According to Rashid (2018), corporate performance is maximized when the company reaches the best board composition, and efficiency can be noted through CEO duality. The findings in both Models 1 and 2 display that the coefficient of BSIZE was negative and significant for Perfmnce. Consequently, H3 is supported. Jensen (1993) contended that the agency theory posits the enhancement of corporate performance with a small-sized board, indicating the optimal threshold of board size is eight members. This is attributed to the tendency of organizations to function with lower efficiency with more board members, and the advantages provided by more number members do not counter the issue arising from a lack of cooperation and procedure. This result is consistent with that of Fama and Jensen (1983). Makhlouf et al. (2017) and Haider and Fang (2016), all of whom confirmed that boards with small sizes and fewer monitoring responsibilities perform more professionally. Similarly, as no significant influence was found between the coefficients of IND and Perfmnce, H4 is not supported. This result is consistent with that of Afrifa and Tauringana (2015) and Rodriguez-Fernandez et al. (2014). However, prior work by Yammeesri and Herath (2010) and Yu et al. (2015) suggested that a lack of experience on the part of independent directors leads them to fail in their performance of responsibilities and that their limited knowledge about the inside operations of the organization pose an insignificant effect on firm performance.

Table 4. Regression results.

	Model 1			Model 2		
Variables	**OLS**	**FE**	**RE**	**OLS**	**FE**	**RE**
PWOMAN	28.18	1.180	11.86	20.75	−1.252	11.83
	(33.20)	(33.53)	(12.683)	(33.63)	(35.05)	(13.273)
DUAL	−2.309	−5.732	−0.482	0.507	−7.986	−0.171
	(4.865)	(12.14)	(6.991)	(4.779)	(12.46)	(7.005)
BSIZE	−2.846 ***	−2.228 *	−2.855 ***	−2.639 ***	−3.270 **	−3.227 ***
	(0.850)	(1.292)	(0.968)	(0.868)	(1.286)	(1.121)
IND	−13.44 **	2.144	-1.741			
	(6.120)	(6.593)	(4.946)			
FamilyOW	−15.21 *	−41.44 ***	−21.28 **	−7.181	−39.43 ***	−19.13 **
	(8.226)	(12.85)	(13.505)	(7.786)	(13.34)	(13.305)
InstitutionOW	−9.305	−52.97 ***	−18.84 *	−4.622	−44.45 **	−15.49
	(7.029)	(19.54)	(10.102)	(7.138)	(20.09)	(10.162)
GovOW				−39.27	−51.69	−43.15
				(32.71)	(263.3)	(34.568)
FSize	12.52 ***	45.38 ***	14.80 ***	14.78 ***	44.61 ***	16.54 ***
	(2.681)	(14.24)	(4.358)	(3.088)	(14.74)	(5.306)
LiQ	2.076 **	1.373	2.075 **	2.480 ***	1.707	2.411 **
	(0.928)	(1.294)	(0.742)	(0.944)	(1.350)	(0.771)
SalesGrth	−0.00761	0.240	0.298	−0.0655	0.343 *	0.360 *
	(0.350)	(0.208)	(0.131)	(0.339)	(0.205)	(0.145)
Constant	−60.47 ***	−288.1 ***	−78.46 ***	−89.40 ***	−277.4 **	−91.33 ***
	(20.52)	(104.2)	(32.48)	(23.22)	(108.7)	(39.729)
Observations	156	156	156	156	156	156
R-squared	0.206	0.248	0.178	0.184	0.243	0.195
Prob > F, χ^2	0.000	0.000		0.000	0.000	
Prob > chi^2			0.001			0.000

***Notes**:* performance_ROE; gender diversity_Pwomen; CEO duality_DUAL; board size_BSIZE; independent directors_IND; family ownership_FamilyOW; institutional ownership_InstitutionOW; government ownership_GovOW; firm size_FSize; liquidity_LiQ; sales growth_SalesGrth. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

With regard to ownership structure, FamilyOW had a negative and significant effect on Perfmnce in (Models 1 and 2), hence supporting H5. This is in line with the findings of Al Farooque et al. (2020) and Buachoom (2017). However, Buachoom (2018) indicated that the benefit of agency cost saving is counterbalanced by the owners' inefficient and/or ineffective decision making, which in turn hinders the maximization of shareholder returns and is ultimately demonstrated in poor firm performance. Meanwhile, Institution OW had a negative and significant coefficient for Perfmnce in Model 1, indicating that H6 is rejected. This result aligned with that of Epps and Cereola (2008) and Fazlzadeh et al. (2011). Conversely, Institution OW had an insignificant influence on Perfmnce in Model 2, which is consistent with the results of Moradi et al. (2013). Theoretically, the results for InstitutionOW are the opposite of the agency theory assumptions, and thus we assume that the possible direction interpretation of InstitutionOW in both models is due to the corporate governance deficiency in Jordan. The coefficient of GovOW was negatively and insignificantly related to Perfmnce, and hence H7 is rejected. This result is similar to the prior work of Moscu et al. (2015), who suggested that governmental ownership is not essentially a bad thing as the government can help in monitoring the management team and providing firms with various special treatments. However, the general belief is that governmental ownership causes inefficiencies, whilst privatization can lead to improved firm performance. Finally, with regard to the control variables, FSize and LiQ were found to be positively and significantly correlated to Perfmnce. SalesGrth was found to be positively and insignificantly associated linked to Perfmnce in Model 1 but positively and significantly linked to Perfmnce in Model 2.

