



**Beyond the Bottom Line: Exploring the Role of Governance Mechanisms in Promoting Corporate Tax Responsibility**

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# Beyond the Bottom Line: Exploring the Role of Governance Mechanisms in Promoting Corporate Tax Responsibility

## Abstract

**Purpose:** Due to growing corporate tax scandals, there is an enhanced focus on corporate taxation by governments, institutions, and the general public. Transparency in tax matters has been identified as critical for effectively managing and promoting socially responsible tax behaviour. This study explores the impact of ownership structure, board, and audit committee characteristics on corporate tax responsibility disclosure.

**Design/methodology/approach:** This research collected data from the annual reports of Pakistani-listed firms over 12 years from 2009 to 2020. Consequently, the dataset encompasses a total of 1800 firm-year observations. This study employs regression analysis to test the relationship between corporate governance and corporate tax responsibility disclosure.

**Findings:** The results show that board gender diversity, managerial ownership, and audit committee independence promote tax responsibility disclosure. In contrast, family board membership, CEO duality, foreign ownership, and family ownership negatively impact tax responsibility disclosure. Additional analyses reveal the specific information categories that produce the overall effects on tax responsibility disclosure and assess the moderating impact of family firms on the governance and CTR disclosure nexus.

**Originality:** While this research represents one of the first empirical investigations of the association between corporate governance and corporate tax responsibility, our results contribute to the corporate governance literature and offer fresh insights into corporate tax responsibility, an emerging dimension of corporate social responsibility.

**Practical Implications:** Corporations can utilize our results to encourage practices that enhance transparency and improve the quality of disclosures. Regulatory authorities can employ the findings to stipulate better protocols. Doing so will be vital for developing countries such as Pakistan to improve tax revenue and cultivate economic growth.

**Keywords:** Corporate governance, Corporate tax responsibility, Board characteristics, Ownership structure, Audit committee, Disclosure index, Pakistan.

## 1. Introduction

Corporate taxation has gained significant traction due primarily to modern organizations' growing power and size and the recurring high-profile cases of corporate tax avoidance (Dowling, 2014; Dallyn, 2017). For instance, several major tax scandals have followed the subprime mortgage crisis, including the Paradise Papers, the Panama Papers, and the Luxemburg Leaks (Ruggiero, 2022). These scandals have brought attention to tax avoidance concerns, especially in developing countries (Dallyn, 2017). Despite this traction, the corporate social responsibility (CSR) literature has paid limited attention to the ethicality of corporate tax behaviour. However, in the last decade, interest among scholars has been growing (Hillenbrand *et al.*, 2019).

Taxation as a social responsibility concern does not imply that corporations should pay more taxes than the law stipulates. Rather, it provides a framework to establish a tax behaviour that seeks to create an equilibrium between social responsibility and profit-seeking (de la Cuesta-González and Pardo, 2019). Nevertheless, corporate taxation is controversial and distinct from popular CSR dimensions. Specifically, social and environmental factors rely on proactive involvement. However, corporate tax focuses more on circumventing activities that other parties may deem immoral or unethical (Dowling, 2014). As a result, organizations are less likely to articulate and disclose their tax strategies and policies because disclosure of tax information may produce a negative perception of the firm, reputational damage and greater tax payments (Boerrild *et al.*, 2015; Hillenbrand *et al.*, 2019). Additionally, disclosure of tax responsibility entails information gathering and managing costs that may further impact a firm's competitiveness (de la Cuesta-González and Pardo, 2019).

However, a more explicit approach to corporate tax behaviour, including voluntary disclosure of tax information, provides numerous business benefits (Hardeck and Kirn, 2016). For example, consumers tend to evaluate a firm positively if it exhibits responsible tax behaviour (Hillenbrand *et al.*, 2019). Boerrild *et al.* (2015) explained that the transparency and disclosure of tax planning can reduce overall corporate risk and increase shareholder value in the long run. Scholarly evidence has suggested that corporations have adjusted their attitude toward corporate tax disclosure and have started viewing it as a CSR issue (de la Cuesta-González and Pardo, 2019; Hardeck and Kirn, 2016).

As part of their social responsibility, companies are expected to disclose information about their tax strategies, governance and how they manage tax risks. Such transparency helps enhance credibility in a firm's tax practices and allows stakeholders to make informed decisions (Hardeck and Kim, 2016; Scarpa and Signori, 2023). While it is assumed that shareholders may prefer minimal corporate tax payments and fewer corporate tax disclosures, the literature has shown that shareholders are starting to alter their approach to taxes, as they consider tax responsibility a critical CSR element (de la Cuesta-González and Pardo, 2019; Dutt *et al.*, 2019). As a result, organizations are increasingly pressured to acknowledge their 'corporate tax responsibility' (CTR) and communicate it to their stakeholders.

CTR scholarship has been relatively scarce and remains nascent. Some studies focus on a qualitative assessment of CTR from stakeholders' perspectives (de la Cuesta-González and Pardo, 2019; Hillenbrand *et al.*, 2019), while others utilize a case study approach to examine how corporate tax discourses have evolved (Hilling *et al.*, 2022). Most empirical assessments explore the linkage between corporate governance, CSR and tax avoidance (Alkurdi and Mardini, 2020; Chang *et al.*, 2017; Jemiolo and Farnsel, 2023; Malik *et al.*, 2020; Özbay *et al.*, 2023). Despite these efforts, there have been calls for further research into the reporting of tax strategies and other corporate discourses through which organizations acknowledge their tax responsibility (de la Cuesta-González and Pardo, 2019; Dowling, 2014). This is critical to understanding the structures, policies and corporate governance practices underpinning the corporate disclosure of tax responsibilities.

Research has argued that firms engage in corporate disclosures to reduce agency costs and information asymmetry. In this context, corporate governance mechanisms help to mitigate agency problems by ensuring better supervision and control (Khan *et al.*, 2013). Specifically, mechanisms such as the board of directors, ownership structure and audit committee characteristics directly impact the level of transparency and corporate disclosure strategies (Haniffa and Cooke, 2005). Strong corporate governance reduces the managerial incentives to provide biased disclosures and improves the quality and quantity of financial reporting (Adnan *et al.*, 2018). In this sense, robust corporate governance can also result in greater disclosure of tax responsibility. However, there is a lack of literature assessing the link between corporate governance and CTR disclosure.

To address this gap, this study explores the impact of ownership structure, board characteristics and audit committee characteristics on CTR disclosure. To measure CTR disclosure, this study utilizes a disclosure index that relies on the findings of de la Cuesta-Gonzalez and Pardo (2019). This information focuses on five main categories: (1) information about tax policy and strategy, (2) information about a corporation's involvement in tax havens and low-tax jurisdictions (LTJs), (3) the taxes and incentives they receive, (4) their relationship and association with authorities, and (5) tax practices.

