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Corporate Social Responsibility Disclosure and Investment Decisions: Evidence from Saudi Indexed Companies

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Abstract: This study investigated the investment decisions of Saudi corporations in the corporate social responsibility (CSR) context and examined the moderated role of corporate governance quality. The panel dataset consisted of 82 firms and 328 Saudi firm-year observations listed on the Saudi Stock Exchange over the period of 2018–2021, and feasible generalized least squares (FGLS) regression was used for model estimation. The empirical findings indicated that companies with higher levels of CSR reporting invested more effectively than companies with lower CSR reporting levels. The empirical analysis suggested two main findings: (i) corporate social responsibility (CSR) reporting has a significant effect on investment decisions and (ii) this relationship depends on corporate governance practices. This research presents new evidence that improves the discussion around CSR involvement and corporate investment decision making in the emerging market of Saudi Arabia. Furthermore, it presents practical and managerial implications for policymakers and standard setters who are interested in ameliorating sustainable development in Saudi Arabia under the Kingdom Vision of 2030. Additionally, this work provides suggestions for firm management regarding the importance of CSR commitment and corporate governance mechanisms in enhancing corporate investment decisions. Finally, the outcomes of this research are beneficial for investors, as they represent the factors to be considered before making investment decisions.

Keywords: investment decision; CSR disclosure; environmental disclosure; social disclosure; corporate governance quality; moderation; Saudi Arabia



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1. Introduction

Before explaining the association between investment decisions, corporate social responsibility (CSR), and corporate governance practices, it is necessary to provide a clear definition of investment decisions. An investment decision is the process of choosing and assessing long-term investments that are in harmony with a firm's purpose (Verona 2020). The first researchers to investigate investment decisions were Modigliani and Miller (1958). They stated that, under certain conditions, capital structure is irrelevant for a firm's value and the cost of financing its investments. When making an investment decision, companies face financing issues. Information asymmetry and agency problems have been examined to clarify the investment decision-making process and the deviation from the optimal level of investment (Spence 1973; Jensen and Meckling 1976; Myers and Majluf 1984). According to Myers and Majluf (1984), the cost of raising funds to undertake a valuable investment opportunity can be affected by information asymmetry between managers and shareholders. Lang et al. (1996) presented strong evidence that information asymmetry results in inefficient investment and leads to underinvestment. Socially responsible companies, demonstrating both positive and negative CSR performance, have been shown to exhibit less information asymmetry and less agency conflict (Cho et al. 2013; Naqvi et al. 2021; Hamrouni et al. 2021).

The modern concept of CSR suggests that businesses are not only economic, but also social entities. Investors are becoming more interested in investing in firms that report a good level of social and environmental responsibility (Hategan et al. 2018). Therefore, in the business decision-making process, companies must pay attention to the social interests of the community (Jizi et al. 2014; Arora and Sharma 2016; Pizzi et al. 2022). CSR, as defined by the European Commission in 2006, is “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.” Why should companies make this commitment? Because through production, companies can influence employment, job, and industrial relations quality, including respect for fundamental rights, the quality of goods and services, and environmental protection. These companies can become actors in social and territorial cohesion.

Therefore, companies choose to go beyond the minimum legal requirements and obligations stemming from collective settlements to deal with societal demands. Through CSR, companies of all sizes, in collaboration with their stakeholders, can help to achieve economic, social, and environmental goals. As such, CSR has become an increasingly important concept, both globally and within Saudi Arabia. Furthermore, CSR is part of the debate about globalization, competitiveness, and sustainability. Considerable efforts have been made throughout the Kingdom of Saudi Arabia (KSA) to enhance the awareness of CSR. Many institutions in the region are involved in CSR-related activities. This has led to enhanced consumer confidence, community improvement, employee recruitment and retention, and financial performance (e.g., Saudi Aramco and SABIC). Therefore, CSR in the KSA is becoming increasingly important for the social survival of individuals and corporations.

While the determinants of corporate investment have been widely studied in the literature (Griliches and Wallace 1965; Kumar et al. 2022), the relationship between CSR and corporate investment decisions remains relatively less explored and even less well-understood in the Saudi Arabian context (Cohen et al. 2017; Cao et al. 2018; Gallego-Álvarez and Pucheta-Martínez 2019; Nauman et al. 2020). Some CSR practices deal with social improvement within a firm, including issues such as the amelioration of employee diversity, relationships with employees, and product quality (Lu and Abeysekera 2021; Ebaid 2022). These practices enhance the value of a firm more than other types of CSR that are focused on areas of wider external social development, such as community relations and environmental matters. In this study, we present new evidence that enriches the debate on CSR involvement and corporate investment decisions in an emerging market.