4.3. Regression Results Using Two-Stage Least Squares (2SLS)

As displayed in Table 5, the issue of endogeneity was addressed by using a standard instrumental variable approach, involving the re-estimation of models with the help of 2SLS, and postestimation analysis was carried out for over-identification of restrictions. The endogeneity test identifies whether the endogenous model regressor is exogenous (Durbin 1954; Wu 1974; Hausman and Taylor 1978). We utilized lagged values of corporate governance proxies as instrumental variables, which made it possible to meet the restriction (e.g., not being linked to firm performance but associated with the decision to have female executives on the board). The usage of OLS following the endogeneity testing using 2SLS showed a nonsignificant result with *p*-values of 0.929, 0.942, and 0.931, respectively. The Hausman test of endogeneity revealed no endogeneity problem, indicating that the instruments were valid or that each estimator specified the models correctly. Remarkably, the OLS estimates were found to be largely more efficient than the ordinary 2SLS estimate, provided that they justified any bias related to endogeneity (Wooldridge 2010), thus indicating that the RE employed in this study's model was more appropriate than 2SLS. However, it relies on RE for the hypothesis testing as the tests led to its usage.

Table 5. Two-stage least squares (2SLS) Regression.

	Model 1	**Model 2**
Variables	**2SLS**	**2SLS**
PWOMAN	11.155	18.084
	(103.178)	(104.20)
DUAL	−1.176	0.846
	(5.97)	(6.123)
BSIZE	−2.812 ***	−2.62 ***
	(0.823)	(0.841)
IND	−12.848 **	
	(6.028)	
GovOW		−39.913
		(32.05)
FamilyOW	−14.198	−7.308
	(6.826)	(10.2)
InstitutionOW	−9.306	−4.73
	(7.048)	(6.923)
FSize	12.433 ***	14.751 ***
	(2.627)	(3.031)
LiQ	2.189 **	2.527 ***
	(0.979)	(0.978)
SalesGrth	0.003	0.297
	(0.34)	(0.203)
Constant	−60.669 ***	−89.253 ***
	(19.96)	(22.545)
Observations	156	156
R−squared	0.202	0.181

Table 5. *Cont.*

	Model 1	Model 2
Variables	**2SLS**	**2SLS**
Chi−square	38.928	34.642
Prob > chi^2	0.000	0.000

Notes: gender diversity_Pwomen; CEO duality_DUAL; board size_BSIZE; independent directors_IND; family ownership_FamilyOW; institutional ownership_InstitutionOW; government ownership_GovOW; firm size_FSize; liquidity_LiQ; sales growth_SalesGrth. *** $p < 0.01$, ** $p < 0.05$.

5. Implications of the Stud

The objectives set out by the study at the onset were achieved, which was primarily to investigate the effect of board gender diversity and corporate governance structure on corporate performance in Jordan (a developing economy) among listed companies on the ASE covering the years from 2018 to 2020. It is interesting to note that financial firms were excluded from this study. The study's theoretical, practical, and societal implications and its contribution to policy making are enumerated in this section.

5.1. Theoretical Implications

The theoretical implications of this study cover the relationships between CG dimensions and gender diversity and their role in improving the process of strategic decision making in firms. This indicates that the board characteristics and ownership structure may have a major hand in the performance of firms in the face of high gender diversity and adherence to the CG practices requirements, which in turn would mean that good corporate governance practices result in mitigated agency costs. Additionally, the present study focused on emerging markets that have distinct institutional settings and governance environments to provide deeper and enriching insights into the literature. The study is underpinned by the resource dependence theory and agency theory, with the obtained empirical findings reflecting that in Jordan, a developing economy, a gender-diverse board may lead to positive policies for the performance effectiveness of firms, which is a requirement for firms' value creation and competitive advantage.

5.2. Practical Implications

The study findings can be used by managers as a guide to developing human resource policies, such as a succession plan for female directors or top managers, in order to promote the presence of female executives on the board of directors. Furthermore, JSC should urge all firms to an appoint an adequate number of female directors on company boards. As supported by Lückerath-Rovers (2007), a firm which holds more than two women directors on its board performs better than average compared to firms that do not. This result also complements the prior finding of Reinert et al. (2016) that a proportion of 20 to 40 percent of women on top boards generates the highest performance. Unfortunately, in this investigation, gender diversity did not enhance the financial performance of Jordanian industrial firms. According to Saidat et al. (2020) and Al-Rahahleh (2017), the presence of women directors on the boards of Jordanian firms is relatively low; hence, this investigation recommends increasing the number of women directors on the boards of Jordanian firms to more than 15% so as to enhance the decision-making capacity of the boards and ultimately improve firm performance. Aside from this, the JSC should develop corporate governance practices that reflect the immediate business environment in Jordan. With regard to implications for society, the firm forms a part of the social environment and, as such, the significant influence of female directors on its performance provides an insight into the shift from a male-dominated business society to a more enhanced gender-diverse one that boosts women's participation at the management echelons. Moreover, the study suggests that organizations with varying cultural settings should facilitate training to encourage the inclusion of both genders. The study also highlights the key role of GC practices via transparency, efficiency, and the rule of law throughout different levels, further encouraging efficient human management.

5.3. Implications for Policy Making

Based on the gender advocacy method, the gender diversity ratio is expected to increase, particularly when it comes to female participation in the future. It is crucial for investors, regulators, and shareholders to offer firms rewards for their pursuant of global sustainable development in women's employment in their firms, and consumers need to think about seriously patronizing such firms so as to enhance and sustain competitive advantage over their rivals (Oware and Mallikarjunappa 2021). Both shareholder and stakeholder circles can support the increase in family management firms in order to give women an opportunity to enhance their living standards by being employed. Evidence-based gender diversity research of the same caliber as the present one can furnish empirical evidence to policymakers for their argument in favor of employing Jordanian women in work settings so that they can have better living standards. The findings also highlighted the need for regulators of JSC and ASE to focus on the effectiveness of regulations and the CG structure role in Jordan. Furthermore, policymakers in the Middle East and North Africa (MENA) region and other developing nations can take note of the findings to promote effective conditions in business.