By highlighting a dimension of CSR that the extant literature has neglected, this research contributes to the literature in several ways. First, this study is one of the earliest empirical assessments to test the relationship between corporate governance and CTR disclosure. Studies have shown that corporate governance impacts social responsibility strategies and the form of information disclosed (Adnan *et al.*, 2018; Haniffa and Cooke, 2005). Therefore, this study tests whether governance factors have a similar impact on CTR disclosure. This is crucial, given that the transparency of tax dealings and disclosure of an organization's tax responsibility are critical components of CTR and a significant prerequisite in promoting socially responsible corporate tax behaviour (Baudot *et al.*, 2020; Boerrild *et al.*, 2015).

Second, this research tests the foregoing association from an emerging economy perspective, i.e., Pakistan. Although existing research has primarily investigated developed contexts, there is a growing scholarly focus on emerging markets, especially Asian countries (Chang *et al.*, 2017). Conceptually, the importance of tax avoidance stems from the troubling state of developing countries that rely more on income tax than their developed counterparts. In this scenario, enhancing company tax disclosures supports greater information provision, decreases information asymmetry, and improves tax systems and policies. Specifically, Pakistan has found itself at the centre of tax avoidance scandals. Currently, the corporate tax rate is 29%, and to avoid paying, corporations engage in tax avoidance through offshore companies and profit-shifting arrangements (Hasan *et al.*, 2023). Such behaviour has eroded public revenues and impeded the ability of the government to perform its duties. Therefore, it is vital to explore how Pakistani corporations acknowledge and disclose their tax responsibility and what corporate governance elements can be used to encourage it.

Third, this study utilizes the content analysis technique on published annual reports to explore the disclosure practices of 150 listed firms in Pakistan. This hand-collected dataset is novel, as no other database has measured the CTR disclosure of Pakistani corporations. This research is the first to use a comprehensive disclosure index to measure CTR disclosure. Hence, this study provides an overview of CTR disclosure in Pakistan and supports the relevance of the framework produced by de la Cuesta-González and Pardo (2019).

Fourth, the study finds that several corporate governance elements are strong and significant predictors of CTR disclosure. This reinforces the argument that countries should produce robust corporate governance structures that promote tax responsibility disclosure. Our research suggests that better governance through managerial ownership, higher board gender diversity, and enhanced audit committee independence promote CTR disclosure. However, foreign and family ownership, CEO duality and family board membership negatively impact CTR disclosure.

The remainder of the paper is structured as follows: Section 2 presents the regulatory background, Section 3 highlights the theoretical and empirical literature review, Section 4 discusses the methodology, and Section 5 provides the results and discussion. The conclusion and implications of the research are discussed in Section 6.

**2. Regulatory Background**

Awareness regarding corporate governance is a growing phenomenon in Pakistan, with the earliest intervention being the Security and Exchange Commission of Pakistan's (SECP) issuance of the Code of Corporate Governance in 2002. The key objective of the 2002 Code was to encourage accountability and transparency in corporate matters, including financial reporting. Based on international corporate governance reforms, the Code has been revised several times (in 2012, 2017, and 2019). The 2019 Code does not outline a structured set of rules but relies on the 'comply or explain' approach popularly followed in the UK (Hasan *et al.*, 2022a). Although there are efforts to ensure compliance with international standards, the 2019 Code lags in several areas. For instance, only one-third of the board must be composed of independent directors, and only one independent director is required in the audit committee (Hasan *et al.*, 2022a). Therefore, despite



enormous resource commitment, corporate governance in Pakistan remains relatively weak compared to most developed economies. This weak governance manifests in greater agency conflicts and problems such as tax avoidance and poor CSR practices (Alkurdi and Mardini, 2020; Alotaibi and Hussainey, 2016).

Furthermore, research has argued that the CSR concept is misinterpreted in Pakistan, as it is often perceived as philanthropy (Yunis *et al.*, 2018). This misinterpretation is linked to religion, culture and other family traditions that encourage charitable giving. The narrow perception of CSR contributes to the weak adoption of broader CSR concepts (Yunis *et al.*, 2018). To address these issues and bring them in line with international standards, the SECP introduced guidelines for voluntary compliance related to CSR practices and disclosure. These guidelines assist in integrating corporate operations and decisions with responsible business practices. The SECP introduced additional CSR policies in 2017, requiring listed firms to emphasize social, governance and environmental aspects as well as health and safety issues.

Even so, the discussion of social responsibility in Pakistan has rarely been linked to the economic dimension, especially tax disclosure. The literature on tax disclosure in Pakistan is severely lacking, and there are no specific requirements for the disclosure of corporate taxation. However, the inclusion of Pakistan in the Base Erosion and Profit Shifting (BEPS) programme will allow the government to share and receive information related to the tax payments of corporations across the partnering countries. Tax evasion and avoidance are critical challenges in Pakistan, as only 25% of registered firms pay their taxes; of these, more than 70% pay less than \$4,000 (Hasan *et al.*, 2023). While Pakistan is recording progress in traditional CSR, work also needs to be done in CTR.

### 3. Theoretical Literature Review

The theoretical framework of CTR is arguably diverse. Hence, this study utilizes multiple theoretical perspectives from the CSR and financial reporting literature to explore the notion of CTR.

From the perspective of financial reporting, the need for accounting information derives from two principal factors. Ex-ante management has more information about the organization than

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investors, and they have added incentives to exaggerate their financial position and profitability. Given this scenario, reporting and disclosure reduce information asymmetry (Beyer *et al.*, 2010). Ex-post, the division between control and ownership results in agency problems, as management may prefer short-term personal growth over their duty toward investors (Healy and Palepu, 2001). The go-to tool for resolving these agency problems is the use of appropriate contracts. Consequently, reporting and disclosure help monitor these contracts (Beyer *et al.*, 2010).

In accordance with agency theory, management can voluntarily publish information to decrease monitoring costs and persuade owners that they (management) are acting in owners’ best interests. However, the playing field of CTR is broader than the information provided in traditional financial reporting. Information disclosed as part of CTR disclosure would be beneficial for investors. For instance, public tax disclosure can result in a positive stock price reaction if the market assumes it clarifies a firm's tax position. Moreover, investors can compare firms and their tax practices and identify red flags. Furthermore, shareholders can benefit from this information because CTR disclosure allows them to monitor managerial activities better, thus reducing information asymmetry (Dutt *et al.*, 2019).

CSR theories acknowledge that organizations are not solely profit-generating entities; they must operate within society's moral and ethical standards (Carroll, 1979). Scholars (e.g., Baudot *et al.*, 2020) have argued that mere compliance with tax laws is insufficient to promote responsible tax behaviour. They contend that a more comprehensive approach to corporate taxation is needed to mitigate strategies that negatively impact society (Baudot *et al.*, 2020) while offering a platform that accounts for stakeholder expectations and encourages voluntary disclosure of tax information (de la Cuesta-González and Pardo, 2019). From the stakeholder theoretical perspective, paying a fair tax is a corporation's moral obligation to its stakeholders (Hillenbrand *et al.*, 2019). Paying a 'fair share of taxes' does not mean that firms should pay more than the law requires. However, firms should self-regulate and be accountable for their tax behaviour, especially when regulations are lacking (Scarpa and Signori, 2023).