Corporate governance deals with the rights and responsibilities of a company's management, i.e., its board, stakeholders, and various shareholders. Therefore, corporate governance can be used to solve the principal-agent problem. Accordingly, good corporate governance is a widely used tool to mitigate agency costs and line up owner and management interests (Myers and Majluf 1984). Thus, it affects the investment decisions of firms (Gugler et al. 2007; Shahid and Abbas 2019; Suman and Singh 2020; Farooq et al. 2022). Corporate governance mechanisms have been found to be important determinants for the disclosure of CSR extent (Dahya et al. 1996; Jamali et al. 2008; Dunstan 2008; Jo and Harjoto 2011; Mandojana and Correa 2015; Martínez and Álvarez 2018; Gallego-Álvarez and Pucheta-Martínez 2019; Ebaid 2022). These mechanisms have an influence on CSR practices, since they enhance the clarity of information relating to firms by improving voluntary CSR reporting (Harjoto and Jo 2011). Corporate governance in the KSA is mainly centered on indexed companies. The Capital Market Authority is accountable for the rules and guidelines pertaining to indexed firms. It issues the code of the Saudi Corporate Governance Regulations (SCGRs) to define the broad standards for best practices among indexed firms. This code increases the level of protection for minority shareholders. The SCGRs were initially voluntary after their issuance in 2006, but they became obligatory in 2010. They cover five main areas: introduction to and definitions of corporate governance,

shareholders' rights, closing provisions, disclosure and transparency, and the board of directors.

Drawing on stakeholder and legitimacy theories (Friedman 1970; Freeman 1984; Deegan 2002), we examine the influence of CSR disclosure on the investment decisions of Saudi public companies and whether this relationship depends on corporate governance practices. We use a sample of 82 Saudi firms with 220 observations for CSR-sample, 192 observations for environmental score sample, and 160 observations for social score sample over a four year period (2018–2021). The outcomes show strong and robust evidence that high CSR involvement boosts the investment decision strategy. With these findings, this research extends the existing literature related to the association between the extent of CSR disclosure and the investment strategy within corporations. This has implications for corporate investment decision-making behavior and for all Arab countries and the Middle East region, notably Saudi Arabia. In fact, corporate investment is an essential feature within Saudi corporations, especially with regard to the Saudi Vision of 2030. It encourages increased revenue and better returns. However, it may be affected by internal and external aspects. The outcomes of this work are useful for policymakers, financial professionals, and investment advisors for making investment-related decisions. This work recognizes specific determinants of corporate investment decisions (CSR disclosure and corporate governance practices). These determinants can help managers and investment advisors with managing investment risk. Therefore, they can understand and concentrate on those factors that play an important role in investment decisions at the corporate level. Moreover, the study reveals the role and nature of the specific determinants that may enhance awareness and aid institutions, as well as individual investors, in boosting their investment returns by helping them make better investment decisions.

The rest of the paper is organized as follows. Section 2 presents the related literature and hypotheses development; Section 3 describes the data and research methodology; Section 4 reports empirical results; and finally, Section 5 provides the conclusions.

2. Review and Hypotheses Development

2.1. Corporate Investment Decisions and CSR Reporting

A high level of CSR performance is linked to lower information asymmetry, easy access to financing, and a lower cost of equity (Cho et al. 2013). Nevertheless, CSR actions are found to be a cause of conflict between stakeholders, and they decrease a company's resources because of needless costs. They are found to be a source of a competitive inconvenience compared avoided by less socially accountable corporations (Krüger 2015). The association between CSR reporting and corporate aspects, especially firm value, has been documented in the accounting and finance literature. Bird et al. (2007) suggest that CSR practices influence firm value, and this influence differs based on the CSR type. Dhaliwal et al. (2012) documents the association between CSR and the cost of capital. Casey and Grenier (2015) find a significant association between CSR assurance and lower analyst forecast errors. CSR is found to be related to firm value; however, there are previous restricted studies investigating the way in which CSR disclosure performance affects corporate investment decisions. He and Jiang (2022) empirically analyze the effect of CSR on firm innovation investment in the Shanghai and Shenzhen stock markets for the period from 2009 to 2019. Evidence shows that CSR performance is positively associated with firm innovation investment, and that CSR behavior improves corporate innovation investment intensity. Benlemlih and Bitar (2018) investigate the association between CSR and investment efficiency using a sample of US firms over the 1998–2012 period. They find that high CSR commitment diminishes investment deviation and consequently improves investment efficiency. Using European data, Ben Khediri (2021) examines whether investment efficiency is linked to CSR performance. The author finds a positive link between CSR score and investment effectiveness. Cook et al. (2018) investigate how CSR influences firm value through investment efficiency. They discover that companies with greater CSR performance invest more effectively. Lin et al. (2021) investigate how business policy