6. Conclusions

In the past decade, gender diversity, corporate governance, and performance have been some of the most significant topics reflected on, although regardless of the theoretical considerations that promote a positive relationship, the empirical consensus on the board of directors' diversity and its effect (negative or positive) on the performance of firms remain elusive. Mixed findings in the literature indicate incomplete research designs and a lack of contextual factors that could clarify the effect of gender diversity and corporate governance on corporate performance in the Arab world, specifically in the context of Jordan. Specifically, the study used RE to test the seven hypotheses formulated and several additional analyses to check the robustness of the results. Unpredictably, the results provided no evidence that gender diversity on company boards influences firm performance in Jordan. Accordingly, the study suggests that gender representation on the firm's board should be based on their expertise and qualifications, rather than a mere gender quota. The findings of this study are consistent with those studies, especially those from developing countries, such as the findings of Darmadi (2013); Ming and Eam (2016); and Ararat and Yurtoglu (2021). In contrast, DUAL has a negative and insignificant effect on Perfmnce; and BSIZE has a negative and significant effect on Perfmnce, whilst IND has no significant effect on Perfmnce. FamilyOW has a negative and significant effect on Perfmnce; and InstitutionOW has a negative and significant effect on Perfmnce in Model 1. Institution OW has an insignificant effect on Perfmnce in Model 2. GovOW is negatively and insignificantly correlated to Perfmnce, whilst FSize and LiQ are positively and significantly correlated to Perfmnce. Meanwhile, SalesGrth is positively and insignificantly correlated to Perfmnce in Model 1, but positively and significantly correlated to Perfmnce in Model 2.

In the extant literature, findings reveal that a diverse board promotes effective decision making and a more independent one considers various perspectives within the good practices of corporate governance. Nevertheless, the impact of these decisions on financial performance is challenging to gauge owing to the numerous factors affecting it. To compound the matter further, causality and cross-linkage between diversity and performance determining factors could mean the presence of issues in a single factor of research; thus, the study adopted research dependence theory and agency theory to examine the influence of managerial gender diversity and corporate governance structure on the performance of Jordanian firms, Jordan being one of the emerging markets. According to the underpinning theories, higher gender diversity has a higher likelihood of providing optimal advisory and monitoring capabilities, and thus enhancing the performance of firms. In addition, companies with a female board of directors could perform successfully as people generally climb the promotion ladder based on their capabilities rather than their demographic characteristics. Hence, one of the contributions of this study is the evidence of the effect of gender diversity and CG on the performance of firms in a developing economy, which has a unique business environment compared to that of developing economies. The research also contributes to mitigating the literature gap in Jordan through the addition of variables included in the models.

Jordan has a strategic and vital position in the Middle East and it is a major economic channel that leads to large markets with a significant number of customers, and it stands out compared to other developing nations. Like other prior studies in the field of social sciences, the current study also reflects a few limitations. This study only focused on ASE-listed industrial firms in Jordan, making the findings and conclusions nongeneralizable to other sectors and countries. Additionally, the study period only spans three years, and the international diversity of the board of directors was not included as a constituent of the demographic diversity design owing to the lack of sufficient observations in the study context. In this regard, we recommend that future studies include international diversity in a distinct country context in the Middle East region, with enough data points. Future studies should adopt different approaches to examine CG practice diversity in small businesses in Jordan—particularly a mixed-study approach—so that the richness and depth of individual approaches (qualitative and quantitative) can enhance the generalization to the population. Findings from future studies may extend the view concerning the influence of diversity on the performance of Jordanian firms and those of other developing nations. Finally, repeating this research in other sectors (such as the banking sector) may offer some useful findings about the role of gender diversity in the Jordanian business sector. Future studies may include other variables, such as education level, the Shannon Index of diversity, and cultural dimensions, and examine the role of ownership structure as a moderator between board characteristics and firm performance or examine the role of board characteristics as a moderator between ownership structure and firm performance in developing countries (e.g., MEAN regions).

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References

Abdalkrim, Gaafar. 2019. Chief executive officer compensation, corporate governance and performance: Evidence from KSA firms. *Corporate Governance: The International Journal of Business in Society* 53: 1216–35. [CrossRef]

Abdelzaher, Angie, and Dina Abdelzaher. 2019. Women on boards and firm performance in Egypt: Post the Arab spring. *The Journal of Developing Areas* 53: 226–40. [CrossRef]

Abdullah, Shamsul N., Ku Nor Izah Ku Ismai, and Lilac Nachum. 2016. Does having women on boards create value? The impact of societal perceptions and corporate governance in emerging markets. *Strategic Management Journal* 37: 466–76. [CrossRef]

Adams, Renée B., and Daniel Ferreira. 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94: 291–309. [CrossRef]

Adams, Renée B., and Patricia Funk. 2007. Beyond the glass ceiling: Does gender matter? *Management Science* 58: 219–35. [CrossRef]

Adams, Renée B., Stephen Gray, and John Nowland. 2011. Does Gender Matter in the Boardroom? Evidence From the Market Reaction to Mandatory New Director Announcements. Available online: http://ssrn.com/abstract=1953152 (accessed on 28 February 2022).