In this context, transparency in tax communication represents an essential component of stakeholder engagement (Hardeck and Kirn, 2016) since it enhances the credibility of corporate tax practices while allowing stakeholders to make informed judgments. By providing information that stakeholders can deploy to gain insights into relevant issues, transparency can release the



tension between stakeholders and the organization. Being transparent about tax responsibility, instead of being secretive and opaque, signals that an organization has nothing to hide, offering them legitimacy and fulfilling demands for greater CTR disclosure. In recent years, scholars have called for greater attention to stakeholder demands to develop a more practical approach (Hillenbrand *et al.*, 2019). In this regard, the framework established by de la Cuesta-González and Pardo (2019) considered stakeholders' requirements for disclosing corporate tax practices. Employing a framework that accommodates the CSR perspective aids in understanding the level of published information relative to stakeholders' expectations.

The review of these theoretical perspectives suggests that the conceptual underpinnings of CTR are multilayered. Some elements can be derived from CSR, while others are associated with the financial reporting literature.

#### **4. Empirical Literature Review and Hypotheses Development**

Research on CTR disclosure is growing. However, empirical research on its determinants is lacking. Previous studies have shown that corporate governance improves the quantity and quality of disclosures (Adnan *et al.*, 2018). Consequently, several governance factors previously found to be significant in the case of CSR and tax disclosure are explored in this review.

##### **4.1. Ownership Structure**

The ownership of an organization can profoundly impact its social responsibility strategies (Javid and Iqbal, 2008). From the agency theory perspective (Jensen and Meckling, 1976), managers may enhance disclosures to maintain a good reputation for their own self-interests and manage the principal-agent relationship. From the stakeholder theory perspective, owners can use CSR or CTR disclosure to manage conflicts and align the interests of other stakeholders with those of the firm.

Specifically, if family members own an organization, they may be less concerned about the legitimacy of the organization and their general accountability to the public. In such a scenario, organizations are likely to disclose less voluntary information (Chau and Gray, 2002). As ownership is tightly controlled, family members dictate policies and strategies for social engagement. Therefore, acknowledging and disclosing social issues, including CTR, may become less pressing for family firms. In contrast, research has theorized that family-owned organizations pay attention to their reputation and work towards cultivating and maintaining a positive image.

This is because these organizations benefit from their social value and thus will be more motivated to preserve this value than to solely increase fiscal returns (Van Gils *et al.*, 2014). Such a conceptualization suggests that family-owned organizations may consider disclosure to safeguard and improve their company image.

The empirical literature has found inconsistent results. For instance, Block and Wagner (2014) report an inverse association between the level of CSR disclosure and family ownership. In contrast, Syed and Butt (2017) found that family ownership positively influences CSR disclosure in Pakistan. Therefore, family-owned organizations in Pakistan may focus more on reporting and disclosing social responsibility issues to safeguard their social worth and value. However, the overall empirical and theoretical evidence on the impact of family ownership is inconsistent. Due to the diverging empirical and theoretical evidence, developing a directional hypothesis for its association with CTR is not suitable. Consequently, the following hypothesis is proposed:

*H1a: Family ownership has a significant impact on CTR disclosure.*

According to agency theory, managerial interests can be aligned through stock ownership. If managerial ownership is significant, management will be more inclined toward actions that enhance overall organizational value (Denis *et al.*, 1997). Theoretically, if disclosure increases firm value, a higher level of managerial ownership provides more incentives to participate in socially responsible activities. In contrast, more manager-owned organizations may not be inclined to invest more in socially responsible practices due primarily to the perceived low return compared to the investment outlay. This emerges from the expectation that if managerial ownership is high, the level of information disclosed will be low (Ghazali, 2007). Furthermore, it has also been suggested that in the case of developing economies, stock markets may not be influenced as much by social responsibility as they are in developed countries. This implies that managers may not benefit from engaging in and disclosing socially responsible activities because it does not allow them to enhance firm value.

Empirical studies have found mixed results. Johnson and Greening (1999) observe a positive association between managerial ownership and environmental performance. Similarly, Chau and Gray (2002) found a positive impact of managerial ownership on voluntary disclosures by corporations. Alotaibi and Hussainey (2016) also found that higher managerial ownership was

associated with a higher quality of CSR disclosure. In contrast, some studies have shown that managerial ownership negatively impacts CSR disclosure (Ghazali, 2007) and sustainability reporting decisions in Pakistan (Hasan *et al.*, 2022b). Empirical studies in Pakistan have documented that higher managerial ownership leads to more opportunistic behaviour and results in higher tax avoidance (Hasan *et al.*, 2023). Even so, CTR information is more sensitive, and whether such disclosure is perceived as enhancing firm value in Pakistan remains unclear. Therefore, a non-directional hypothesis is formulated:

*H1b: Managerial ownership has a significant impact on CTR disclosure.*

Furthermore, research has shown that foreign ownership is a robust tool that can be utilized to influence decisions, especially among Pakistani organizations (Javid and Iqbal, 2008). According to stakeholder theory, foreign shareholders encourage management to comply with socially responsible practices to mitigate associated risks and address the demands of stakeholders (Khan *et al.*, 2013). Foreign shareholders bring international practices while creating a geographical difference between management and control (Haniffa and Cooke, 2005). This difference results in a higher demand for the disclosure of organizational activities, as foreign owners have experience in multiple markets and are aware of the importance of socially responsible corporate traditions.

Empirical research finds a positive association between foreign ownership and social responsibility disclosure (Wang and Wang, 2015). Likewise, research has found a higher level of voluntary disclosure in organizations with a majority of foreign ownership due to increased transparency in the organization's activities (Tsang *et al.*, 2019). In contrast, in the Pakistani context, Hasan *et al.* (2022b) find that foreign ownership negatively impacts a firm's sustainability reporting decisions. CTR has become a global issue, and international institutions have strengthened the calls for more responsible tax practices. Specifically, in Pakistan, tax avoidance and evasion have become key challenges (Hasan *et al.*, 2023), and due to increasing public awareness, it is likely that foreign ownership will increase the level of CTR disclosure to satisfy stakeholder demands for more transparent tax practices. Therefore, the following hypothesis is proposed:

*H1c: Foreign ownership has a positive impact on CTR disclosure.*

## 4.2. Board Characteristics

From the agency theory perspective, the board of directors is a crucial mechanism for controlling and supervising the management and protecting the interests of shareholders (Fama and Jensen, 1983). Combined with the stakeholder theory, gender diversity can help enhance the board's autonomy by improving management's relationships with different stakeholders (Amorelli and García-Sánchez, 2021). The literature argues that to promote socially responsible behaviour, gender diversity on boards must be enhanced (Katmon *et al.*, 2019). Female directors are more focused on social responsibility and philanthropy instead of being more economically focused than their male counterparts (Ibrahim and Angelidis, 1994). Furthermore, female inclusion on boards fosters better decision-making and promotes transparency (Fallan, 1999). Moreover, research (e.g., Kastlunger *et al.*, 2010) suggests that female board members comply more with tax regulations.