controls the influence of CSR on over-investment. The authors use a model of over 3000 US firms. They show that firms with high CSR concern over-invest. Furthermore, the authors determine that both the defend and prospect approaches can lessen over-investment by co-operating with firms that have high CSR. [Shahzad et al. \(2018\)](#) studied the influence of CSR performance on investment efficiency in family-controlled versus non-family-controlled businesses. The authors selected 190 Pakistani companies. Their findings propose that businesses with greater CSR performances invest efficiently compared with businesses with lesser CSR performances. Their results also recommend that family-controlled firms be engaged in CSR practices to accomplish their non-economic aims.

According to the above findings, the link between CSR and investment decision remains relatively less commonly studied in the Saudi Arabia context.

Given that the link between investment decision and corporate governance quality remains relatively less commonly studied in the Saudi Arabia context, we propose our following hypothesis:

H1. *There is no effect of a high level of CSR disclosure on the investment decisions of Saudi firms.*

2.2. Investment Decision and Corporate Governance Quality

Due to financial crises and scandals, corporate governance practices have become indispensable for companies to make efficient and viable decisions. Investors demand that companies apply careful corporate governance standards to achieve better returns on their investments and to decrease agency costs ([Cohen et al. 2017](#)). Investment decisions are the most crucial decisions made by management, whose responsibility it is to protect the shareholders' rights and interests. However, because of agency issues, the managers frequently act opportunistically in their own best interest ([Jensen and Meckling 1976](#)). [Modigliani and Perotti \(1997\)](#) report that managers do not always make investment decisions that align with the shareholders' interests. Accordingly, there are many studies in the literature that examine the association between investment decisions and corporate governance practice ([Myers and Majluf 1984](#); [Gugler et al. 2007, 2008](#); [Chen et al. 2017](#)). In this regard, [Shahid and Abbas \(2019\)](#) investigated the impact of corporate governance and investor confidence on corporate investment decisions using a sample of Pakistani indexed firms. The findings confirmed that the investment level is higher in firms with good corporate governance practices. These latter findings improved board members' monitoring functions (controlling shareholders' interests), which led to efficient corporate investment decisions. Similarly, [Gugler et al. \(2007\)](#) studied the importance of corporate governance institutions and their influence on investment decisions in Anglo-Saxon and Continental European countries. Using investment–cash flow regressions, the authors showed that there is a positive link between good corporate governance institutions and the determinants of investment. Cash flow positively impacts corporate investment decisions ([Chen and Chen 2013](#); [Chowdhury et al. 2016](#); [Gupta and Mahakud 2019](#)). [Mirza et al. \(2020\)](#) examined whether the attributes of the board of directors moderates the link between corporate governance and the investment decisions of Pakistani listed companies. Using a sample of 175 companies from 2010 to 2017, the results confirmed that board diversity moderates the relationship between corporate governance and investment decisions. [Ben Khediri \(2021\)](#) found that the influence of CSR on investment efficiency is motivated by human resources, business behavior, corporate governance, and human rights. [Suman and Singh \(2020\)](#) affirmed that good corporate governance in a country provides many advantages for firms and investors. It attracts entrepreneurs to make investments, reduces economic variability, and escalates production capacity ([Farooq et al. 2022](#)). In contrast, poor country governance presents the likelihood of a high default risk, which discourages firms from making decisions for investment because they present business uncertainty ([Chen et al. 2019](#)). However, a country with a low corruption rate, high political stability, better law enforcement, and proper accountability, collectively known as good governance, can prompt a new investment project due to the probability of high future returns. [Menshawy et al. \(2021\)](#) examined the relationship between corporate governance and investment policy.