Afrifa, Godfred Adjappong, and Venancio Tauringana. 2015. Corporate governance and performance of UK listed small and medium enterprises. *Corporate Governance* 15: 719–33. [CrossRef]

Ahern, Kenneth R., and Amy K. Dittmar. 2012. The changing of the boards: The impact on firm valuation of mandated female board representation. *The Quarterly Journal of Economics* 127: 137–97. [CrossRef]

Ahmadi, Ali, Nejia Nakaa, and Abdelfettah Bouri. 2018. Chief executive officer attributes, board structures, gender diversity and Corporate Performanceamong French CAC 40 listed firms. *Research in International Business and Finance* 44: 218–26. [CrossRef]

Ahmed Sheikh, Nadeem, and Zongjun Wang. 2012. Effects of corporate governance on capital structure: Empirical evidence from Pakistan. *The International Journal of Business in Society* 12: 629–41. [CrossRef]

Al Farooque, Omar, Wonlop Buachoom, and Lan Sun. 2020. Board, audit committee, ownership and financial performance—Emerging trends from Thailand. *Pacific Accounting Review* 32: 54–81. [CrossRef]

Alareeni, Bahaaeddin. 2018. Does corporate governance influence earnings management in listed companies in Bahrain bourse? *Journal of Asia Business Studies* 12: 551–70. [CrossRef]

Alfawareh, Faraj Salman, Ahmad Almashaqbeh, Mahmoud Al-Kofahi, Malek Alshirah, Husam Ananzeh, and Bara'a Al-Kofahi. 2021a. The relationship between capital structure and performance of non-financial firms listed in Amman Stock Exchange. *Research Journal of Finance and Accounting* 13: 96–102.

Alfawareh, Faraj Salman, Mahmoud Al-Kofahi, Luay Daoud, Ahmad Marei, and Ayman Alkhazaleh. 2021b. The Determinants of Capital Structure: A Conceptual Understanding of Non-Financial Firms in Jordan. *Turkish Online Journal of Qualitative Inquiry* 12: 2144–52.

Alghad. 2020. Available online: https://alghad.com (accessed on 3 March 2022).

Alhadab, Mohammad, Iain Clacher, and Kevin Keasey. 2016. A comparative analysis of real and accrual earnings management around initial public offerings under different regulatory environments. *Journal of Business Finance and Accounting* 43: 849–71. [CrossRef]

Al-Haddad, Lara, and Mark Whittington. 2019. The impact of corporate governance mechanisms on real and accrual earnings management practices: Evidence from Jordan. *The International Journal of Business in Society* 19: 1167–86. [CrossRef]

Ali, Rizwan, Muhammad Safdar Sial, Talles Vianna Brugni, Jinsoo Hwang, Nguyen Vinh Khuong, and Thai Hong Thuy Khanh. 2020. Does CSR moderate the relationship between corporate governance and Chinese firm's financial performance? Evidence from the Shanghai Stock Exchange (SSE) firms. *Sustainability* 12: 149. [CrossRef]

Alipour, Mohammad. 2013. An investigation of the association between ownership structure and corporate performance: Empirical evidence from Tehran Stock Exchange (TSE). *Management Research Review* 36: 1137–66. [CrossRef]

Alkurdi, Amneh, Amneh Hamad, Hussam Thneibat, and Mahmoud Elmarzouky. 2021. Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms. *Cogent Business & Management* 8: 2–21.

Almarayeh, Taha. 2021. Board gender diversity, board compensation and firm performance. Evidence from Jordan. *Journal of Financial Reporting and Accounting* 5: 2021-0138. [CrossRef]

Al-Rahahleh, Ayat S. 2017. Corporate governance quality, board gender diversity and corporate dividend policy: Evidence from Jordan. *Australasian Accounting Business and Finance Journal* 11: 86–104. [CrossRef]

Alshirah, Malek Hamed, Azhar Abdul Rahman, and Ifa Rizad Mustapa. 2020. Board of directors' characteristics and corporate risk disclosure: The moderating role of family ownership. *EuroMed Journal of Business* 15: 219–52. [CrossRef]

Alshirah, Malek Hamed, Ahmad Farhan Alshirah, and Abdalwali Lutfi. 2021. Audit committee's attributes, overlapping memberships on the audit committee and corporate risk disclosure: Evidence from Jordan. *Accounting* 7: 423–40. [CrossRef]

Ararat, Melsa, and B. Burcin Yurtoglu. 2021. Female directors, board committees, and firm performance: Time-series evidence from Turkey. *Emerging Markets Review* 48: 1–27. [CrossRef]

Arora, Akshita, and Chandan Sharma. 2016. Corporate governance and Corporate Performancein developing countries: Evidence from India, Corporate Governance. *The International Journal of Business in Society* 16: 420–36.

Assenga, Modest Paul, Doaa Aly, and Khaled Hussainey. 2018. The impact of board characteristics on the financial performance of Tanzanian firms. *Corporate Governance: The International Journal of Business in Society* 18: 1089–106. [CrossRef]

Ataay, Aylin. 2018. Performance sensitivity of executive pay: The role of ownership structure, board leadership structure and board characteristics. *Economic Research-Ekonomska Istraživanja* 31: 1152–68. [CrossRef]

Báez, Almudena Barrientos, Alberto Javier Báez-García, Francisco Flores-Muñoz, and Josué Gutiérrez-Barroso. 2018. Gender diversity, corporate governance and firm behavior: The challenge of emotional management. *European Research on Management and Business Economics* 24: 121–29. [CrossRef]

Bai, Chong-En, Qiao Liu, Joe Lu, Frank M. Song, and Junxi Zhang. 2004. Corporate governance and market valuation in China. *Journal of Comparative Economics* 32: 599–616. [CrossRef]

Bennouri, Moez, Tawhid Chtioui, Haithem Nagati, and Mehdi Nekhili. 2018. Female board directorship and firm performance: What really matters. *Journal of Banking & Finance* 88: 267–91.