Some empirical assessments have shown that the inclusion of female directors is associated with enhanced reporting and social performance (Ibrahim and Angelidis, 1994). Williams (2003) found that organizations with more women on boards engage more with CSR. Conversely, some explorations report an inverse relationship between the presence of female directors and the level of CSR disclosure (Muttakin *et al.*, 2015). However, most investigations document a positive association between board gender diversity and social responsibility disclosures (Hasan *et al.*, 2022b). Explorations in the Pakistani context also find that higher gender diversity improves the level of CSR disclosure (Khan *et al.*, 2019; Lone *et al.*, 2016). Therefore, given the enhanced focus on transparency, tax compliance and other CSR issues, it is likely that higher board gender diversity may improve CTR disclosure in Pakistan. Thus, we propose the following hypothesis:

*H2a: Board gender diversity has a positive impact on CTR disclosure.*

The presence of family board members is a crucial governance attribute in Pakistan. The participation of family members on the board and the management of family firms represents a crucial characteristic of such businesses. From the agency theory perspective, family board members can help to resolve principal-agent problems through enhanced monitoring and low separation between control and ownership (Ali *et al.*, 2007). In contrast, it can enhance principal-principal problems between minority and majority shareholders. A higher level of control means that families can influence an organization's CSR activities (De Massis *et al.*, 2014). However, high family domination of boards can result in opportunistic behaviour by family directors

(Kellermanns *et al.*, 2012). The literature identifies a critical challenge, noting that family members are prone to conflicts of interest, and the resulting disagreements can negatively influence social responsibility disclosure (Le Breton-Miller and Miller, 2016). Ho and Wong (2001) support this view, as they demonstrate that family members on boards negatively impact voluntary disclosure.

Further evidence indicates that boards dominated by family members are concerned about preserving their family image owing to intergenerational succession. This incentivizes them to promote the reporting of socially responsible activities (Biswas *et al.*, 2018). Mohy-Ud-Din *et al.* (2021) endorse this standpoint, revealing that family board membership positively impacts localized CSR disclosure in Pakistan. Overall, diverse perspectives suggest that family members on boards can promote and suppress CSR disclosure. Considering the added sensitivity of tax information, it is unclear how family board membership may impact CTR disclosure in Pakistan. In addition, the diverse agency problems (Ali *et al.*, 2007) that family board members can create in developing countries such as Pakistan add to the uncertainty regarding their impact on CTR disclosure. Therefore, a non-directional hypothesis is postulated:

*H2b: Family board membership has a significant impact on CTR disclosure.*

The accumulation of power is one of the most critical concerns that corporate governance seeks to address. Specifically, this relates to CEO duality, i.e., whether the CEO and chairperson should be the same person. The answer to this question may dictate how an organization discloses socially responsible activities. From the agency theoretical perspective (Jensen and Meckling, 1976), a division between the CEO and chairperson is beneficial because it allows for monitoring and control over management. Similarly, some scholars have argued that CEO duality could produce favourable managerial outcomes owing to less intervention in decisions, increased control, and progress toward overall objectives (Dahya *et al.*, 1996). Conversely, if an individual holds both CEO and chairperson positions, it may reduce the board's overall effectiveness, as the CEO can intervene in board issues (Jensen and Meckling, 1976).

Empirical research has found mixed results. For instance, the literature finds that CEO duality negatively impacts social responsibility disclosure (Gul and Leung, 2004). In contrast, Muttakin *et al.* (2015), find that CEO duality is positively associated with greater CSR disclosure. Alotaibi and Hussainey (2016) find an insignificant negative impact of CEO duality on CSR disclosure quantity. Specifically in the Pakistani context, Malik *et al.* (2020) also find a negative



impact of CEO duality on CSR disclosure. However, this impact was statistically insignificant. Nevertheless, based on the negative influence of CEO duality in Pakistan and the theoretical benefits obtained from the division of the role of the chairman and the CEO, it is likely that the accumulation of power would result in lower disclosure of CTR in Pakistan. Therefore, the following hypothesis is proposed:

*H2c: CEO duality has a negative impact on CTR disclosure.*

### **4.3. Audit Committee Characteristics**

The audit committee is one of the most critical governance mechanisms that play a vital role in improving corporate disclosures (Buallay and Al-Ajmi, 2018). From the agency theory perspective (Jensen and Meckling, 1976), the audit committee can be an effective monitoring tool and help reduce agency costs. However, the efficacy of the committee in terms of effective monitoring and improvement of social responsibility disclosure ultimately depends on factors related to its composition. For instance, smaller audit committees might not have sufficient resources to fulfil their responsibilities. Larger audit committees benefit from greater strength and diversity, making them more effective (Be'dard *et al.*, 2004). However, larger committees have associated costs such as lack of control, coordination, and breakdowns in communication. This can lead to the diffusion of responsibilities and may negatively influence the disclosure of socially responsible activities (Mangena and Pike, 2005).

Empirical research has shown a positive impact of audit committee size on CSR disclosure (Appuhami and Tashakor, 2017; Alotaibi and Hussainey, 2016). However, Dwekat *et al.* (2020) found an inverse relationship between audit committee size and CSR disclosure level. Specifically in the Pakistani context, Khan *et al.* (2019) find that audit committee size is positively linked with higher CSR disclosure. Moreover, Hasan *et al.* (2022b) also find that audit committee size has a positive impact on sustainability disclosures. Therefore, in the Pakistani context, it is likely that increasing the size of the audit committee and enhancing its resources will allow for better supervision and an increased level of voluntary disclosures, including CTR. Therefore, the following hypothesis is proposed:

*H3a: Audit committee size has a positive impact on CTR disclosure.*



In addition, audit committee independence is a crucial element impacting competence and effectiveness. According to agency theory, independent members of audit committees assist in reducing opportunistic behaviour and information asymmetry (Fama and Jensen, 1983). Scholars contend that audit committees with independent directors enable greater accountability and transparency (Pucheta-Martínez and De Fuentes, 2007). This emerges because independent audit committees make autonomous decisions regarding disclosure, as management interference is low (Mangena and Pike, 2005). Furthermore, research reinforces the view that independent audit committee members help maintain oversight over management decisions and overall risk-taking behaviour (Noor *et al.*, 2022). In addition, higher audit committee independence not only improves monitoring and control over management (Fama and Jensen, 1983) but also enhances the quality of the information disclosed by organizations.

Empirically, studies indicate that audit committee independence positively influences voluntary disclosures (Mangena and Pike, 2005), including sustainability and CSR disclosures (Appuhami and Tashakor, 2017; Buallay and Al-Ajmi, 2019). Specifically in the Pakistani context, Hasan *et al.* (2020b) find that audit committee independence is negatively linked with sustainability reporting. In contrast, Khan *et al.* (2019) find that audit committee independence is positively correlated with CSR disclosure quality in Pakistan. Even though the empirical results in Pakistan are negative regarding sustainability reporting, the positive impact on CSR disclosure suggests that increasing the number of independent members on the audit committee may also enhance the level of social responsibility disclosure. Given the increasing attention to tax-related issues in Pakistan, it is likely that more independent members may enhance the level of CTR disclosure. Therefore, we propose the following hypothesis:

*H3b: Audit committee independence has a positive impact on CTR disclosure.*

Furthermore, gender diversity symbolizes an essential tool for advancing governance. From the agency and stakeholder theory perspective, gender diversity can help enhance autonomy and ensure that the interests of different stakeholders are considered (Amorelli and García-Sánchez, 2021). Specifically, gender diversity provides vital resources to committees, including the diversity of networks, skills, human capital, and information. This facilitates a robust understanding of the market, improves innovation, enhances creativity, and uplifts the committee's performance in reporting and monitoring (Carter *et al.*, 2003). Gender diversity also improves

discussion and debate on critical issues that male-dominated committees might ignore (Gul *et al.*, 2011). In addition, female directors are more focused on accountability and fairness and emphasize regulations than their male counterparts (Noor *et al.*, 2022). Gender diversity allows the audit committee to monitor an organization's reports and disclosures better and reduces information asymmetry (Gul *et al.*, 2011).

