



The Impact of Ownership Structure on Corporate Social Responsibility Disclosure in Saudi Arabia

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ABSTRACT

The aim of this study is to examine how different forms of ownership impact Corporate Social Responsibility (CSR) disclosure in Saudi listed firms. The impact of ownership structure on CSR disclosure is modelled by means of an Ordinary Least Square (OLS) regression for 70 listed firms over the period 2016 to 2022, and a Two-Stage Least Squares Method (2SLS) is estimated to tackle any endogeneity issues. Differing ownership structures are captured through investigating government, institutional, family, managerial and foreign ownership, while firm CSR disclosure is measured in terms of environmental CSR and social CSR disclosures. The results reveal that the degree of government, institutional, and foreign ownership are positive drivers of CSR disclosure, while managerial ownership is a negative driver. The findings provide support for both agency theory and stakeholder theory. Further, larger, more established and manufacturing firms engage in greater CSR disclosure generally across the models, while more highly levered firms using more prominent auditors engage more in environmental CSR disclosure alone. The findings have important implications for regulators, policymakers, and managers who wish to enhance CSR. The implications for policymakers are that government, institutional, and foreign ownership should be supported over managerial ownership to improve CSR. The findings suggest that managers should develop more focused intervention mechanisms to match the attitudes of different owners toward CSR. The study may also strengthen the call for a code of CSR reporting consistent with Saudi Vision 2030.

Keywords: Government Ownership, Institutional Ownership, Family Ownership, Managerial Ownership, Foreign Ownership, CSR, Saudi Arabia.

JEL Classifications: M14, G32, G34, C23

1. INTRODUCTION

In recent decades, emerging markets researchers have been increasingly interested in corporate social responsibility (hereafter, CSR) (Said et al., 2009; Aguinis and Glavas, 2012; Arnold and Valentin, 2013; Jamali and Karam, 2018; Abu Qa'dan and Suwaidan, 2019; Sahasranamam et al., 2019; Dakhli, 2021; Lin and Nguyen, 2022). Carroll (1991) defines CSR as an integrated concept that incorporates economic, ethical, discretionary, business, and legal expectations for corporate behaviour. Similarly, other authors define CSR as a strategy to integrate social and environmental concerns into a firm's activities and address the concerns of its stakeholders (Jamali et al., 2008; Huang et al.,

2017; Endrikat et al., 2020; Wang et al., 2020). Thus, in so doing, corporate social responsibility aims to conduct different corporate practices mindful of welfare considerations in order to benefit stakeholders and develop society sustainably (Branco and Rodriguez, 2006; Huang et al., 2017; Javeed and Lefen, 2019; Franco et al., 2020; Qiu et al., 2021).

The foundation of CSR is the perception that firms should widen the scope of their goals and purposes beyond maximising shareholder value, thereby maintaining a balance between financial and non-financial goals to benefit society, the environment, employees, and customers. Importantly, CSR has developed over time to become standard business practise. Thus, firms recognise the effect of

social pressure on their operations as well as their accountability to a wider range of stakeholders than shareholders and creditors, including the general public. Thus, CSR reporting has become an important way of demonstrating corporate commitment to wider concerns (Adams, 2004; Brammer and Pavelin, 2008) whereby firms must report on their economic, social, and environmental activities (Deegan, 2004; Cormier et al., 2011).

Previous studies investigate the influence on CSR disclosure of board structure (Alabdullah et al., 2019; Abu Qa'dan and Suwaidan, 2019; Kachouri et al., 2020; Shahbaz et al., 2020), audit committee characteristics (Appuhami and Tashakor, 2017; Agyei-Mensah, 2019; Qaderi et al., 2020; Kolsi et al., 2021), and firm characteristics (D'Amato and Falivena, 2019; Welbeck et al., 2020; Boshnak, 2022). However, few studies examine the impact of ownership structure on CSR (Said et al., 2009; Oh et al., 2011; Abu Qa'dan and Suwaidan, 2019; Chen et al., 2019; Sahasranamam et al., 2019; Zaid et al., 2020; Ye and Li, 2020; Dakhli, 2021; Lin and Nguyen, 2022). Different types of owners may have different motivations and time horizons for making corporate decisions (Hoskisson et al., 2002; Raimo et al., 2020), it is expected that firms will have varied perspectives on CSR participation. Key shareholder classes can be more discerning in their investment decisions by taking into account other strategic factors. Thus, corporate social responsibility can itself be viewed as a type of investment (McWilliams and Siegel, 2001). Different owner classes may differ in the extent of involvement in a firm's strategic social investment decisions (Oh et al., 2011; Chang and Lu, 2013; Liu et al., 2019; Chabachib et al., 2020). Thus, composition of a firm's shareholder base (its ownership structure) can play a significant role in forming firm CSR attitudes and behaviour (Oh et al., 2011; Soliman et al., 2012; Zaid et al., 2020). This study breaks down ownership structure into government, institutional, family, foreign and managerial ownership categories each of which should have somewhat different orientations and preferences in relation to investee firm CSR practices.

Like other developing countries, CSR research for Saudi Arabia is rather thin, (Alsaeed, 2006; Al-Gamrh and Al-Dhamari, 2016; Boshnak, 2022) and so this study seeks to examine current CSR practice in Saudi Arabian firms as evidenced in their corporate websites. This study expands upon the above studies in several ways. First, it builds upon the nascent body of emerging market studies on ownership structure and CSR disclosure with recent data. Second, it is novel in that examines CSR disclosure in Saudi listed firms and determines the degree to which ownership structure factors and other firm-specific characteristics impact such disclosure and may address the conflicting findings of the extant research. Third, the study employs content analysis and a manual approach to construct a CSR disclosure index with regard to annual report disclosure. The study captures CSR in terms of a total, environmental, and a social CSR indexes. Fourth, the study employs both an OLS modelling approach and 2SLS, the latter for robustness purposes. Thus, this investigates the impact of ownership structure (in terms of government, institutional, family, managerial and foreign ownership) on CSR disclosure in Saudi listed firms and addresses two research questions:

- *RQ1*. What is the level of total, environmental, and social CSR disclosure in Saudi non-financial listed firms?
- *RQ2*. How does ownership structure affect total, environmental, and social CSR disclosure in Saudi non-financial listed firms?

In order to address these questions, data is collected for 70 Saudi non-financial listed companies over the period 2016 to 2021. This study contributes in a variety of ways to the literature on CSR disclosure practice. First, it illustrates the importance that non-financial companies place on social responsibility in a developing market setting. Second, the study augments the extant literature by examining novel independent variables to examine ownership structure and its impact on CSR disclosure. Third, the study provides feedback to Saudi Capital Market Authority (CMA) and Saudi Stock Exchange (Tadawul) regulators on the adequacy of the Saudi Exchange as a partner in the UN Sustainable Stock Exchanges Initiative which works to promote Environment, Social, and Governance (ESG) awareness, initiatives and encourages sustainable investment in collaboration with market participants (Saudi Exchange, 2023). Since joining the initiative in 2018, the Saudi Exchange has engaged with stakeholders and other exchanges to help advance ESG disclosure in its capital market and remains focused on raising awareness and encouraging listed firms to disclose better ESG information (Saudi Exchange, 2023). Finally, the study should prove of interest to investors, academics, and regulators who wish to better appreciate how ownership structure impacts CSR disclosure and practice.