Bernile, Gennaro, Vineet Bhagwat, and Scott Yonker. 2016. Board diversity, firm risk, and corporate policies. *Journal of Financial Economics* 127: 588–612.

Bhatia, Shikha, and Aman Srivastava. 2017. Do promoter holding and Corporate Performanceexhibit endogenous relationship? An analysis from emerging market of India. *Management and Labour Studies* 42: 107–19. [CrossRef]

Breusch, Trevor S., and Adrian R. Pagan. 1980. The lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies* 47: 239–53. [CrossRef]

Buachoom, Wonlop. 2017. Simultaneous relationship between performance and executive compensation of Thai non-financial firms. *Asian Review of Accounting* 25: 404–23. [CrossRef]

Buachoom, Wonlop. 2018. How do board structures of Thai firms influence on different quantile levels of firm performance? *Advances in Pacific Basin Business Economics and Finance* 12: 157–89.

Buallay, Amina, Allam Hamdan, and Qasim Zureigat. 2017. Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal* 11: 78–98. [CrossRef]

Buallay, Amina, Gagan Kukreja, Esra Aldhaen, Muneer Al Mubarak, and Allam Mohammed Hamdan. 2020. Corporate social responsibility disclosure and firms' performance in Mediterranean countries: A stakeholders' perspective. *EuroMed Journal of Business* 15: 361–75. [CrossRef]

Chapple, Larelle, and Jacquelyn E. Humphrey. 2014. Does board gender diversity have a financial impact? Evidence using stock portfolio performance. *Journal of Business Ethics* 122: 709–23. [CrossRef]

Chen, Catherine Huirong, and Basil Al-Najjar. 2012. The determinants of board size and independence: Evidence from China. *International Business Review* 21: 831–46. [CrossRef]

Chen, Gongmeng, Michael Firth, and Liping Xu. 2009. Does the type of ownership control matter? Evidence from China's listed companies. *Journal of Banking and Finance* 33: 171–81. [CrossRef]

Chen, Hung-Kun, Yin-Chi Liao, Chih-Yung Lin, and Ju-Fang Yen. 2018. The effect of the political connections of government bank CEOs on bank performance during the financial crisis. *Journal of Financial Stability* 36: 130–43. [CrossRef]

Chrisman, James J., Jess H. Chua, and Reginald A. Litz. 2004. Comparing the agency costs of family and non–family firms: Conceptual issues and exploratory evidence. *Entrepreneurship Theory and Practice* 4: 335–54. [CrossRef]

Chu, Wenyi. 2011. Family ownership and firm performance: Influence of family management, family control, and firm size. *Asia Pacific Journal of Management* 28: 833–51. [CrossRef]

Clarke, Thomas. 2004. Cycles of Crisis and Regulation: The enduring agency and stewardship problems of corporate governance. *An International Review* 12: 153–61. [CrossRef]

Conyon, Martin J., and Lerong He. 2017. Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research* 79: 198–211. [CrossRef]

Curtis, Mary, Christine Schmid, and Marion Struber. 2012. Gender diversity and corporate performance. *Credit Suisse AG Research Institute* 7: 14–23.

Darmadi, Salim. 2013. Do women in top management affect firm performance? Evidence fromIndonesia. *The International Journal of Business in Society* 13: 288–304.

Durbin, James. 1954. Errors in variables. *Review of the International Statistical Institute* 22: 23–32. [CrossRef]

Epps, Ruth W., and Sandra J. Cereola. 2008. Do institutional shareholder services (ISS) corporate governance ratings reflect a company's operating performance? *Critical Perspectives on Accounting* 19: 1135–48. [CrossRef]

Fama, Eugene F., and Michael C. Jensen. 1983. Separation of ownership and control. *Journal of Law and Economics* 26: 301–25. [CrossRef]

Fauzi, Hasan, and Sami R. M. Musallam. 2015. Corporate ownership and company performance: A study of Malaysian listed companies. *Social Responsibility Journal* 11: 1–12. [CrossRef]

Fazlzadeh, Alireza, Ali Tahbaz Hendi, and Kazem Mahboubi. 2011. The examination of the effect of ownership structure on Corporate Performancein listed firms of Tehran stock exchange based on the type of the industry. *International Journal of Business and Management* 6: 249–60. [CrossRef]

Fernández-Temprano, Miguel A., and Fernando Tejerina-Gaite. 2020. Types of director, board diversity and firm performance. *The International Journal of Business in Society* 20: 324–42. [CrossRef]

Fernando, Guy D., Shalini Sarin Jain, and Arindam Tripathy. 2020. This cloud has a silver lining: Gender diversity, managerial ability, and firm performance. *Journal of Business Research* 117: 484–96. [CrossRef]

Gallego-Álvarez, Isabel, Isabel María García-Sánchez, and Luis Rodríguez-Dominguez. 2010. The influence of gender diversity on corporate performance. *Spanish Accounting Review* 13: 53–88. [CrossRef]

Ghazali, Nazli Anum Mohd. 2020. Governance and ownership in Malaysia: Their impacts on corporate performance. *Asian Journal of Accounting Research* 5: 285–98. [CrossRef]

Gomez-Mejia, Luis R., Manuel Nunez-Nickel, and Isabel Gutierrez. 2001. The role of family ties in agency contracts. *Academy of Management Journal* 44: 81–95.