Empirically, a stream of research identifies a positive influence of audit committee gender diversity on CSR disclosure (Appuhami and Tashakor, 2017). Specifically, in the case of Pakistan, Noor *et al.* (2022) demonstrated that audit committee gender diversity influences the effective management of idiosyncratic risk. Owing to the observed positive empirical impact in the case of Pakistan and the theoretical benefits that emerge from increased audit committee gender diversity, the level of CTR disclosure in Pakistan will likely increase. Therefore, the following hypothesis is proposed:

*H3c: Audit committee gender diversity has a positive impact on CTR disclosure.*

**5. Research Design**

**5.1. Data Collection and Sample**

The sampling frame for this study consists of listed companies on the Pakistan Stock Exchange (PSX). This research analyses 12 years of data from 2009 to 2020. Different sampling criteria are employed to ensure that the final sample allows us to achieve the study objectives. One of the major sampling criteria is the availability of annual reports for 12 years (2009 to 2020). Specifically, these 12 years are chosen because the timeframe allows us to examine post financial crisis and pre-COVID-19 data, enabling us to isolate any abnormal effects of the subprime mortgage crisis and the pandemic (Hasan *et al.*, 2023). Moreover, banking companies, investment firms and financial institutions are eliminated from the final sample because they follow different reporting standards. This process results in a final sample of 150 listed companies. The process used for sampling is presented in Table I. Since no databases have collected such data from Pakistani companies, the data had to be collected manually. Information relating to the study variables is obtained through published annual reports.

*Insert Table I around here*

## 5.2. *Dependent Variable*

The dependent variable in this research is the CTR disclosure index. The checklist used to prepare the CTR disclosure index is based on the findings of de la Cuesta-Gonzalez and Pardo (2019). The authors have presented a novel approximation of the critical aspects of tax responsibility based on interviews with investors, society, corporations, and governments. de la Cuesta-Gonzalez and Pardo (2019) highlight that corporations should disclose corporate tax responsibility information related to five main categories.

First, information about tax policy and strategy delineates the main policy, the key financial risks, how the board addresses taxation issues, what kind of voluntary CSR and CTR codes it adheres to, and details related to the corporate structure. Second, disclosure about a corporation's involvement in tax havens and low tax jurisdictions (LTJs) includes information such as its presence, transactions, workers, and the taxes paid in these LTJs and tax havens. Third, in taxes and incentives, information related to the effective tax rate (ETR), as well as subsidies, deductions, exemptions, and tax credits, should be disclosed. Fourth, in relationships and associations with authorities, firms should disclose information about their cooperative relationships, private tax agreements, involvement in lobbying, resolved and open litigation, and tax contingencies. Finally, in tax practices, firms should disclose their primary income sources, intragroup transactions and transfer pricing, intellectual property rights, preferential pricing agreements, etc.

de la Cuesta-Gonzalez and Pardo (2019) specify a total of 32 items encompassing these five categories that should be disclosed by firms under corporate tax responsibility. The authors have determined these 32 items as information that should be disseminated to stakeholders as a key mechanism of accountability. These 32 items were comprehensively developed after considering the opinions of international NGOs, corporations, tax authorities, and tax advisors as well as scholars and academics. As a basis for determining these indicators, de la Cuesta-Gonzalez and Pardo (2019) relied on existing key initiatives on CTR including initiatives by the Australian government, GRI, OCED, PRI and other international publications (e.g., Boerrild *et al.*, 2015). These items not only consider disaggregated quantitative data but also include qualitative information about tax practices and policies (de la Cuesta-Gonzalez and Pardo, 2019). As such, the authors have referred to these items as a set of 'material indicators' that can be used to assess

CTR disclosure and have called for further empirical studies to assess the social accountability of corporations.

Following previous studies (Hilling *et al.*, 2022), this research uses content analysis on published annual reports to measure the level of CTR disclosure. Content analysis aids in codifying and quantifying text into categories and groups based on predetermined criteria. Content analysis is a valid and reliable technique widely used in disclosure research. Furthermore, annual reports represent an important information source for different stakeholders; thus, we focus on disclosures made in annual reports. To ensure validity and reliability, several procedures were conducted following previous studies (e.g., Alotaibi and Hussainey, 2016; Platonova *et al.*, 2018). For validity, the 32-item checklist was disseminated to local tax experts (chartered accountants) and academics to ensure that the items were relevant in the Pakistani context. These reviews by researchers and tax experts also help ensure that the index measures the intended metric. For reliability, two researchers coded the disclosure index of 30 sample companies (20% of the sample) as a pilot study. The Krippendorff alpha was used to test the inter-coder reliability, and the test results ( $\alpha > 0.8$ ) suggest that the disclosure index is reliable and consistent. Following this process, decision rules were formulated and used as a reference to improve the reliability of the index. Once the validity and reliability of the index were validated, the index was entirely coded by a single researcher. In addition, this research utilizes a relative disclosure index to examine a firm's actual disclosure level based on the maximum disclosure level it can achieve.

### 5.3. *Independent and Control Variables*

The independent variables in this study are related to three main categories of corporate governance, i.e., ownership structure, board characteristics, and audit committee characteristics. Concerning ownership structure, family ownership, foreign ownership, and managerial ownership are utilized. For board composition, this research engaged gender diversity, family members, and CEO duality. Finally, for audit committee characteristics, this research considers its size, independence, and gender diversity. Following the previous literature (Alotaibi and Hussainey, 2016; Chang *et al.*, 2017; Ghazali, 2007; Haniffa and Cooke, 2005; Lone *et al.*, 2016), this study considers seven control variables related to corporate governance and firm characteristics. These include ownership concentration, institutional ownership, board independence, leverage,

profitability, liquidity, and firm size. The codes and measures used for the study variables are depicted in Table II.