The authors addressed empirical evidence from developing countries. They found that board independence, board compensation, and board leadership are negatively associated with inefficient investment. Yin et al. (2021) explored the functionality and value of CFOs as board members in corporate governance, and they demonstrated that CFOs can improve corporate investment efficiency. The findings confirmed a significant association between CFO membership and a decreased level of over- and under-investment. Therefore, the presence of CFOs on boards could promote corporations' investments. Oh and Park (2022) assessed the influence of corporate governance on labor investment efficiency, using 5178 firm-year observations from Korean indexed firms from 2011 to 2019. The findings showed a positive and significant link only in the situation of the under-investment group. Thus, we suggest the following hypothesis:

H2. *A high level of corporate governance practices positively impacts on the investment decisions of Saudi firms.*

2.3. The Moderating Effect of Corporate Governance Practices on the Link between CSR Reporting and Investment Decisions

Corporate governance refers to how businesses are monitored and how the management is responsible to the stakeholders (Dahya et al. 1996). Corporate governance practices are involved in keeping the balance between economic and social goals, and between individual and collective goals. These practices require an efficient use of resources, as per their need, to remain responsible to the stakeholders (Sharif and Rashid 2014). Accordingly, corporate governance is correlated with better transparency and more credible reporting, and it represents a significant determinant of CSR disclosure (Dunstan 2008).

Based on agency and stakeholder theories, the boardroom is found to play a major role in organizational decision-making regarding CSR disclosure and enhancing corporate transparency (Jamali et al. 2008). In a recent investigation of an emerging market, Ebaid (2022) tested the association between corporate governance and the extent of CSR disclosure for companies listed on the Saudi stock exchange. The results show that board independence and board size have positive and significant relationships with the CSR disclosure level. Moreover, the study finds that the percentage of female directors on the board has an insignificant positive effect on the CSR disclosure level. Gallego-Álvarez and Pucheta-Martínez (2019) investigated the effect of board composition on CSR reporting. The findings from this study revealed that, in emerging markets, the presence of female directors on boards is quite limited. Therefore, their participation in decision making is insignificant. Ownership structure is another significant mechanism of corporate governance. It determines agency conflicts that are caused by the separation of ownership and control (Jensen and Meckling 1976). These conflicts are greater when capital is extensively held than when it is strictly monitored (Fama and Jensen 1983). The extent of separation between ownership and management defines the level of control, and thus, the extent of CSR reporting (Cao et al. 2018; Nauman et al. 2020). Moreover, CEO duality discourages CSR reporting. Using a large longitudinal sample, Jo and Harjoto (2011) found that firms with stronger internal and external corporate governance and monitoring mechanisms (board leadership, board independence, institutional ownership, analyst following, and anti-takeover provisions) tend to be more involved in CSR practices than a control sample with weaker governance practices.

It is assumed that firms with a strong corporate governance framework make investment decisions that align with shareholders' interests and long-term firm value. From an assessment of the differential impacts of "strong" and "weak" governance on investment decisions, Cohen et al. (2017) affirm that investment decisions are motivated by numerous aspects of CSR performance and corporate governance quality. However, Kamaliah (2020) used data from Indonesian indexed companies and concluded that corporate governance does not influence CSR reporting. The results suggest that corporate governance can directly influence firm value. In addition, there is no role of CSR disclosure in mediating the

effect of corporate governance on firm value. The establishment of the corporate governance system will define the decision-making procedures linked to the CSR disclosure.

The legal system of Saudi Arabia is based on Sharia. Regulations, often delivered by government agencies, elaborate on this system, and offer more specific requirements. To improve the internal corporate administration mechanisms and to encourage transparency, accountability, and ethical behavior in firms, in 2017, the CMA amended the most recent important legal requirements regarding corporate governance by issuing the Saudi Corporate Governance Code. This is viewed as a primary driver in executing extensive corporate governance-related regulations across the Saudi listed firms. This code fundamentally comprises four sections: preliminary provisions, shareholders' rights and the general assembly, disclosure and transparency, and the board of directors. Accordingly, we propose the following hypothesis:

H3. *Corporate governance practices moderate the relationship between CSR disclosure extent and investment decisions.*

3. Research Methodology

3.1. Sample Construction

Our initial sample included all the nonfinancial Saudi corporations accessible on the Thomson Reuters Eikon Asset4 database over the period spanning 2018–2021. We eliminate financial institutions and firms with missing data to obtain a final sample size of 82 firms and 328 firm-year-observation from the ESG index and to the Saudi Stock Exchange. The analysis did not post data for 2017, since the Corporate Governance Regulation in Saudi Arabia was issued by the CMA in this year.