Green, Colin P., and Swarnodeep Homroy. 2018. Female directors, board committees and firm performance. *European Economic Review* 102: 19–38. [CrossRef]

Guest, Paul M. 2019. Does board ethnic diversity impact board monitoring outcomes? *British Journal of Management* 30: 53–74. [CrossRef]

Gul, Ferdinand A., Bin Srinidhi, and Anthony C. Ng. 2011. Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics* 51: 314–38. [CrossRef]

Haider, Junaid, and Hong-Xing Fang. 2016. Board size, ownership concentration and future firm risk. *Chinese Management Studies* 10: 692–709. [CrossRef]

Hair, Joseph F., William C. Black, Barry J. Babin, and Rolph E. Anderson. 2010. *Multivariate Data Analysis*. London: Cengage.

Haji, Abdifatah Ahmed. 2014. The relationship between corporate governance attributes and Corporate Performance before and after the revised code: Some Malaysian evidence. *International Journal of Commerce and Management* 24: 134–51. [CrossRef]

Hambrick, Donald C., Theresa Seung Cho, and Ming-Jer Chen. 1996. The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly* 41: 659–84. [CrossRef]

Harasheh, Murad, and Monther Nijim. 2010. The impact of institutional investors on the financial performance of companies listed at Palestine Stock Exchange. *Journal of Business and Policy Research* 5: 28–40.

Hassan, Rohail, Maran Marimuthu, and Kaur Johl Satirenjit. 2015. Diversity, corporate governance and implication on firm financial performance. *Global Business and Management Research* 7: 28–36.

Hausman, Jerry A., and William E. Taylor. 1978. Specification tests in econometrics. *Econometrica: Journal of the Econometric Society* 46: 1251–71. [CrossRef]

Hsu, Shufang, Shih-Wei Lin, Wei-Peng Chen, and Jhao-Wei Huang. 2021. CEO duality, information costs, and firm performance. *The North American Journal of Economics and Finance* 55: 1–50. [CrossRef]

Hutchinson, Marie, John Daly, Kim Usher, and Debra Jackson. 2015. Leadership when there are no easy answers: Applying leader moral courage to wicked problems. *Journal of Clinical Nursing* 24: 21–22. [CrossRef]

Ibrahim, Abdul Hadi, and Mustafa Mohd Hanefah. 2016. Board diversity and corporate social responsibility in Jordan. *Journal of Financial Reporting and Accounting* 14: 279–98. [CrossRef]

Idris, Mohammed, Yousef Abu Siam, and Mahmoud Nassar. 2018. Board independence, earnings management and the moderating effect of family ownership in Jordan. *Management & Marketing. Challenges for the Knowledge Society* 13: 985–94.

IFC. 2012. *IFC Family Business Governance Handbook*. Washington: International Finance Corporation.

Isidro, Helena, and Márcia Sobral. 2015. The effects of women on corporate boards on firm value, financial performance, and ethical and social compliance. *Journal of Business Ethics* 132: 1–19. [CrossRef]

Jensen, Michael C. 1993. The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance* 48: 831–80. [CrossRef]

Joy, Lois, Nancy M. Carter, Harvey M. Wagner, and Sriram Narayanan. 2007. The Bottom Line: Corporate Performance and Women's Representation on Boards. Catalyst. Available online: http://www.catalyst.org/system/files/The_Bottom_Line_Corporate_Performance_and_Womens_Representation_on_Boards.pdf (accessed on 17 January 2022).

Kao, Mao-Feng, Lynn Hodgkinson, and Aziz Jaafar. 2019. Ownership structure, board of directors and firm performance: Evidence from Taiwan. *Corporate Governance: The International Journal of Business in Society* 19: 189–216. [CrossRef]

Kennedy, Peter. 1985. *A Guide to Econometrics*, 2nd ed. Cambridge: The MIT Press.

Kiel, Geoffrey C., and Gavin J. Nicholson. 2003. Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance. *An International Review* 11: 189–205. [CrossRef]

Larcker, David F., Scott A. Richardson, and Irem Tuna. 2007. Corporate governance, accounting outcomes, and organisational performance. *Accounting Review* 82: 963–1008. [CrossRef]

Larmou, Sofia, and Nikos Vafeas. 2010. The relation between board size and Corporate Performance in firms with a history of poor operating performance. *Journal of Management and Governance* 14: 61–90. [CrossRef]

Li, Haishan, and Peng Chen. 2018. Board gender diversity and firm performance: The moderating role of firm size. *Journal of Business Ethics* 12: 294–308. [CrossRef]

Li, Tao, Laixiang Sun, and Liang Zou. 2009. State ownership and corporate performance: A quantile regression analysis of Chinese listed companies. *China Economic Review* 20: 703–16. [CrossRef]

Lin, Yongjia Rebecca, and Xiaoqing Maggie Fu. 2017. Does institutional ownership influence firm performance? Evidence from China. *International Review of Economics & Finance* 49: 17–57.

Yu Liu, Zuobao Wei, and Feixue Xie. 2014. Do women directors improve firm performance in China? *Journal of Corporate Finance* 28: 169–84. [CrossRef]

Yu, Liu, Mihail K. Miletkov, Zuobao Wei, and Tina Yang. 2015. Board independence and Corporate Performance in China. *Journal of Corporate Finance* 30: 223–44. [CrossRef]

Low, Daniel C. M., Helen Roberts, and Rosalind H. Whiting. 2015. Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal* 35: 381–401. [CrossRef]

Lubatkin, Michael H., William S. Schulze, Yan Ling, and Richard N. Dino. 2005. The effects of parental altruism on the governance of family-managed firms. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior* 26: 313–30. [CrossRef]

Lückerath-Rovers, Mijntje. 2007. The Bottom Line: Corporate Performance and Women's Representation on Boards. *Journal of Management & Governance* 17: 491–509.