*Insert Table II around here*

#### 5.4. Empirical Model

To test the research hypotheses, the following regression model was used:

$$CTR_{it} = \beta_0 + \beta_1 FAMOWN_{it} + \beta_2 MOWN_{it} + \beta_3 FOWN_{it} + \beta_4 FEMEM_{it} + \beta_5 FAMMEM_{it} + \beta_6 DUALCEO_{it} + \beta_7 AUDSIZE_{it} + \beta_8 AUDIND_{it} + \beta_9 FEAUD_{it} + \beta_{10} OWNCON_{it} + \beta_{11} INSOWN_{it} + \beta_{12} BIND_{it} + \beta_{13} LEV_{it} + \beta_{14} PROF_{it} + \beta_{15} LIQ_{it} + \beta_{16} SIZE_{it} + \varepsilon_{it}$$

where  $i$  represents the observed firm,  $t$  represents the year,  $\beta_0$  represents the constant,  $\varepsilon$  represents the error term,  $CTR$  represents the CTR disclosure index,  $FAMOWN$  represents family ownership,  $MOWN$  represents managerial ownership,  $FOWN$  represents foreign ownership,  $FEMEM$  represents board gender diversity,  $FAMMEM$  represents board family members,  $DUALCEO$  represents CEO duality,  $AUDSIZE$  represents audit committee size,  $AUDIND$  represents audit committee independence,  $FEAUD$  represents audit committee gender diversity,  $OWNCON$  represents concentrated ownership,  $INSOWN$  represents institutional ownership,  $BIND$  represents board independence,  $LEV$  represents leverage,  $PROF$  represents profitability,  $LIQ$  represents liquidity and  $SIZE$  represents firm size.

#### 5.5. Preliminary Analyses

Before analysis, it is vital to understand the type of regression most appropriate according to the data. For this purpose, this study first used the Lagrange test to ascertain whether the dataset should be analysed through pooled or panel regression. The Lagrange test is significant, implying a panel effect in the data. Thus, it should be analysed using panel regression. Moreover, this study uses the Woolridge test to explore whether the dataset has an autocorrelation concern. The p-value for the Woolridge test is significant, indicating a problem with autocorrelation in the panel data. To address this issue, this study utilizes generalized least squares (GLS) regression. Subsequently, this research uses the Hausman test to explore and examine the nature of the panel data. The results of the Hausman test are insignificant. As a result, the random effect model is utilized.

6. Empirical Results and Discussion

6.1. Descriptive Statistics

Table III highlights the descriptive statistics for this study's dependent, independent and control variables. The results of the descriptive analysis suggest that the average CTR disclosure ratio in Pakistan is 47.7%. Regarding independent variables, the average family ownership is 16.5%<sup>1</sup>, the average managerial ownership is 19.0%<sup>2</sup>, and the average foreign ownership is 16.3%<sup>3</sup>. Furthermore, our sample's average gender diversity on the board is 8.3%<sup>4</sup>. Furthermore, 12.3% of our sample has a dual role for the CEO<sup>5</sup>. We also find that Pakistani companies depict an average of 33.3% of family members on the board of directors<sup>6</sup>. Regarding audit committee characteristics, our sample shows an average audit committee size of 3.52 members, while the average audit committee independence is 30%. Additionally, the average gender diversity is 7.6%<sup>7</sup>.

Insert Table III around here.

6.2. Correlation Analyses

This research utilized Pearson/Spearman's correlation matrix to test the correlations between the dependent and independent variables. As shown in Table IV, there are statistically significant correlations between CTR disclosure and corporate governance measures. This indicates that further analysis and assessment of the hypotheses should be conducted through regression analysis. The correlation matrix also shows that the correlation coefficients between the predictors and control variables are not too high; therefore, collinearity may not be an issue in this case. Additionally, this study used the variance inflation factor (VIF) test to explore multicollinearity concerns. The mean VIF is 2.63, and the VIFs for all individual variables (Table III) are less than 10, indicating a low level of multicollinearity.

<sup>1</sup> This is higher than the figures reported in the US (Block and Wagner, 2014), and previous studies in Pakistan (Syed and Butt, 2017).  
<sup>2</sup> This is higher than figures reported in previous studies in Saudi Arabia (Alotaibi and Hussainey, 2016) and Pakistan (Hasan *et al.*, 2022b).  
<sup>3</sup> This is higher than previous studies conducted in regional developed economics such as China (Hu *et al.*, 2018).  
<sup>4</sup> This value is lower than previous studies in Bangladesh (Muttakin *et al.*, 2015) and comparable to previous Pakistani studies (Khan *et al.*, 2019).  
<sup>5</sup> This value is lower than figures reported in Saudi Arabia (Alotaibi and Hussainey, 2016) and Bangladesh (Muttakin *et al.*, 2015).  
<sup>6</sup> This is lower than figures reported in Spanish studies (Basco *et al.*, 2019).  
<sup>7</sup> These figures are comparable to previous studies in Saudi Arabia (Alotaibi and Hussainey, 2016), and Pakistan (Khan *et al.*, 2019; Noor *et al.*, 2022).



*Insert Table IV around here*

### 6.3. Regression Analysis

The results of the GLS random-effects regression are depicted in Table V. In terms of ownership structure, family ownership has a negative impact on the level of CTR disclosure ( $p < 0.05$ ), which is consistent with H1a. These results support the view that family-owned organizations are less concerned about legitimacy and accountability toward the general public and other stakeholders; therefore, they are less likely to disclose information voluntarily (Chau and Gray, 2002). Furthermore, higher family ownership means that the family has greater control and thus can dictate policies related to CTR disclosures. Our results are consistent with previous empirical findings that family ownership negatively influences the level of CSR disclosure (Block and Wagner, 2014). Our results also imply that family firms in Pakistan are not concerned about maintaining a positive image regarding CTR. This may be because tax responsibility is still a nascent issue. It is likely that Pakistani family-owned firms do not view tax responsibility as a pressing issue, which explains why they disclose less CTR information.

*Insert Table V around here.*

Managerial ownership has a positive impact on CTR disclosure ( $p < 0.01$ ), which is consistent with H1b. These results support the argument that managerial interests can be aligned with those of owners by increasing the shareholding of management. These results indicate that managers of Pakistani listed firms view the disclosure of CTR information as beneficial for firm value. Hence, by acting on their self-interests to enhance organizational value (Denis *et al.*, 1997), they disclose more tax responsibility information. A positive impact has also been reported in previous studies investigating managerial ownership in relation to environmental performance (Johnson and Greening, 1999), voluntary disclosures (Chau and Gray, 2002) and CSR disclosure (Alotaibi and Hussainey, 2016). Managers in Pakistan view tax responsibility as a crucial reputational risk. This informs why they encourage CTR disclosure, as it facilitates the maximization of organizational value.

Our analysis also reveals that foreign ownership negatively impacts CTR disclosure ( $p < 0.01$ ), which is inconsistent with H1c. Previous studies have predominantly shown that foreign ownership enhances voluntary disclosures, including social disclosures, due to greater transparency in organizational activities (Tsang *et al.*, 2019; Wang and Wang, 2015). However,

the results related to CTR disclosure contrast sharply with CSR and are consistent with Hasan *et al.* (2022b). Our results argue that foreign ownership does not promote the disclosure of tax responsibility information but rather actively discourages it. It is likely that foreign owners invest in other countries, such as Pakistan, to engage in tax avoidance (Alkurdi and Mardini, 2020). Therefore, disclosure of tax responsibility might reveal the aggressive tax strategies that the company has been employing.