The remainder of the paper is structured as follows. Section 2 outlines the theoretical framework and section 3 analyses the literature and formulates hypotheses. Section 4 explains how data are measured and analysed. The empirical results are discussed in Section 5, while section 6 concludes and outlines the implications and limitations of the study.

2. THEORETICAL FRAMEWORK

Two primary theories form the basis of discussion of ownership structure and CSR in the extant literature, agency theory and stakeholder theory, which are employed to develop the conceptual framework (Dam and Scholtens, 2012; Garanina and Aray, 2020; Sahasranamam et al., 2020; Govindan et al., 2021). Jensen and Meckling (1976) argue that shareholders and managers have a principal-agent relationship which is effectively a contract in which one or more parties (the principals) engage another party (the agents) to perform a specific function, the latter endowed with some decision-making authority. However, they note that the agency relationship between managers and shareholders causes conflicts of interest which in turn give rise to "agency costs" (Zaid et al., 2020). Eisenhardt (1989) and Zaid et al. (2020) argue that agency problems arise as manager and shareholder interests are misaligned as the former does not always act to maximise shareholder wealth but also pursue their own personal interests (Sahasranamam et al., 2020). In so doing, they may for example seek to maximise firm growth rather than earnings (Kachouri and Jarboui, 2017). Importantly, the mechanisms of corporate governance can counteract much of the agency problem and enhance transparency of information at least in part (Jo and

Harjoto, 2011; Ruangviset et al., 2014; Jarboui et al., 2020; Govindan et al., 2021). Building on agency theory, several studies explore CSR as a means of tackling agency problems and reducing information asymmetry between shareholders and managers (Cui and Na, 2018). Vitolla et al. (2019) and Raimo et al. (2020) see CSR as an optimal contract to align the interests of owners and managers.

Stakeholder theory proposes that, in addition to maximising shareholder value, firms must also take account of stakeholder interests. In this context, a stakeholder is an individual or group that can influence or is affected by a firm's operations (McWilliams et al., 2006). The theory suggests that firms must build strong relationships with major stakeholders in order to maintain and enhance their credibility (Carroll and Buchholtz, 2011; Ye and Li, 2020). In order to make good management decisions, managers must have a good understanding of how to balance the different and sometimes contradictory expectations of stakeholders (Atkins and Maroun, 2015; Jain and Jamali, 2016; Singh and Delios, 2017), and CSR management and reporting are essential to meeting such expectations (Dienes and Velte, 2016). Ownership structure clearly impacts the objectives of the firm and can play an important role in meeting stakeholder expectations (Francoeur et al., 2007). This study establishes a correlation between ownership structure and CSR disclosure by applying agency and stakeholder theories.

3. CORPORATE SOCIAL RESPONSIBILITY IN SAUDI ARABIA

The Saudi Arabian General Investment Authority emphasizes the importance of increasing accountability and transparency in corporate social responsibility for the benefit of stakeholders (Boshnak, 2022). To better align Saudi Arabia with international corporate governance standards, including CSR principles, the Saudi government enacted Corporate Governance Regulations in 2017 (CMA, 2017). Several international corporate governance standards, including those set forth by the OECD, were incorporated into this corporate governance code. It addresses issues of social responsibility, disclosure and transparency, shareholder rights, the General Assembly, and the Board of Directors. According to Article 87 of the Regulations, firms must establish a social responsibility policy to facilitate the economic and social development of the community", while Article 88 states that firms must develop social initiative programs and Article 90 states that the Board's report must include information on the firm societal contributions.

The Saudi government's new development plan, Vision 2030 (ASSV, 2022), aims to ensure social development goals are sustainable and sets in place specific goals to support the overall CSR policy and initiatives of the country. There has been significant progress in promoting CSR in Saudi Arabia over recent years. The Saudi Arabian Responsible Competitiveness Index (SARCI) is a stakeholder tool that aims to maximize the impact of CSR (Baghallab and Chaar, 2021). The drive towards stronger CSR has led to many companies voluntarily increasing CSR disclosure. The primary media for such disclosure are the annual report and company website, the latter of which has developed

significantly in terms of CSR information provision in line with global disclosure trends.

4. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In emerging markets, governments typically control key resources and are increasingly playing a significant role in establishing CSR norms (Campbell, 2007). The government as a key shareholder can put pressure on managers to take into account important political and environmental government policies when running their businesses, and thus greater government ownership may result in greater CSR proactivity (Calza et al., 2014). Moreover, companies with significant state ownership must be socially responsible since they serve as business role models and are expected to serve the interests of the entire community (Lau et al., 2016).

Agency theory suggests that state-owned companies tend to respond to government pressure (Said et al., 2009), and are more highly motivated to resolve social and environmental issues through their CSR activities (Zaid et al., 2020). Institutional theory notes that a government, has the power to impose laws and regulations on organisations to regulate their behaviour. Government owned companies are subject to greater pressure to prioritize community related CSR as a result of social reform regulations (Muttakin and Subramaniam, 2015). To fulfil government demand, stakeholder theory suggests that firms will engage in CSR activities and disclosure to demonstrate their societal credentials and comply with government regulations (Rahmawaty and Maswan, 2020). As a result, government demonstration of controlled power over firm policy and promotion of good CSR practise and disclosure should lead to reputational improvement of that government in society.

While the extant empirical literature yields some conflicting results on the relationship between government shareholding and CSR activities (Pham and Tran, 2020; Sahasranamam et al., 2019; Lin and Nguyen, 2022), most studies find a positive relationship (Li and Zhang, 2010; Jain and Jamali, 2016; Faller and Knyphausen-Aufseß, 2018; Guo et al., 2019; Arsad et al., 2020; Boshnak, 2022). Drawing on agency and stakeholder theory arguments and the balance of empirical evidence, this paper formulates the following hypotheses:

Government ownership is positively associated with the level of total CSR disclosure (H_{1a}), environmental CSR disclosure (H_{1b}), and social CSR disclosure (H_{1c}).

Institutional ownership involves a group of companies that are legally independent linked by formal and informal relationships (Khanna and Rivkin, 2000; Chittoor et al., 2014; Ramaswamy et al., 2017). This ownership structure is common in emerging markets as an efficient market response to address significant institutional shortcomings caused by inadequate institutions and infrastructure (Chari and Dixit, 2015; Elango et al., 2016).