3.2. Research Model Specifications

To analyze the moderated influence of corporate governance practices on the association between CSR disclosure and investment decisions, as shown in Figure 1, the following multiple regression model is developed:

$$ID_t = a_0 + a_1CSR_t + a_2CGS_t + a_3CSR_t \times CGS_t + a_4SIZE_t + a_5LEV_t + a_6ROA_t + \sum Year + \sum Industry \quad (1)$$

ID: investment decision; *CSR*: CSR disclosure level; *CGS*: corporate governance score; *SIZE*: firm size; *LEV*: firm leverage; *ROA*: return on assets; *Year* and *Industry*: dummy indicators. Please refer to the Appendix A for variables measurement.

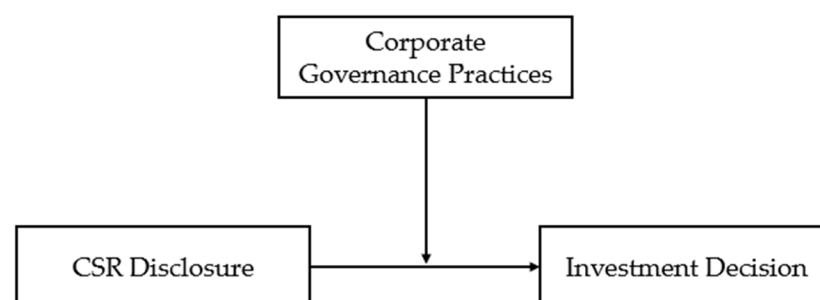


Figure 1. Conceptual model.

3.3. Variable Measurement

3.3.1. Decision Investment-Making Measure (ID)

There is no single proxy to measure corporate investment (Aggarwal and Zong 2015; Boubaker et al. 2018; Chen et al. 2019). Many studies aligned with corporate investment decisions used various proxies to measure corporate investment in different ways. In this research, we refer to the work of Anderson et al. (2012). We measure investment decision via the corporate strategy for long-term investment, which is the sum of R&D spending

and capital expenditures, respectively. We compute long-term investment as a fraction of total assets; normalizing by total assets allows us to compare over time and across firms.

3.3.2. Corporate Social Responsibility Measure (CSR)

Thomson Reuters Corporate Responsibility Ratings (TRCRR) measure the environmental, social, governance, and ESG performance of over 4600 companies worldwide, including the KSA. Following the methods of previous works ([Giannarakis 2014](#)), this study uses the ESG disclosure score calculated and provided by the Datastream database as a proxy for the extent of CSR disclosure. This score is intended to measure the ESG performance, commitment, and effectiveness of a company in a transparent and objective manner across three main categories (10 themes) based on publicly reported data: the environmental pillar (resource use, emissions, and product/innovation), the social pillar (workforce, human rights, community, and product responsibility), and the governmental pillar (management, shareholders, and CSR strategy). The proxy used for our study reflects the aggregation of social and environmental performance by measuring their average.

3.3.3. Corporate Governance Measure (CGS)

Corporate governance assesses a company's systems and processes, which ensures that its board members and executives act in the best interests of its long-term shareholders. It reveals a firm's capacity in regard to its use of the best management practices to manage and to monitor its rights and obligations through the establishment of incentives, as well as checks and balances, to engender long-term shareholder value. In this study, we use the corporate governance score (CGS), as provided by the Thomson Reuters database, as a proxy for corporate governance practices ([Li et al. 2022](#)). This score includes the performance of five features: board structure, compensation policy, board functions, shareholders' rights, and vision and strategy.

3.3.4. Control Variables

This paper relates to the literature regarding voluntary disclosure and investment efficiency. The control variables are included to prevent model misspecification and to guarantee a better robustness of the findings. The choice of these control variables is based on prior studies suggesting several variables that might affect investment decisions. In this study, we use firm size (SIZE), leverage (LEV), and the return on assets (ROA). Please refer to the Model Specification section for variable definitions.