For board characteristics, board gender diversity positively impacts CTR disclosure ( $p<0.10$ ), which is consistent with H2a. These results support the theorization that to promote the disclosure of information, and in our case, CTR disclosure, gender diversity on the board must be enhanced (Katmon *et al.*, 2019). Female members are more likely to provide an independent opinion (Carter *et al.*, 2003) and increase the board's vigilance toward risks that can impact the organization's reputation, which includes taxation issues. Our results are consistent with previous empirical assessments suggesting that enhanced female inclusion increases engagement in social responsibility (Ibrahim and Angelidis, 1994; Lone *et al.*, 2016). This positive impact is reflected in CTR disclosure, which implies that female board members are more tax compliant and less inclined to be involved in tax planning activities (Kastlunger *et al.*, 2010). As a result, female board members encourage greater CTR disclosures.

Family members on boards have a negative impact on the level of CTR disclosure ( $p<0.10$ ), which is consistent with H2b. This is consistent with the literature proposing that family board membership is a tool for increased control, which gives family members the power to directly control the extent of corporate disclosures (Ali *et al.*, 2007; De Massis *et al.*, 2014). Likewise, higher board control can provide avenues for family members to engage in opportunistic behaviour (Kellermanns *et al.*, 2012). Our results are similar to those of Biswas *et al.* (2018), who found that female family board members reduce the level of CSR disclosure. Interestingly, these results suggest that organizations dominated by family board members do not consider nondisclosure of CTR information a reputational risk and are not concerned about reputational damage.

We find that CEO duality negatively affects the level of CTR disclosure ( $p<0.01$ ), which is consistent with H2c. This finding is consistent with agency theory, which states that the division between CEO and chairperson roles is vital for effective control, as a lack of role division hinders board effectiveness (Jensen and Meckling, 1976). These results suggest that the higher control

retained through CEO duality does not necessarily produce favourable managerial outcomes, as Dahya *et al.* (1996) proposed. The negative impact of CEO duality on CTR disclosure is similar to the findings of studies that have assessed it in the context of CSR disclosure (Gul and Leung, 2004). From a tax responsibility perspective, engagement in CTR disclosure can help firms gain legitimacy, decrease information asymmetry (Healy and Palepu, 2001) and fulfil stakeholders' demand for greater tax responsibility information (Boerrild *et al.*, 2015).

Regarding audit committee characteristics, committee size has a positive but statistically insignificant impact on the level of CTR disclosure. These results are inconsistent with H3a. The direction of impact found in this study is coherent with the argument that larger committees have sufficient resources, greater strength, and diversity, thus increasing their overall effectiveness (Be'dard *et al.*, 2004). However, the statistical insignificance suggests that the impact is too small in the case of CTR disclosure.

The study's results further highlight that audit committee independence positively impacts the level of CTR disclosure ( $p < 0.01$ ), which is consistent with H3b. These results support agency theory, inferring that independent directors on the audit committee aid in reducing information asymmetry (Fama and Jensen, 1983) and solicit improvements in the level of CTR disclosure. These results align with previous empirical studies that have tested the impact on sustainability and CSR disclosure (Appuhami and Tashakor, 2017; Buallay and Al-Ajmi, 2019; Khan *et al.*, 2019). Our results suggest that higher accountability and transparency from audit committee independence (Pucheta-Martínez and De Fuentes, 2007) also spill over toward tax responsibility issues. Independent audit committee members help make autonomous decisions; thus, the level of interference by management is low (Mangena and Pike, 2005), which can promote social responsibility issues, including tax responsibility.

Finally, audit committee gender diversity has a positive yet statistically insignificant impact on the level of CTR disclosure. These results are inconsistent with H3c. This insignificant impact can be attributed to female directors' lack of genuine influence in developing countries such as Pakistan. In these contexts, gender diversity may not be fully sincere, and female members may only be on the board and committees so that they can fulfil regulatory requirements or adhere to calls for more diversity. This lack of real power possibly explains the insignificant impact that audit committee gender diversity has on CTR disclosure.

Regarding control variables, ownership concentration has a negative impact on CTR disclosure ( $p<0.10$ ), while institutional ownership ( $p<0.10$ ), firm size ( $p<0.01$ ) and profitability ( $p<0.05$ ) positively impact it. However, board independence, leverage and liquidity do not affect the level of tax responsibility disclosure. Overall, these results are consistent with the findings of previous studies on CSR disclosure (Alotaibi and Hussainey, 2016; Haniffa and Cooke, 2005).

**6.4. Additional Analyses**

To better understand the overall regression results, we analyse the categories composing CTR disclosure as the dependent variables. By utilising these alternate measures, we are able to explore which categories produce the overall effects on CTR disclosure, as witnessed in the results of this study. The results of the additional analysis are presented in Table VI.

*Insert Table VI around here.*

Regarding ownership structure, family ownership has a positive impact on the disclosure of tax policy information ( $p<0.10$ ), while its impact on taxes and incentives ( $p<0.01$ ) and tax practices ( $p<0.10$ ) is negative. Managerial ownership has a positive impact on the disclosure of tax and incentive information ( $p<0.10$ ) and information related to tax practices ( $p<0.01$ ). Foreign ownership has a negative impact on the relationship between authorities' disclosure and tax practice disclosure ( $p<0.01$ ). However, it positively affects LTJ disclosure ( $p<0.01$ ). When considering the impact of board characteristics, gender diversity positively impacts the disclosure of tax policy ( $p<0.05$ ), while its effect on all other categories is statistically insignificant. Furthermore, family membership on the board has a negative impact on the disclosure of information related to tax practices ( $p<0.01$ ). In addition, CEO duality negatively impacts the disclosure of information related to tax policy, relationships with authorities and taxes and incentives ( $p<0.01$ ). Regarding audit committees, size positively impacts the disclosure of information related to their relationship with authorities ( $p<0.05$ ). Moreover, audit committee independence positively impacts the disclosure of taxes and incentives ( $p<0.10$ ), while audit committee gender diversity positively impacts LTJ disclosure ( $p<0.10$ ).

Since family ownership and membership are key characteristics of Pakistani firms, we conduct additional analysis to evaluate the impact of family firms on CTR disclosure and explore the moderating impact of family firms on the corporate governance and CTR disclosure nexus. We use a dummy variable (1 if family firm, 0 otherwise) that is based on a composite measure to define

family firms, i.e., (i) if family ownership is equal to or greater than 20% (López-González *et al.*, 2019) and (ii) if at least two family members are on the board of directors (Neckebrouck *et al.*, 2017). Following this, 38% of our sample comprises family firms ( $n = 57$ ). We remove the variables family ownership and family board members from the equation and include the dummy variable (FAMILY) instead. We re-ran the regression analysis as shown in Table VII (analysis 1). Consistent with our overall findings, the results suggest that family firms have a negative association with the level of CTR disclosure ( $p < 0.01$ ).

*Insert Table VII around here.*

Subsequently, to test the moderating impact of family firms on corporate governance and CTR disclosure nexus, we re-ran the regression analysis by including the interaction terms of our corporate governance variables with the family dummy variable (analysis 2). As shown in Table VII, the results suggest that family firms have a moderating impact on the corporate governance and CTR disclosure nexus. Specifically, having more female board members in family firms has a negative impact on CTR disclosure. Finally, audit committee gender diversity in family firms has a positive impact on CTR disclosure, suggesting that in family firms, more female members on the audit committee help to enhance the transparency of tax issues.