In accordance with institutional theory, local communities, financial institutions, and business associations should act as

normative pressures to motivate business owners to see community responsibilities as intrinsically bound to their core organizational objectives (Sahasranamam et al., 2020). Consequently, institutional ownership prioritises visible community-related CSR strategies (Sahasranamam et al., 2019). Institutional owners can significantly impact strategic corporate decisions (Oh et al., 2011) as a result of their more significant voting power and asymmetric informational advantage (Jensen and Meckling, 1976; Schnatterly et al., 2007). As institutional investors own a substantial percentage of a company's stock and are unable to easily sell their shares, agency theory suggests that such investors pay close attention to firm strategic decisions (Zaid et al., 2020). Moreover, institutional owners may possess substantial experience and resources in order to monitor strategic decisions effectively (Oh et al., 2011). Companies with significant institutional ownership are therefore encouraged to engage in enhanced CSR activities (Elgergeni et al., 2018). Such companies are more likely to engage in environmental management practices (Chang et al., 2015) and to invest in voluntary CSR activities (Aguilera et al., 2006; Chen et al., 2019).

The extant empirical evidence supports a positive link between level of institutional ownership and disclosure of CSR (Cox et al. 2004; Oh et al., 2011; Soliman et al., 2012; Nurleni et al, 2018; Chen et al., 2019; Dyck et al., 2019; Tao et al., 2020; Zaid et al., 2020; Dakhli, 2021; Boshnak, 2022). Given the arguments above, including institutional and agency theories, this study formulates the following hypotheses:

Institutional ownership is positively associated with the level of total CSR disclosure (H_{2a}), environmental CSR disclosure (H_{2b}), and social CSR disclosure (H_{2c}).

It is common for a family to control a business through management participation and ownership, often accompanied by a transgenerational strategic corporate vision (Chua et al., 1999; Zellweger et al., 2013), often rendering firm and controlling family reputation synonymous (Block and Wagner, 2014; Liu et al., 2017).

There are two opposing theories of family ownership and CSR: the alignment effect and the entrenchment effect (Wang, 2006). The alignment effect sees family ownership as having a positive impact on CSR implementation by aligning family interests with those of other stakeholders. For instance, extant studies find that family firms engage in greater CSR initiatives and thereby improve CSR performance (Wang, 2006; Zeng, 2021). In contrast, the entrenchment effect sees family ownership as placing more emphasis on profitability than other objectives and engaging in CSR as an obligation rather than a strategic decision. As the costs exceed the benefits of CSR, family ownership is expected to have a negative impact on its implementation. Labelle et al. (2015) find that non-family firms engage in more CSR than family firms.

The management of family-controlled companies is generally more conscious of the costs associated with CSR and instead invest more in long-term strategies. However, Block and Wagner (2014) acknowledge the importance of CSR and argue that such disclosure should be balanced with pursuing financial goals. Block and Wagner (2013), Bingham et al. (2011) and McGuire et al.

(2012) reason that family-owned businesses will seek to improve their reputation by disclosing more information. The majority of previous empirical studies, however, find that family-owned firms maintain a lower level of CSR (Ho and Wong, 2001; Haniffa and Cooke, 2002; Abdullah et al., 2011, Wang, 2014; Campopiano and De Massis, 2014; Boshnak, 2022; Alsaadi, 2022). Further, Ho and Wong (2001), Haniffa and Cooke (2002), Campopiano and De Massis (2014), Boshnak (2022) and Alsaadi (2022) find that family-controlled companies disclose less CSR information and are less compliant with CSR standards. In addition, evidence shows that family ownership negatively impacts sustainability reporting quality (Ho and Wong, 2001; Abdullah et al., 2011, Wang, 2014, and Rees and Rodionova, 2015). Drawing on the entrenchment effect and most extant empirical studies, this study formulates the following hypotheses:

Family ownership is negatively associated with the level of total CSR disclosure (H_{3a}), environmental CSR disclosure (H_{3b}), and social CSR disclosure (H_{3c}).

Managerial ownership is argued to enhance the mitigation of agency problems and reduce conflicting interests between owners and managers, thereby resolving agency problems (Mustapha and Ahmad, 2011; Jia and Zhang, 2012; Oongsakul et al., 2019; Tejedo-Romero and Araujo, 2020; Gerged, 2020, Boshnak, 2024). Managers have a greater propensity to maximize shareholder value if they are significant shareholders and they are more likely to encourage CSR engagement if it helps to achieve that goal. Therefore, management ownership is argued to positively affect the environment and society (Liu et al., 2019; Chen and Hung, 2020; Dakhli, 2021).

Another lens through which to study the relationship between managerial ownership and corporate social responsibility with regard to the short-term and long-term perspectives (Dakhli, 2021). In the long-term, the relationship can be viewed positively in terms of CSR involvement strengthening firm value (Oh et al., 2011; Javed et al., 2019). Managers who are also significant shareholders will focus more on long-term firm value and thus engage in greater CSR activity (Oh et al., 2011; Jo and Harjoto, 2011). However, a focus more on short-term profits may tempt managers to run the business to the detriment of the best interests of all stakeholders by, for example, not engaging in CSR activities where the costs are seen as exceeding the benefits (Soliman et al., 2012; Raimo et al., 2020; Dakhli, 2021).

The extant empirical literature on the relationship is inconsistent. There is some evidence that higher managerial ownership is correlated with greater CSR disclosure, consistent with agency theory and long-term orientation (Said et al., 2009; Khan et al., 2012; Faller and Knyphausen-Aufseß, 2018; Javeed and Lefen, 2019; Cho and Ryu, 2021; Lin and Nguyen, 2022). In other studies, however, managerial ownership exhibits a negative influence on CSR disclosure, suggesting a short-term orientation (Khan et al., 2012; Sartawi et al., 2014; Chang et al., 2015; Dintimala and Amril, 2018; Ullah et al., 2019). A high degree of managerial ownership will result in increased information retention since managers benefit from quality internal information. It is likely

that owner managers are less motivated to expend resources on CSR disclosure where it impacts negatively on share value. Based on the short-term orientation argument, the following hypotheses are proposed in this study:

Managerial ownership is negatively associated with the level of total CSR disclosure (H_{4a}), environmental CSR disclosure (H_{4b}), and social CSR disclosure (H_{4c}).

Foreign owners are situated in different cultures and geographical locations, and have different values and knowledge which in general encourage more CSR spending. In particular, foreign shareholders have greater reputational sensitivity and adherence to regulation, making them more likely to contribute to CSR awareness programs (Khan et al., 2012). Many developing-country firms have been significantly guided by Western management practices, including CSR (Abu Qa'dan and Suwaidan, 2019). Haniffa and Cooke (2002) argue that the geographical separation of management and owners encourages greater corporate disclosure, including CSR disclosure. The diverse backgrounds and cultures of foreign directors may also contribute valuable experience to the board and support CSR initiatives and disclosures. Where foreign ownership is high, firm management may be under greater pressure to contribute to social issues as foreign shareholders differ from domestic shareholders in terms of familiarity, time horizons, preferences, and the information asymmetry encountered (Oh et al., 2011; Al-Gamrh et al., 2020). Khan et al. (2012) argue that foreign shareholders are perceived to be more familiar with CSR activities due to their involvement in foreign markets.

From an agency theory perspective, through enhanced control mechanisms, foreign shareholders monitor management decisions, including advanced auditing and regular reporting (Zaid et al., 2020), Improving performance and reducing agency costs (Abor and Biekpe, 2007). Moreover, foreign investors exercise their influence over corporations to encourage them to strengthen their CSR initiatives (Aksoy et al., 2020).