4. Results and Discussion

4.1. Summary Statistics

Table 1 presents the summary statistics for our sample of firms. The sample comprises 82 Saudi firms, spanning from 2018 through to 2021, yielding 328 firm-year observations. The table presents the summary statistics. It displays the mean, median, standard deviation, as well as the 1st percentile and 99th percentile values for the key variables. The findings reveal that investment decision (total investment), measured as the sum of R&D and the capital expenditures divided by total assets, has a mean value of 9.85%. This result indicates that R&D and capital expenditures together account for almost 10% of firm investment. The average CSR of the sample firms is about 20%. This average is higher than those found by [Macarulla and Talalweh \(2012\)](#) and [Habbash \(2017\)](#). This indicates an enhancement in CSR reporting practices that may have come about because of the developments made by the policymakers and standard setters in regard to the Vision of 3030 towards a sustainable future. The firm size (average total sales) has a mean of nearly 19 and a corresponding median of 14.21. We found that the average mean and median of corporate leverage (long-term liabilities divided by lagged total assets) are 20.74 and 16.90, respectively. The mean value of ROA is 13%. This result indicates that the Saudi firms can generate earnings of 13% from the assets held, implying that the sample firms tend to realize profits rather than losses. This rate is higher than the 10% found by [Habbash \(2017\)](#).

Table 1. Descriptive statistics.

	N	Mean	Median	St. dev	1st Percentile	99th Percentile
ID	328	9.85	6.53	2.10	7.61	12.69
CSR	220	19.66	16.17	18.34	6.54	54.03
ENVS	192	18.54	15.63	17.15	0	52.34
SOS	160	17.39	15.32	14.99	0	50.11
CGS	328	40.81	35.44	20.41	10.52	68.93
SIZE	328	18.65	14.21	5.53	9.37	16.75
LEV	328	20.74	16.90	17.04	0	61
ROA	328	0.13	0.15	0.57	0	1

This table presents summary statistics from our sample firms. ID: investment decision; CSR: CSR disclosure extent; ENVS: environmental score; SOS: social score; CGS: corporate governance score; SIZE: firm size; LEV: firm leverage; ROA: return on assets. All continuous variables are winsorized at 1% and 99% of their distribution to avoid the influence of outliers. Please refer to Appendix A for variable measurement.

4.2. Testing Research Hypotheses

To test our hypotheses, investment decision is regressed against CSR, CGS, and the interaction term between CSR and CGS, as well as a set of control variables, using panel data. We start by controlling for multicollinearity. Table 2 displays a Pearson correlation matrix for the key variables in the regression model. It should be noted that CSR is positively and significantly correlated with corporate governance, with a Pearson correlation coefficient of 0.312. In addition, the corporate governance score (CGS) is positively and significantly correlated with the corporate investment decision (ID), with a Pearson correlation coefficient of 0.386. Higher correlations are observed between the environmental disclosure score (ENVS), social disclosure score (SOS), and CSR disclosure score. These coefficients are significant at the 1% level. Such high correlations are mechanical, since that CSR score is the average of the sum of ENVS and SOS. This matrix shows that all the correlation coefficients are inferior to 0.5 and superior to -0.5 , suggesting that our results could not be considered to be biased by a multicollinearity problem. Furthermore, the variance inflation factor (VIF) test is conducted. According to Gujarati (2003), a VIF value of less than 10 is acceptable; the VIF values among our variables are all lower than 2. Therefore, no harmful correlations are reported. Then, we tested for homoscedasticity and autocorrelation assumptions using the Breusch–Pagan and Wooldridge tests. The findings presented in Table 3 report heteroscedasticity and first order autocorrelation problems. Therefore, we tested the research hypotheses using a feasible generalized least square estimator (FGLS) with robust standard errors clustered at the firm level.

Table 2. Pearson correlation matrix and variance inflation factor test.

Variable	ID	CSR	ENVS	SOS	CGS	SIZE	LEV	ROA	VIF	1/VIF
ID	1								1.25	0.04
CSR	0.347 **	1							1.02	0.98
ENVS	0.368 **	0.468 ***	1						1.10	0.90
SOS	0.321 **	0.477 ***	0.415 ***	1					1.08	0.92
CGS	0.386 ***	0.312 **	0.392 **	0.317	1				1.34	0.74
SIZE	0.012 *	0.029 *	0.057	0.076	0.084	1			1.67	0.59
LEV	−0.035 **	−0.070 **	−0.094 **	−0.643 *	−0.063 **	0.067 *	1		1.91	0.52
ROA	0.061 **	0.015 ***	0.048 **	0.62 **	0.020 **	0.026 *	−0.018 **	1	1.28	0.78

This table presents the Pearson correlation matrix for the key variables in the sample and VIF test. ID: investment decision; CSR: CSR disclosure level; ENVS: environmental score; SOS: social score; CGS: corporate governance score; SIZE: firm size; LEV: firm leverage; ROA: return on assets. * Significance at 10%, ** significance at 5%, *** significance at 1%. All continuous variables are winsorized at 1% and 99% of their distribution to avoid the influence of outliers. Please refer to the Appendix A for variable measurements.