Lückerath-Rovers, Mijntje. 2013. Women on boards and firm performance. *Journal of Management and Governance* 17: 491–509. [CrossRef]

Mahadeo, Jyoti D., Teerooven Soobaroyen, and Vanisha Oogarah Hanuman. 2012. Board composition and financial performance: Uncovering the effects of diversity in an emerging economy. *Journal of Business Ethics* 105: 375–88. [CrossRef]

Makhlouf, Mohammed Hassan, Nur Hidayah Laili, Nur Ainna Ramli, and Mohamad Yazis Ali Basah. 2017. Board of directors' effectiveness and firm performance: Evidence from Jordan. *Research Journal of Finance and Accounting* 8: 23–34.

Marimuthu Maran, Indraah Kolandaisamy. 2009. Ethnic and gender diversity in boards of directors and their relevance to financial performance of malaysian companies. *Journal of Sustainable Development* 2: 139–48. [CrossRef]

Ming, Chen, and Lim Hock Eam. 2016. Estimating the nonlinear effects of female directors on financial performance: The case of Malaysian initial public offering companies. *Gender in Management: An International Journal* 31: 97–113. [CrossRef]

Mohammad, Suleiman J., Modar Abdullatif, and Fida Zakzouk. 2018. The effect of gender diversity on the financial performance of Jordanian banks. *Academy of Accounting and Financial Studies Journal* 22: 1–11.

Moradi, Mahdi, Mahdi Salehi, and Mojtaba Soleymani. 2013. A Survey on Timeliness in Financial Reporting and Corporate Governance: Evidence from Iran. *Asian Journal of Research in Business Economics and Management* 3: 328–37.

Moscu, Raluca Georgiana, Carmen Judith Grigorescu, and Ligia Prodan. 2015. Does ownership structure affect firm performance? *Knowledge Horizons–Economics* 7: 194–97.

Naghavi, Navaz, Saeed Pahlevan Sharif, and Hafezali Bin Iqbal Hussain. 2021. The role of national culture in the impact of board gender diversity on firm performance: Evidence from a multi-country study. *Equality Diversity and Inclusion* 40: 631–50. [CrossRef]

Nekhili Mehdi, Hayette Gatfaoui. 2013. Are demographic attributes and firm characteristics drivers of gender diversity? Investigating women's position on French boards of directors. *Journal of Business Ethics* 118: 227–49. [CrossRef]

Nguyen, Thanh, and Huu Nguyen. 2020. Capital structure and firm performance of non-financial listed companies: Cross-sector empirical evidences from Vietnam. *Accounting* 6: 137–50. [CrossRef]

Nguyen, Tuan, Stuart Locke, and Krishna Reddy. 2014. A dynamic estimation of governance structures and financial performance for Singaporean companies. *Economic Modelling* 40: 1–11. [CrossRef]

Oware, Kofi Mintah, and Thathaiah Mallikarjunappa. 2021. Financial performance and gender diversity. The effect of family management after a decade attempt. *Society and Business Review* 16: 94–112. [CrossRef]

Owen, Ann L., and Judit Temesvary. 2018. The performance effects of gender diversity on bank boards. *Journal of Banking & Finance* 90: 50–63.

Palaniappan, Gurusamy. 2017. Determinants of corporate financial performance relating to board characteristics of corporate governance in Indian manufacturing industry: An empirical study. *European Journal of Management and Business Economics* 26: 67–85. [CrossRef]

Paludi, Antoinette. 2013. *Women and Management: Global Issues and Promising Solutions*. New York: Praeger.

Peillex, Jonathan, Sabri Boubaker, and Breeda Comyns. 2021. Does it pay to invest in Japanese women? Evidence from the MSCI Japan empowering women index. *Journal of Business Ethics* 170: 595–613.

Pfeffer, Jeffrey. 1972. Size and composition of corporate boards of directors: The organization and its environment. *Administrative Science Quarterly* 17: 218–28. [CrossRef]

Post, Corinne, and Kris Byron. 2015. Women on boards and firm financial performance: A meta-analysis. *Academyof Management Journal* 58: 1546–71. [CrossRef]

Puni, Albert, and Alex Anlesinya. 2019. Corporate governance mechanisms and Corporate Performancein a developing country. *International Journal of Law and Management* 62: 147–69. [CrossRef]

Qa'dan, Mohammad Bassam Abu, and Mishiel Said Suwaidan. 2019. Board composition, ownership structure and corporate social responsibility disclosure: The case of Jordan. *Social Responsibility Journal* 15: 28–46. [CrossRef]

Rashid, Afzalur. 2018. Board independence and firm performance: Evidence from Bangladesh. *Future Business Journal* 4: 34–49. [CrossRef]

Reguera-Alvarado, Nuria, Pilar de Fuentes, and Joaquina Laffarga. 2015. Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics* 141: 337–50. [CrossRef]

Reinert, Regina M., Florian Weigert, and Christoph H. 2016. Does female management influence firm performance? Evidence from Luxembourg banks. *Financial Markets and Portfolio Management* 30: 113–36. [CrossRef]

Richard, Orlando C., Tim Barnett, Sean Dwyer, and Ken Chadwick. 2004. Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal* 47: 255–66.