Several empirical studies demonstrate that foreign ownership and CSR disclosure are positively correlated (Oh et al., 2011; Khan et al., 2012; Soliman et al., 2012; Muttakin and Subramaniam, 2015; Al-Gamrh et al., 2020; Jahid et al., 2020; Lin and Nguyen, 2022). Based on agency arguments and the discussion above, the following hypotheses are proposed:

Foreign ownership is positively associated with the level of total CSR disclosure (H_{5a}), environmental CSR disclosure (H_{5b}), and social CSR disclosure (H_{5c}).

5. RESEARCH METHODOLOGY

The purpose of this paper is to examine the impact of ownership (government, institutional, family, managerial, and foreign) structure on the level of total, environmental, and social CSR disclosure in Saudi-listed firms. The empirical methodology employed includes descriptive, Ordinary Least Squares (OLS) regression, and Two-Stage Least Squares Method (2SLS) regression analyses, consistent with the existing literature (Said et al., 2009; Oh et al., 2011; Abu Qa'dan and Suwaidan, 2019; Chen et al., 2019; Sahasranamam et al., 2019; Ye and Li, 2020; Zaid et al., 2020; Al-Duais et al., 2021; Dakhli, 2021; Guo and Zheng, 2021; Lin and Nguyen, 2022). The OLS regression fixes the variance homogeneity issue in correlation results, while the 2SLS addresses the issue of endogeneity.

The market capitalization index is used to select a sample of the top 70 Saudi non-financial listed firms over the study period 2016 to 2022 and across industries, resulting in 490 firm-year observations for the model variables. Firms in the banking and insurance sectors, as well as real estate investment trusts (REITs), are excluded from the sample due to their compliance with specific regulations and their unique characteristics. A total of 48% of Tadawul non-financial firms were collected from corporate websites and company annual reports, as shown in Table 1.

CSR disclosure is broken down into total CSR (Total CSR), environmental CSR (Env CSR), and social CSR (Soc CSR) disclosures. The CSR disclosure index dependent variable is measured using a four step approach (Rizk et al., 2008; Said et al., 2009; Boshnak, 2022). Firstly, a checklist of 31 disclosure items is created, with two main groups, environmental and social, and divided into five information subgroups: environmental information (environmental information) which consists of 12 items, and social information (employee information, community information, products and services information and customer information) which comprises 19 items, in accordance with the GRI-G4 framework. Social and environmental categories are included in the CSR disclosure index as financial information is in any case mandatory (Gamerschlag et al., 2010). Second, manual content analysis is conducted to help distinguish between actual disclosures and checklist disclosures in firm annual reports. Thirdly, in this study, dichotomous scoring method is used, with a score of "1" if the item is disclosed and a score of "0" otherwise. Fourthly, for each annual report, the total number of items actually disclosed is divided by the maximum number of items on the checklist in order to calculate total, environmental, and social CSR disclosure indexes, as detailed in Equations 1-3:

Table 1: The sample selection process

Sampling steps	2016	2017	2018	2019	2020	2021	2022	Total
Initial sample	176	188	200	204	207	227	262	1,464
Less: Financial firms	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(84)
Less: Insurance firms	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(231)
Less: Real estate investment firms	(17)	(17)	(17)	(17)	(17)	(17)	(17)	(119)
Final sample	114	126	138	142	145	165	200	1,030
Number of selected firms	70	70	70	70	70	70	70	490
Selected firms as percentage of total firms (%)	61	55	51	49	48	42	35	48

$$\text{Total CSR}_{it} = \frac{\sum \text{Actual items disclosed}_{it}}{\text{Maximum checklist items}} \quad (1)$$

$$\text{Environmental CSR}_{it} = \frac{\sum \text{Actual items disclosed}_{it}}{\text{Maximum checklist items}} \quad (2)$$

$$\text{Social CSR}_{it} = \frac{\sum \text{Actual items disclosed}_{it}}{\text{Maximum checklist items}} \quad (3)$$

For the purpose of evaluating the quality and quantity of disclosures, a content analysis is an effective method of capturing valid references from data and ensuring repeatability of results (Krippendorff, 2013). The process may be computerized (Kothari et al., 2009) or manual (Elzahr and Hussainey, 2012; Boshnak, 2021; Boshnak, 2022). To construct the CSR index, content analysis and a manual approach are employed to quantify the amount of CSR information that companies report. The latter allows for a more in-depth analysis of the scope, nature, and specifics of the study information. Table 2 provides a description of the variable labels and their definitions.

Table 2: Variable definitions, labels, and measurement

Variable	Label	Definition
Dependent variables		
Total CSR index	Total CSR	The ratio of CSR items disclosed as compared to the maximum number of disclosure items on the disclosure checklist
Environmental CSR index	Env CSR	Score for environmental actions that are disclosed by firms
Social CSR index	Soc CSR	Score for firm activities that are socially related, such as activities that serve employees and the community
Ownership structure variables		
Government ownership	GOVOWN	The percentage of outstanding shares held by the government
Institutional ownership	INSTOWN	The percentage of outstanding shares held by institutional owners
Family ownership	FAMOWN	The percentage of outstanding shares held family members
Managerial ownership	MANOWN	The percentage of outstanding shares held by top managers
Foreign ownership	FOROWN	The percentage of outstanding shares held by foreign owners
Control variables		
Firm size	SIZE	Total assets expressed as a natural logarithm
Industry type (Manufacturing firms)	INDTYPE	A dummy variable equal to one for manufacturing firms and zero for other firms
Firm leverage	LEV	Ratio of total debt to total assets
Firm liquidity	LIQ	Ratio of current assets to current liabilities
Firm profitability	ROA	Net income to total assets ratio
Audit firm size	AUDIT	Dummy variable=1 where firm audited by "Big-4" auditing firm, and 0 otherwise
Firm Age	AGE	The number of years since incorporation

The five ownership determinants of CSR are gathered from the websites and annual reports of the firms. Government (GOVOWN), institutional (INSTOWN), family (FAMOWN), managerial (MANOWN), and foreign ownership (FOROWN) are measured as the number of shares owned by each shareholder type to the total number of shares issued.

The study models also contain seven firm characteristics which act as control variables. Firm size (SIZE) is calculated as the logarithm of total assets. A dummy is assigned to industry type (INDTYPE) taking the value of 1 where the firm is in the manufacturing sector and 0 otherwise. The leverage (LEV) ratio is total debt to total assets. Liquidity (LIQ) is calculated by dividing current assets by current liabilities. Firm profitability (ROA) is calculated by dividing net income by total assets. Audit firm size (AUDIT) dummies are assigned to firms that engage Big 4 auditors; otherwise, 0 is assigned. Finally, firm age (AGE) is defined as the natural logarithm of the number of years that have passed since the establishment of the firm.

To examine the relation between total, environmental, and social CSR disclosure, and the ownership structure and other variables, three models are estimated as detailed in Equations 4-6.