Table 3. Empirical findings.

	CSR Model		ENVS Model		SOS Model	
	Coef.	t-Stat	Coef.	t-Stat	Coef.	t-Stat
Constant	0.261 ***	(2.74)	0.284 **	(2.85)	0.319 **	(2.66)
CSR	0.147 **	(2.31)				
ENVS			0.159 **	(2.28)		
SOS					0.153 **	(2.24)
CGS	0.193 **	(2.27)	0.185 **	(2.17)	0.188 **	(2.13)
CSR × CGS	0.152 *	(1.82)				
ENVS × CGS			0.161 *	(1.83)		
SOS × CGS					0.157 *	(1.80)
SIZE	0.147	(1.57)	0.151	(1.61)	0.149	(1.54)
LEV	−0.154 *	(−1.83)	−0.168 *	(−1.79)	−0.171 *	(−1.85)
ROA	0.032 **	(2.46)	0.062 **	(2.37)	0.55 **	(2.24)
Year fixed effect	Yes		Yes		Yes	
Industry fixed effect	Yes		Yes		Yes	
Nb. Of Obs.	220		192		160	
F-Fisher	4.71 ***		4.95 ***		3.26 ***	
Adj. R-Sq.	18.71		18.50		18.29	
Breusch–Pagan LM test	136 ***		140 ***		148 ***	
Breusch–Pagan test	112 ***		125 ***		119 ***	
Wooldridge test	54 ***		64 ***		58 ***	

This table presents regression findings from estimating Equation (1). CSR: CSR disclosure level; ENVS: environmental score; SOS: social score; CGS: corporate governance score; CSR × CGS: interaction term between CSR and CGS; ENVS × CGS: interaction term between ENVS and CGS; SOS × CGS: interaction term between SOS and CGS; SIZE: firm size; LEV: firm leverage; ROA: return on assets. * Significance at 10%, ** significance at 5%, *** significance at 1%. All continuous variables are winsorized at 1% and 99% of their distribution to avoid the influence of outliers. The t-statistics are based on firm-level clustered standard errors.

Table 3 displays the findings from the estimation of the research model. We note that all continuous variables are winsorized at 1% and 99% of their distribution to avoid the influence of outliers. To test our research hypotheses, we use a sample of Saudi firms during the period 2018–2021, with 220 observations for the CSR sample, 192 observations for the ENVS sample, and 160 observations for the SOS sample. Firstly, CSR reporting positively and significantly affects the investment decision at a 5% level. Therefore, CSR behavior improves the corporate investment strategies of Saudi companies. This result is consistent with the findings of [Benlemlih and Bitar \(2018\)](#), [Shahzad et al. \(2018\)](#), and [He and Jiang \(2022\)](#). However, it does not confirm our first hypothesis, **H1**. Secondly, evidence shows a significant positive correlation at the 5% level, between corporate governance practices and the extent of investment decisions. This outcome validates that the investment level is elevated in companies with corporate governance practices that are related to certain performance features. This finding confirms our second hypothesis **H2**, and it is similar to the outcome found by [Gugler et al. \(2007\)](#), [Shahid and Abbas \(2019\)](#), and [Suman and Singh \(2020\)](#). Finally, the interaction term CSR×CGS is positively significant, indicating that corporate governance practices positively moderate the association between CSR reporting and the firm investment decision. Thus, this variable strengthens this link. This outcome confirms that the five components of GOVS moderate the relationship between CSR disclosure extent and investment decisions. Therefore, the positive impact of CSR disclosure on investment level is maintained in firms with elevated corporate governance scores. An elevated GOVS denotes a good board structure, transparent compensation policy, clear roles and responsibilities of a board, equal rights to all shareholders, and a clear vision and strategy to track progress toward goals. All these aspects improve board members' monitoring functions, controlling shareholders' interests and consequently, leading to efficient corporate investment decision making. This finding confirms our second hypothesis **H3**.

For the control variables used in this study, the empirical findings showed that the financial leverage has a negative and significant influence on the investment decisions. The corporate leverage level will therefore determine the investment opportunities a company can undertake. Therefore, this outcome helps the management to make financing

decisions regarding leverage and whether to take on long-term debt. The return on assets (ROA) shows a positive and significant effect on corporate investment decisions. The ROA determines whether the business is efficient in using its assets in its operational activities. Accordingly, the condition of a business improves with a high value of the ROA ratio. A company that has good financial performance will have more resources and funds to invest in social activities. This shows that the higher the profit value obtained and expressed through the ROA, the better the corporate investment strategy. This finding is aligned with the findings of [Kamaliah \(2020\)](#) and [Naqvi et al. \(2021\)](#).