Rizzo, Helen, Abdel-Hamid Abdel-Latif, and Katherine Meyer. 2007. The Relationship between Gender Equality and Democracy: A Comparison of Arab versus Non-Arab Muslim Societies. *Sociology* 41: 1151–70. [CrossRef]

Rodriguez-Fernandez, M., S. Fernandez-Alonso, and J. Rodriguez-Rodriguez. 2014. Board characteristics and Corporate Performancein Spain. *Corporate Governance: The International Journal of Business in Society* 14: 485–503. [CrossRef]

Ryan, Michelle K., and S. Alexander Haslam. 2005. The glass cliff: Evidence that women are over-represented in precarious leadership positions. *British Journal of Management* 16: 81–90. [CrossRef]

Saidat, Zaid, Claire Seaman, Mauricio Silva, Lara Al-Haddad, and Zyad Marashdeh. 2020. Female directors, family ownership and Corporate Performance in Jordan. *International Journal of Financial Research* 11: 206–19. [CrossRef]

Schulze, William S., Michael H. Lubatkin, and Richard N. Dino. 2003. Toward a theory of agency and altruism in family firms. *Journal of Business Venturing* 18: 473–90. [CrossRef]

Sciascia, Salvatore, and Pietro Mazzola. 2008. Family involvement in ownership and management: Exploring nonlinear effects on performance. *Family Business Review* 12: 331–45. [CrossRef]

Shahzad, Faisal, Mushahid Hussain Baig, Ijaz Ur Rehman, Fawad Latif, and Bruno S. Sergi. 2020. What drives the impact of women directors on firm performance? Evidence from intellectual capital efficiency of US listed firms. *Journal of Intellectual Capital* 21: 513–30. [CrossRef]

Shao, Lin. 2019. Dynamic study of corporate governance structure and Corporate Performancein China. *Chinese Management Studies* 2: 299–317. [CrossRef]

Song, Hyoung Ju, Yu Na Yoon, and Kyung Ho Kang. 2020. The relationship between board diversity and Corporate Performancein the lodging industry: The moderating role of internationalization. *International Journal of Hospitality Management* 86: 102–21. [CrossRef]

Tahtamouni, Asem, Alaa Abu Mallouh, and Tawfiq Taleb Tawfiq. 2020. Board diversity and corporate performance: The Jordanian Industrial Corporations case. *International Journal of Business Excellence* 21: 297–315. [CrossRef]

Tailab, Mohamed. 2014. The effect of capital structure on profitability of energy American firms. *International Journal of Business and Management Invention* 3: 54–61.

Talavera, Oleksandr, Shuxing Yin, and Mao Zhang. 2018. Age diversity, directors' personal values, and bank performance. *International Review of Financial Analysis* 55: 60–79. [CrossRef]

Tanjung, Miranda. 2020. A cross-firm analysis of corporate governance compliance and performance in Indonesia. *Managerial Auditing Journal* 35: 621–43. [CrossRef]

Terjesen, Siri, Eduardo Barbosa Couto, and Paulo Morais Francisco. 2016. Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance* 20: 447–83.

Tian, Jenny J., and Chung-Ming Lau. 2001. Board composition, leadership structure and performance in Chinese shareholding companies. *Asia Pacific Journal of Management* 18: 245–63. [CrossRef]

Torres-Reyna, Oscar. 2007. Panel Data Analysis: Fixed Effect and Random Effect Using "STATA". Available online: http://dss.princeton.edu/training (accessed on 25 January 2022).

Vairavan, Ashok, and G. Peter Zhang. 2020. Does a diverse board matter? A mediation analysis of board racial diversity and firm performance. *Corporate Governance: The International Journal of Business in Society* 20: 1223–41. [CrossRef]

Vieira, Elisabete Simões. 2018. Board of directors characteristics and performance in family firms and under the crisis. *Corporate Governance: The International Journal of Business in Society* 18: 119–42. [CrossRef]

Wahyudin, Agus, and Badingatus Solikhah. 2017. Corporate governance implementation rating in Indonesia and its effects on financial performance. *Corporate Governance: The International Journal of Business in Society* 17: 250–65. [CrossRef]

Wintoki, M. Babajide, James S. Linck, and Jeffry M. Netter. 2012. Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics* 105: 581–606. [CrossRef]

Wooldridge, Jeffrey M. 2010. Econometric analysis of cross section and panel data. *Journal of Financial Economics* 40: 185–211.

World Bank Group. 2013. Jordan Country Profile 2013. Available online: http://www.enterprisesurveys.org/~{}/media/GIAWB/EnterpriseSurveys/Documents/Profiles/English/Jordan-2013.pdf (accessed on 23 January 2022).

Wu, De-Min. 1974. Alternative tests of independence between stochastic regressors and disturbances: Finite sample results. *Econometrica* 42: 529–46. [CrossRef]

Yammeesri, Jira, and Siriyama Kanthi Herath. 2010. Board characteristics and corporate value: Evidence from Thailand. *Corporate Governance: The International Journal of Business in Society* 10: 279–92. [CrossRef]

Yoshikawa, Toru, and Abdul A. Rasheed. 2010. Family control and ownership monitoring in family-controlled firms in Japan. *Journal of Management Studies* 47: 274–95. [CrossRef]

Zaid, Mohammad A. A., Man Wang, Sara T. F. Abuhijleh, Ayman Issa, Mohammed W. A. Saleh, and Farman Ali. 2020. Corporate governance practices and capital structure decisions: The moderating effect of gender diversity. *Corporate Governance: The International Journal of Business in Society* 20: 939–64. [CrossRef]