Model 1:

$$\text{Total CSR}_{it} = \beta_0 + \beta_1 \text{GOVOWN}_{it} + \beta_2 \text{INSTOWN}_{it} + \beta_3 \text{FAMOWN}_{it} + \beta_4 \text{MANOWN}_{it} + \beta_5 \text{FOROWN}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{INDTYPE}_{it} + \beta_8 \text{LEV}_{it} + \beta_9 \text{LIQ}_{it} + \beta_{10} \text{ROA}_{it} + \beta_{11} \text{AUDIT}_{it} + \beta_{12} \text{AGE}_{it} + \varepsilon_{it} \quad (4)$$

Model 2:

$$\text{Env CSR}_{it} = \beta_0 + \beta_1 \text{GOVOWN}_{it} + \beta_2 \text{INSTOWN}_{it} + \beta_3 \text{FAMOWN}_{it} + \beta_4 \text{MANOWN}_{it} + \beta_5 \text{FOROWN}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{INDTYPE}_{it} + \beta_8 \text{LEV}_{it} + \beta_9 \text{LIQ}_{it} + \beta_{10} \text{ROA}_{it} + \beta_{11} \text{AUDIT}_{it} + \beta_{12} \text{AGE}_{it} + \varepsilon_{it} \quad (5)$$

Model 3:

$$\text{Soc CSR}_{it} = \beta_0 + \beta_1 \text{GOVOWN}_{it} + \beta_2 \text{INSTOWN}_{it} + \beta_3 \text{FAMOWN}_{it} + \beta_4 \text{MANOWN}_{it} + \beta_5 \text{FOROWN}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{INDTYPE}_{it} + \beta_8 \text{LEV}_{it} + \beta_9 \text{LIQ}_{it} + \beta_{10} \text{ROA}_{it} + \beta_{11} \text{AUDIT}_{it} + \beta_{12} \text{AGE}_{it} + \varepsilon_{it} \quad (6)$$

Where: i = Firm identifier; t = Year identifier; CSR = Corporate social responsibility; Env CSR = Environmental CSR; Soc CSR = Social CSR; GOVOWN = Government ownership; INSTOWN = Institutional ownership; FAMOWN = Family ownership; MANOWN = Managerial ownership; FOROWN = Foreign ownership; SIZE = Firm size; INDTYPE = Industry type; LEV = Firm leverage; LIQ = Firm liquidity; ROA = Return on assets ratio; AUDIT = Audit firm size; AGE = Firm age; ε = Error term.

6. RESULTS AND DISCUSSION

6.1. Main Results

Table 3 presents the model variable descriptive statistics. Total CSR disclosure has a mean of 69% and ranges from 0.39 to 1.00,

Table 3: Descriptive statistics for the model variables

Variable	Symbol	Obs.	Mean	Minimum	Maximum	Standard deviation
Dependent variables						
Total CSR index	Total CSR	490	0.685	0.387	1.000	0.149
Environmental CSR index	Env CSR	490	0.509	0.080	1.000	0.251
Social CSR index	Soc CSR	490	0.805	0.580	1.000	0.123
Independent variables						
Government ownership	GOVOWN	490	0.120	0.000	0.980	0.220
Institutional ownership	INSTOWN	490	0.259	0.000	0.750	0.242
Family ownership	FAMOWN	490	0.042	0.000	0.400	0.084
Managerial ownership	MANOWN	490	0.037	0.000	0.525	0.090
Foreign ownership	FOROWN	490	0.066	0.000	0.155	0.039
Control variables						
Firm size (Ln)	SIZE	490	15.854	14.039	21.495	1.471
Industry type (Manufacturing firms)	INDTYPE	490	0.614	0.000	1.000	0.487
Leverage	LEV	490	0.432	0.022	0.946	0.216
Liquidity	LIQ	490	1.581	0.109	12.894	1.564
Profitability	ROA	490	0.049	-0.165	0.309	0.072
Audit firm size	AUDIT	490	0.664	0.000	1.000	0.473
Firm age	AGE	490	29.181	6.000	66.000	14.550
Firm age (Ln)	AGE	490	1.404	0.778	1.820	0.241

while Environmental CSR disclosure has a mean of 51% and ranges from 0.08 to 1.00, and social CSR disclosure has a mean of 81% and ranges from 0.58 to 1.00. There is a significant difference between these indexes and the averages found in other studies of Saudi firms of 30% (Habbash, 2015), 9% (Alotaibi and Hussainey, 2016), 24% (Habbash, 2016), 11% (Issa, 2017), 10% (Alotaibi, 2020), and 40% (Alregab, 2022). The indexes calculated in this paper thus indicate that a significant improvement has been made in disclosure in recent years as a result of the implementation of the new mandatory corporate governance regulations announced by the CMA in 2017 (CMA, 2017). The Vision 2030 strategy further focuses on the sustainability of social development goals. These specific regulations and goals, along with a broader drive towards sustainability have evidently significantly boosted CSR initiatives and reporting. However, a high disclosure index may also be attributed to the sample selection process, which only includes 51% of companies listed on the Saudi Stock Exchange. Further, A self-constructed checklist consisting of 31 items related to CSR based on GRI version 4 may also impact apparent index growth.

For the ownership structure independent variables, 12% of the outstanding shares are owned by government agencies, 26% by institutional investors, 7% by foreign investors, and 4% by insiders and families. For the control variables, the average (natural log) firm size (SIZE) for sample firms is 15.85, ranging between 14.04 and 21.50. The majority of sample firms (61%) are manufacturing firms (INDTYPE). The mean leverage (LEV) of firms is 43% and varies from 2.2% to 95%, which means firms are generally highly leveraged, while mean firm liquidity (LIQ) is 1.581, ranging from 0.11 to 12.89. Mean profitability (ROA) is 4.9% and varies from -16.5% to 30.9%. On average, 66% of firms employ Big-4 audit firms (AUDIT). On average, sample firms have been operating for 29 years, and lengths of establishment range from six to 66 years, and thus such firms are somewhat younger than western counterparts.

The Pearson correlation matrix for the model variables is presented in Table 4. It is evident that there is a strong correlation

between Total CSR, Environmental CSR, and Social CSR disclosure. Regarding the other hypothesized independent variables, there is a significant positive correlation between the total CSR index (Total CSR) and government ownership (GOVOWN) (0.350), firm size (SIZE) (0.402), and industry type (INDTYPE) (0.661) and is significantly negatively associated with family ownership (FAMOWN) (-0.325) and managerial ownership (MANOWN) (-0.393). Environmental CSR (Env CSR) is significantly positively associated with firm size (SIZE) (0.407), and industry type (INDTYPE) (0.742) and is significantly negatively associated with family ownership (FAMOWN) (-0.339) and managerial ownership (MANOWN) (-0.407). Social CSR (Soc CSR) is significantly positively associated with government ownership (GOVOWN) (0.333) and industry type (INDTYPE) (0.349).