We employed an FGLS estimation for a linear panel data model with clustered standard errors in the main empirical analysis; however, there was still a possible endogeneity problem in the link between CSR extent and the investment decision. Thus, we evaluated the robustness of our main results. We re-ran the research model using a firm fixed effect to control for endogeneity due to time-invariant omitted variables. We obtained the same results, and the conclusions remain unchanged.

5. Conclusions and Contributions

This study provides new evidence on how corporate governance practices moderate the effect of Corporate Social Responsibility (CSR) on the firm investment decision/strategy of Saudi listed firms. We use a sample of Saudi firms during the period of 2018–2021, with 220 observations for the CSR sample, 192 observations for the ENVS sample, and 160 observations for the SOS sample. The findings show strong and robust evidence that high CSR involvement boosts investment strategy. This outcome is consistent with our expectations that high CSR firms experience low information asymmetry and high stakeholder harmony, as based on stakeholder theory, and consequently, a good investment decision policy.

This work extends the work in previous studies by (i) looking at two factors of CSR: environmental and social disclosure practices, (ii) exploring how the extent of CSR may impact on investment decision making, and (iii) assessing the impact of governance structure, a feature that may influence the consistency of CSR information ([Cohen and Simnett 2015](#); [Peters and Romi 2015](#)) as a moderator for the link between CSR reporting and the investment decision to test whether this variable strengthens, diminishes, negates, or alters this link, or otherwise changes its direction. This study provides empirical evidence and supports the legitimacy theory for the impact of CSR disclosure and corporate governance on investment decisions for Saudi firms.

These findings are important in terms of sustainable reporting and development for the Middle Eastern region in general, and for Saudi Arabia in particular. They provide confirmation of the significance of CSR reporting as a key driver of enhanced corporate investment, and bring additional evidence for regulators, policymakers, and standard-setters. Indeed, the Saudi Council of Economic and Development Affairs established 13 “Realization Programs” within Saudi Vision 2030, launched in 2016. This vision involves the promotion of national companies and financial sector development programs. Therefore, the outcomes of this study could be of interest to regulators and policymakers who are focusing on improving sustainable development specifically related to CSR reporting in Saudi Arabia. Furthermore, this study aims to offer suggestions for management concerning the importance of CSR disclosure and corporate governance practices for boosting firm investment decisions. Finally, our findings may be beneficial for investors when evaluating corporate investment and decision-making strategies.

Our contributions remain subject to three main limitations that are linked to the constraints imposed by this research. First, one limit of studying an emerging market is that the data are limited. Consequently, we do not have access to some possible control variables used in prior studies. Second, our study is also limited by the small number of firms considered due to our focus on Saudi Arabia, given that our study period is restricted to post-2017, the date of issuing the Corporate Governance Regulation in Saudi Arabia by the CMA. Third, the independent variables examined in this work are limited to only

CSR disclosure and to corporate governance quality, although there are still many other variables that are assumed to be determinants of investment decision and efficiency, such as audit quality (See [Boubaker et al. 2018](#)). These constraints should not discount the significant findings found in this work.

We finish with an illustration of subsequent enhancements. This research does not suggest an exhaustive list of all potential investment decision measures. Thus, an ample examination of other proxies is left to future research. We suggest a measurement of the impact of CSR reporting on investment efficiency/inefficiency. This research model can be estimated for two groups: an over-investment group with positive residuals from the investment efficiency equation, as well as an under-investment group.

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Appendix A

Table A1. Variables Measurement.

Variables	Symbol	Description	Data Source
Investment Decision	ID	Sun of R&D spending and capital expenditures divided by total assets.	Datastream
Corporate Social Responsibility	CSR	Average of social and environmental performance provided by Thomson Reuters Asset4 database.	Asset4
Corporate Governance Score	CGS	Score provided by Datastream database contains performance about 5 factors.	Asset4
Firm Size	SIZE	Natural logarithm of total assets.	Datastream
Firm Leverage Level	LEV	Long-term liabilities divided by lagged total assets.	Datastream
Return on Assets	ROA	Net operating income divided by total assets.	Datastream

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