According to the table, the other independent variables are as follows: government ownership (GOVOWN) is significantly positively associated with firm size (SIZE) (0.615) and negatively associated with institutional ownership (INSTOWN) (-0.435). Moreover, institutional ownership is negatively associated with firm age (AGE) (-0.467). Family ownership (FAMOWN) is significantly positively associated with managerial ownership (MANOWN) (0.689), and negatively associated with industry type (INDTYPE) (-0.309). Furthermore, managerial ownership (MANOWN) is significantly negatively correlated with industry type (INDTYPE) (-0.346). According to the control variables, firm size (SIZE) is significantly positively associated with audit firm size (AUDIT) (0.341), while firm leverage (LEV) is significantly negatively associated with firm liquidity (LIQ) (-0.548) and firm profitability (ROA) (-0.411).

The results of the OLS regression for models 1 to 3 are presented in Table 5, which analyses the relation between total, environmental, and social disclosure dependent variables, and the ownership structure and control variables. Model 1 (CSR) exhibits an adjusted R² of 0.568 and the F-test is significant (F = 46.939, P < 0.001), model 2 (Env CSR) has an adjusted R² of 0.700 and a significant

Table 4: Pearson correlation matrix for the model variables

	Total CSR	Env CSR	Soc CSR	GOVOWN	INSTOWN	FAMOWN	MANOWN	FOROWN	SIZE	INDTYPE	LEV	LIQ	ROA	AUDIT	AGE
Total CSR	1														
Env CSR	0.879**	1													
Soc CSR	0.806**	0.546**	1												
GOVOWN	0.350**	0.248**	0.333**	1											
INSTOWN	-0.087	0.002	-0.123*	-0.435**	1										
FAMOWN	-0.325**	-0.339**	-0.145**	-0.209**	-0.031	1									
MANOWN	-0.393**	-0.407**	-0.208**	-0.210**	-0.027	0.689**	1								
FOROWN	-0.056	-0.094	0.006	-0.216**	-0.061	0.000	0.113*	1							
SIZE	0.402**	0.407**	0.255**	0.615**	-0.081	-0.205**	-0.232**	-0.166**	1						
INDTYPE	0.661**	0.742**	0.349**	0.174**	-0.117*	-0.309**	-0.346**	-0.093	0.126**	1					
LEV	0.077	0.152**	0.073	0.003	0.197**	0.022	0.025	0.083	0.233**	-0.108*	1				
LIQ	-0.070	-0.073	-0.083	-0.052	0.142**	-0.073	-0.012	-0.096*	-0.070	0.043	0.548**	1			
ROA	0.015	-0.039	0.039	0.095	-0.040	0.054	0.187**	0.250**	-0.053	0.088	-0.411**	0.185**	1		
AUDIT	0.120*	0.283**	-0.057	0.236**	0.164**	-0.060	-0.160**	-0.146**	0.341**	0.120*	0.057	0.037	0.020	1	
AGE	0.071	0.048	0.180**	0.119*	-0.467**	0.223**	0.188**	0.033	-0.186**	0.140**	-0.111*	-0.207**	0.147**	-0.112*	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed)

F-test ($F = 82.322$, $P < 0.001$), and model 3 (Soc CSR) gives an adjusted R^2 of 0.272 and a significant F-test ($F = 14.014$, $P < 0.001$).

For the ownership structure variables, the government ownership variable, GOVOWN, has positive coefficients across all three models, with significant coefficients at the levels of 5%, 5%, and 1%, respectively. This provides support for hypotheses H_{1a} , H_{1b} , H_{1c} and supports the agency theory argument that state-owned firms bow to state pressure to resolve social and environmental issues through CSR expenditure, which also alleviates agency issues (Said et al., 2009; Zaid et al., 2020). Further, according to stakeholder theory, firms will also engage in CSR activities and disclosure to pursue societal aims while complying with government regulations (Rahmawaty and Maswan, 2020). Thus, governments demonstrate their power over firm policy and promote CSR practise and disclosure leading to an improvement in their reputation in society. This finding aligns with existing empirical studies that find a positive relationship (Li and Zhang 2010; Jain and Jamali, 2016; Faller and Knyphausen-Aufseß, 2018; Guo et al., 2019; Arsad et al., 2020; Boshnak, 2022).

There are also positive and significant coefficients for institutional ownership, INSTOWN, at the 5%, 5%, and 1% levels for the three models, respectively. These results support hypotheses H_{2a} , H_{2b} , H_{2c} and the agency theory argument that since institutional investors are significant shareholders, they are more interested in firm strategic decisions than other shareholders (Zaid et al., 2020). Moreover, institutional owners possess considerable capabilities for effectively monitoring company strategic decisions (Oh et al., 2011) and encourage investee firms to engage in CSR activities (Elgergeni et al., 2018). Companies with greater institutional ownership are more predisposed to engaging in environmental management activities (Chang et al., 2015) and participate in voluntary CSR activities (Aguilera et al., 2006; Chen et al., 2019). This finding is consistent with existing empirical research (Cox et al. 2004; Oh et al., 2011; Soliman et al., 2012; Nurleni et al., 2018; Chen et al., 2019; Dyck et al., 2019; Tao et al., 2020; Zaid et al., 2020; Boshnak, 2022; Dakhli, 2021).

The managerial ownership variable, MANOWN, has a negative coefficient which is significant at the 1%, 1%, and 5% levels across the three models, respectively, supporting hypotheses H_{4a} , H_{4b} , H_{4c} and the argument that owner-managed firms will invest less heavily in socially responsible activities due to short-termism and a tendency to pursue their own interests. Thus, greater managerial ownership leads to lower CSR engagement (Dakhli, 2021). However, in contrast, agency theory suggests that managerial investors have a higher probability of engaging in CSR activities (Paek et al., 2013) since providing stock to managers reduces agency problems by aligning their interests with the interests of the owners (Eisenhardt, 1989; Jensen and Meckling, 1976) and encouraging the former to maximise shareholder value (McConnell and Servaes, 1990). This finding is, however, consistent with the findings of numerous existing empirical studies (Soliman et al., 2012; Sartawi et al., 2014; Chang et al., 2015; Dintimala and Amril, 2018; Ullah et al., 2019).

Foreign ownership, FOROWN, has a positive coefficient that is significant at 5% level in model 1 (Total CSR disclosure) and

Table 5: Ordinary Least Square (OLS) regression results of Total CSR, Env CSR, Soc CSR and ownership structure

Independent variables	Definition	Hyp.	Expected sign	Model 1 (Total CSR)	Model 2 (Env CSR)	Model 3 (Soc CSR)
Constant	Model constant	-	+	0.024 (0.270)	-0.802*** (-6.551)	0.384*** (4.100)
GOVOWN	Government ownership	H _{1a} , H _{1b} , H _{1c}	+	0.086** (2.486)	0.097** (2.004)	0.178*** (4.797)
INSTOWN	Institutional ownership	H _{2a} , H _{2b} , H _{2c}	+	0.068** (2.420)	0.074** (1.882)	0.094*** (3.093)
FAMOWN	Family ownership	H _{3a} , H _{3b} , H _{3c}	-	0.030 (0.370)	-0.093 (-0.803)	0.136 (1.540)
MANOWN	Managerial ownership	H _{4a} , H _{4b} , H _{4c}	-	-0.251*** (-3.132)	-0.301*** (-2.679)	-0.215** (-2.504)
FOROWN	Foreign ownership	H _{5a} , H _{5b} , H _{5c}	+	0.285** (1.987)	0.128 (0.634)	0.349** (2.269)
SIZE	Firm size	-	-	0.065*** (5.974)	0.121*** (7.956)	0.027** (2.346)
INDTYPE	Industry type (Manufacturing firms)	-	-	0.179*** (16.088)	0.346*** (22.210)	0.073*** (6.128)
LEV	Firm leverage	-	-	0.034 (1.004)	0.169*** (3.605)	0.037 (1.029)
LIQ	Firm liquidity	-	-	-0.003 (-0.673)	0.001 (0.135)	0.001 (0.121)
ROA	Firm profitability	-	-	-0.014 (-0.160)	-0.045 (-0.378)	-0.008 (-0.084)
AUDIT	Audit firm size	-	-	-0.030*** (-2.669)	0.050*** (3.149)	-0.060*** (-4.910)
AGE	Firm age	-	-	0.055** (2.208)	0.115*** (3.258)	0.104*** (3.857)
YEAR	Year dummy	-	-	Included	Included	Included
INDUSTRY	Industry dummy	-	-	Included	Included	Included
Adjusted R ²				0.568	0.700	0.272
F-statistic				46.939	82.322	14.014
VIF				<2	<2	<2
Prob > F				0.000	0.000	0.000
Number of observations				490	490	490

***Significant at the 1% level, **Significant at the 5% level, *Significant at the 10% level

model 3 (Soc CSR disclosure), providing support for hypotheses H_{5a} and H_{5c} and the agency theory argument that by virtue of their advanced auditing procedures and frequent reporting, foreign shareholders carefully monitor management decisions (Zaid et al., 2020), resulting in reduced agency costs and better firm performance (Abor and Biekpe, 2007). Such investors often encourage firms to focus more on CSR concerns (Aksoy et al., 2020), and due to their diverse backgrounds and cultures, foreign directors may bring valuable and diverse experience to boards, thereby strengthening firm CSR initiatives. Thus, significant foreign ownership can encourage management to attend to social issues, as such owners differ from domestic shareholders in terms of their preferences and the information asymmetry they suffer (Oh et al., 2011; Al-Gamrh et al., 2020). Foreign owners are typically believed to be more cognisant of CSR activities as a result of their involvement in foreign markets (Khan et al., 2012). The regression results here are aligned with the existing literature that evidences a positive relation (Oh et al., 2011; Khan et al., 2012; Soliman et al., 2012; Muttakin and Subramaniam, 2015; Al-Gamrh et al., 2020; Jahid et al., 2020; Lin and Nguyen, 2022).

In the case of the control variables in the models, firm size (SIZE) is significantly positively related to disclosure across the models, consistent with the agency view that larger firms are required to disclose more information in order to reduce information

asymmetry and agency costs (Elzahar and Hussainey, 2012). This finding is aligned with existing empirical studies (Alsaeed, 2006; Zeng et al., 2011; Al-Janadi et al., 2013; Alotaibi and Hussainey, 2016; Boshnak, 2022, Boshnak, 2023). According to the table, firms in the manufacturing industry (INDTYPE) disclose significantly more CSR information across the three models. Manufacturing firms provide more information to reduce environmental hazards given their inherent pollution, contamination, and other environmental and societal problems, consistent with Alsaeed (2006), Kansal et al. (2014), Habbash (2016) and Boshnak (2022). Firm leverage (LEV) is significantly positively related to Env CSR disclosure in model 2. Thus, more levered companies disclose more on their CSR activities to justify their activities to stakeholders, to meet the long-term needs of creditors, and to ease the concerns of debtholders regarding the transfer of wealth, consistent with Habbash (2015) and Garas and ElMassah (2018).

Audit firm size (AUDIT) is significantly negatively related to Total CSR disclosure and Soc CSR disclosure in models 1 and 3, respectively, while it is positively related to Env CSR in model 2. Thus, companies audited by a Big 4 firms disclose more environmental CSR information. Thus, more prominent auditors have better resources and employees with greater expertise and experience, thereby enhancing financial reporting quality. This

Table 6: Two-Stage least squares (2SLS) regression results of Total CSR, Env CSR, Soc CSR and ownership structure

Independent variables	Definition	Hyp.	Expected sign	Model 1 (Total CSR)	Model 2 (Env CSR)	Model 3 (Soc CSR)
Constant	Model constant	-	+	0.020 (0.240)	-0.801*** (-6.650)	0.384*** (4.170)
GOVOWN	Government ownership	H _{1a} , H _{1b} , H _{1c}	+	0.086** (2.540)	0.097** (2.040)	0.177*** (4.870)
INSTOWN	Institutional ownership	H _{2a} , H _{2b} , H _{2c}	+	0.067** (2.430)	0.074** (1.910)	0.094*** (3.140)
FAMOWN	Family ownership	H _{3a} , H _{3b} , H _{3c}	-	0.035 (0.430)	-0.092 (-0.810)	0.135 (1.560)
MANOWN	Managerial ownership	H _{4a} , H _{4b} , H _{4c}	-	-0.256*** (-3.250)	-0.302*** (-2.730)	-0.215** (-2.540)
FOROWN	Foreign ownership	H _{5a} , H _{5b} , H _{5c}	+	0.294** (2.080)	0.124 (0.630)	0.345** (2.280)
SIZE	Firm size	-	-	0.065*** (6.130)	0.121*** (8.080)	0.027** (2.380)
INDTYPE	Industry type (Manufacturing firms)	-	-	0.176*** (16.070)	0.346*** (22.560)	0.073*** (6.220)
LEV	Firm leverage	-	-	0.031 (0.960)	0.169*** (3.670)	0.036 (1.295)
LIQ	Firm liquidity	-	-	-0.003 (-0.770)	0.000 (0.140)	0.001 (0.120)
ROA	Firm profitability	-	-	-0.010 (-0.120)	-0.044 (-0.380)	-0.007 (-0.080)
AUDIT	Audit firm size	-	-	-0.030*** (-2.710)	0.050*** (3.200)	-0.060*** (-4.990)
AGE	Firm age	-	-	0.056** (2.270)	0.115*** (3.310)	0.104*** (3.910)
YEAR	Year dummy	-	-	Included	Included	Included
INDUSTRY	Industry dummy	-	-	Included	Included	Included
Adjusted R ²				0.576	0.710	0.292
Wald Chi ² (12)				572.02	1019.56	173.34
Prob > Chi ²				0.000	0.000	0.000
Root MSE				0.096	0.135	0.103
Number of observations				490	490	490

***Significant at the 1% level, **Significant at the 5% level, *Significant at the 10% level

finding is aligned with Jinfeng and Huifeng (2009), Sun and Cui (2014) and Wang et al. (2020). Finally, firm age (AGE) is significantly positively correlated with disclosure across the three models, consistent with competitive advantage theory that younger firms typically disclose less CSR information as any sensitive information could adversely affect their competitive position, while older firms disclose additional CSR information to enhance their market reputation. This result is consistent with Bani-Khalid et al. (2017), Garas and ElMassah (2018), and Boshnak (2022).

To summarise, CSR disclosure in Saudi listed firms, whether gauged in terms of total, environmental, or social CSR disclosure, increases with the degree of government, institutional, and foreign ownership, while it decreases with managerial ownership, and has no relation with family ownership. Firm size, manufacturing sector membership, and firm age have a positive impact on firm CSR disclosure across the three models, while firm leverage and audit firm size have a positive impact only on firm environmental CSR disclosure. Middle Eastern firms, and in particular those in Saudi Arabia, have a high level of both institutional and government ownership. Such ownership is clearly beneficial to both environmental and social CSR disclosure, which makes it an ideal fit for Saudi Arabia's corporate environment. The results further support agency and stakeholder theory arguments that greater government, institutional, and foreign ownerships

increase stockholder power and promote managerial alignment with stockholder objectives, hence enhancing firm CSR disclosure and firm performance.

6.2. Robustness Test

An endogeneity problem may arise in panel regression models, giving rise to potentially biased and inconsistent regression estimates and frustrating causality inference. A Two-Stage Least Squares Method (2SLS) deals with the potential endogenous problems and it is thus used to estimate the models as a robustness test (Al-Duais et al., 2021; Guo and Zheng, 2021). The 2SLS results reported in Table 6 are qualitatively consistent with those of the OLS models presented earlier and thus the regression analysis results of this paper appear reliable.

7. CONCLUSION

The purpose of this study is to examine the relationship between ownership structure and CSR disclosure in Saudi listed companies from 2016 to 2022. The study built on an agency and stakeholder theory framework. Three measures are employed to gauge CSR disclosure including: total, environmental, and social CSR disclosure, and the study employs both OLS and 2SLS regression analyses, the latter for robustness to address

any endogeneity issues. The results indicate total CSR disclosure of 69%, environmental CSR disclosure of 51%, and social CSR disclosure of 81% for Saudi firms, figures higher than those found in extant studies ranging from 9% to 40% and suggesting significant progress in CSR disclosure over recent years as a result of the mandatory CMA corporate governance regulations issued in 2017 (CMA, 2017). Such regulations aim to enhance corporate efficiency, integrity, and economic growth, in alignment with Saudi Vision 2030 which focuses on the sustainability of social development goals.

The study results reveal a significant positive relationship between government and institutional ownership and CSR disclosure across the models. Further, foreign ownership is significantly positively associated with total and social CSR disclosure. However, the study reports a significant negative relationship between managerial ownership and CSR disclosure across the models. For government ownership the findings support the agency theory argument that state-owned firms tend to respond to government pressure (Said et al., 2009), and CSR expenditures are more likely to alleviate agency issues across stakeholders (Zaid et al., 2020). Further, stakeholder theory holds that greater engagement in CSR activities and disclosure are employed by firms to pursue social objectives and comply with government regulations (Rahmawaty and Maswan, 2020). Governments demonstrate their power over firm policy and promote CSR practice and disclosure as it leads to enhanced reputation. In terms of institutional ownership, the results support the agency theory argument that since institutional investors own a significant portion of the firm's stock and cannot readily liquidate their shares, this will give them greater insight into the firm's strategic decisions in comparison to other shareholders (Zaid et al., 2020). In addition, institutions are better able to monitor investee firm's strategic decisions (Oh et al., 2011) which encourages further CSR engagement (Elgergeni et al., 2018). Greater institutional ownership is associated with more active environmental management practices (Chang et al., 2015) and engagement in voluntary CSR initiatives (Aguilera et al., 2006; Chen et al., 2019).

For the foreign ownership variable, the results support the agency theory perspective that foreign shareholders monitor and control firm decisions through frequent reporting and advanced auditing (Zaid et al., 2020), reducing agency costs and enhancing firm performance (Abor and Biekpe, 2007). Moreover, such investors employ their monitoring power to encourage more focus on CSR issues (Aksoy et al., 2020). Foreign investor directors on boards may offer ideas and perspectives based on their diverse backgrounds and cultures, and support CSR initiatives and disclosure. In relation to managerial ownership, the results support the short-term orientation argument resulting in owner-managed firms investing less in socially responsible activities. Short-term strategies may be implemented to maximise managerial interests and thus reduce CSR engagement (Dakhli, 2021). It is important to note that these findings contradict existing theoretical frameworks such as the agency perspective (Paek et al., 2013) which has indicated that managerial investors are more likely to engage in CSR activities. Regarding the other variables considered in the models, the size of the firm, the membership of the manufacturing

firm, and the age of the firm are all positively correlated with CSR disclosure, while leverage and audit firm size are positively correlated with only environmental CSR disclosure.

There are some valuable contributions to the literature made by this study. The study examines the relationship between ownership structure categories and total, environmental and social CSR disclosures. To date, little research has been conducted in order to examine the relationship between ownership structure and CSR disclosure (Chen et al., 2019; Dakhli, 2021). Consequently, new evidence is provided by this study that different types of shareholders impact corporate social responsibility in somewhat different ways. Despite the large amount of research on this relationship for developed countries, no such research has been conducted for Saudi listed companies or generally for corporations of developing countries. In particular, the study provides an opportunity to evaluate the diversity of ownership structures among Saudi firms in an environment in which investors are unprotected by law and where there is no governance code protecting minority shareholders.

There a number of key implications are evident. First, the new CSR regulations introduced in 2017 and the government's new plan, Vision 2030, focusing on the sustainability of social development goals, appear to have had a significant positive effect on enhancing CSR disclosure. Second, corporate governance regulations should take account of the pivotal role in enhancing CSR disclosure played by firms with greater government, institutional, and foreign ownership, along with the positive impact of larger, more established, and more highly leveraged firms, particularly those from the manufacturing sector. Third, the study generates a range of implications for investors, academics, and regulators interested in ownership and differing CSR disclosure measures. It is likely that corporations and their investors will benefit from enhanced value if such disclosure can be enhanced through ownership configuration. When constructing investment portfolios, investors may select Saudi listed companies whose government, institutional, and foreign ownership is higher. Fourth, as CSR activity and disclosure continues to expand and improve, additional policies and regulations are needed to ensure compliance with global standards, especially in emerging economies. Firms should be mandated to devote more attention to non-financial activities which are a key priority in the future economy.

Finally, the present study may identify some limitations that might be addressed in future studies. First, it is important to note that a sample of 70 non-financial listed companies does not represent the entire population of Saudi firms. Thus, this study may be extended in the future to all Saudi listed companies, including financial companies, and thereby enabling comparison across sectors. Second, the self-constructed checklist was limited to 31 CSR disclosure items and divided into total, environmental, and social CSR disclosure items, while future research might expand CSR disclosure items by adding governance CSR disclosure items into the CSR index. Third, additional research may be conducted to examine the impact of factors such as board composition and audit committee characteristics on corporate governance in the Saudi Arabian context. In addition, It may be possible to model

additional CSR disclosure drivers, such as firm growth and operational, financial, and market profitability. Furthermore, since this study focuses on the Saudi context, a comparative analysis of CSR disclosure and ownership structure could be extended across Gulf Cooperation Council (GCC) countries.

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