### 6.5. Robustness Tests

We re-examined our model through the fixed effects method to ensure that our results are robust and reliable and have no endogeneity issues. The results of the fixed effects panel regression are shown in Table VIII. Overall, the results are similar to those obtained using the random effects method. However, there are minor differences. For instance, the positive effect of board gender diversity became insignificant in the fixed-effects model. The directions of all other independent variables were similar in both models, with slight increases in statistical significance. Therefore, the results of this study are robust to various model specifications.

As a further robustness test, we re-ran the regression analysis using the generalized method of moments (GMM). This research used the two-step system GMM model to mitigate endogeneity issues and ensure that the results are robust. System GMM accounts for the lagged values of the dependent variable, enabling addressing issues of dynamic, simultaneous, and omitted variable endogeneities (Abdallah *et al.*, 2015). As shown in Table VIII, the overall results obtained from GMM are mostly consistent with the results of the GLS regression with slight variations in



statistical significance. However, the positive effects of board gender diversity and audit committee independence become insignificant in this model. Collectively, these tests help to ensure that our results do not have endogeneity concerns and are robust to different statistical techniques.

*Insert Table VIII around here*

## 7. Summary and Conclusion

This study aimed to examine the impact of corporate governance factors, such as ownership structure, board characteristics, and audit committee characteristics, on the level of CTR disclosure. The results reveal that different ownership structures have varied effects on the disclosure of tax responsibility. For instance, family ownership negatively impacts CTR disclosure, suggesting that family firms may not be concerned about maintaining a positive outlook regarding CTR. Moreover, it is likely that Pakistani family-owned organizations are less concerned about gaining legitimacy and being accountable to stakeholders. Thus, they tend to disclose less CSR (Block and Wagner, 2014; Chau and Gray, 2002) and CTR information.

Similarly, foreign ownership negatively impacts CTR disclosure, suggesting that foreign owners may invest in other countries to avoid paying taxes (Alkurdi and Mardini, 2020). In such a case, the disclosure of tax responsibility will likely reveal the organization's aggressive tax practices and strategies. In contrast, managerial ownership positively impacts CTR disclosure, which supports the traditional agency view that higher stock ownership aids in the alignment of managerial interests (Jensen and Meckling, 1976) and positively influences the level of CSR and CTR information disclosed by the organization.

Concerning board characteristics, gender diversity encourages greater CTR disclosure, while family membership and CEO duality negatively impact it. This would suggest that female members, in their quest to promote social responsibility (Ibrahim and Angelidis, 1994; Lone *et al.*, 2016), also uplift the board's perception of CTR issues. Consequently, they promote the disclosure of information related to their tax responsibility. Furthermore, more power and control through CEO duality and family board membership (De Massis *et al.*, 2014) is detrimental to greater disclosure of tax responsibility issues. We also observe that only one audit committee characteristic significantly impacts the level of CTR disclosure, i.e., audit committee



independence, which positively influences tax responsibility disclosure. The audit committee's independence ensures transparency and accountability (Pucheta-Martínez and De Fuentes, 2007), which is not limited to social and environmental issues but also trickles down to tax responsibility concerns.

Overall, the results of this study have numerous theoretical implications. In our view, this is one of the first empirical investigations on CTR and indicates that, similar to other elements of CSR, corporate governance significantly impacts the level of tax responsibility disclosure. While a majority of corporate governance elements concur with previous CSR findings, some findings (e.g., the impact of foreign ownership) are noteworthy, as they indicate that CTR information (a component of CSR) is more sensitive than social and environmental information (Dowling, 2014) and thus may solicit a different direction of impact. Therefore, the results of this study extend the literature on corporate governance and CTR. This is especially vital given the growing tax scandals and news of corporate tax avoidance around the globe. Organizations must acknowledge their tax responsibility in ways similar to their social and environmental responsibilities. Our study demonstrates that better corporate governance through increased board gender diversity, higher managerial ownership, and enhanced audit committee independence can promote CTR disclosure.

Regarding practical implications, our findings provide information that institutional bodies, governments, and corporations can use to tailor their policies and practices to promote responsible tax practices. Corporations can utilize this information to encourage more transparency and improve the quality of disclosures. Specifically, the results of this research are valuable for Pakistan due to the continuous futile resources channelled towards tax revenue mobilization in the country. Hence, highlighting the governance factors that encourage organizations to disclose their tax practices will assist regulators in implementing fair tax practices and strategies, reduce tax avoidance, and ultimately increase corporate tax income, a key source of tax revenue.

The results also reveal that a mere increase in the number of independent members on the board is not enough to promote the disclosure of CTR information. Instead, higher gender diversity must be pursued. Regulatory authorities should consider increasing the minimum requirements for gender diversity so that more Pakistani firms can acknowledge and disclose information about their tax responsibility. In addition, regulators must enforce the mandatory disclosure of tax responsibility information so that firms disclose information about their tax practices and overall

tax responsibility. In addition, the minimum requirement for audit committee independence should be increased.

In almost all research endeavours, choosing a particular design and method lends several key limitations that are important to address. This study is primarily quantitative; as a result, the analysis does not focus on in-depth exploration and interpretation of CTR issues. In addition, this study only focused on a sample of Pakistani-listed companies. Future research can conduct a comparative assessment of developed and developing economies to produce more in-depth results. Furthermore, the board composition, ownership structure and audit committee assessment are limited to the variables selected in each category. This exploration does not consider other variables, such as board experience, board qualification, military experience, governmental ownership, or audit committee meeting/attendance. Future studies can explore these factors to obtain a more robust understanding of the impact of corporate governance on CTR.

Additionally, this study considers only the disclosures made in published annual reports; therefore, disclosures through other sources, such as CSR reports, social media, or company websites, are not considered. Future studies can explore CTR disclosure by focusing on these alternate disclosure sources. This study only uses the checklist developed by de la Cuesta-González and Pardo (2019) to measure CTR disclosure. Therefore, in countries where GRI and other international standards are effectively followed, future research can examine CTR disclosure by using the standards developed by the GRI and other bodies. Finally, future research can examine the link between CTR disclosure and corporate tax avoidance. This can help understand whether companies that engage in tax avoidance mask their aggressive strategies by providing higher CTR disclosures.

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Beyond the Bottom Line: Exploring the Role of Governance Mechanisms in Promoting Corporate Tax Responsibility

Table I: Sampling Process

Particulars	Number of Companies
<i>Panel A: Sampling process</i>	
Total PSX population	551
Less: Financial, investment and banking companies	(129)
Less: Missing annual reports	(272)
Final sample	150
Total number of firm-year observations (150*12)	1800
<i>Panel B: Sample by sector</i>	
Oil, gas and mining	13
Technology and communication	16
Power and utilities	7
Chemical and fertiliser	20
Construction and property	12
Food and personal care	21
Textile and household	25
Pharma and packaging	19
Auto, travel and leisure	17
Total	150

**Table II: Measurement of Variables**

Variable Name	Code	Measure
CTR Disclosure	CTR	Disclosure index
Family Ownership	FAMOWN	Percentage of shares owned by family members
Managerial Ownership	MOWN	Percentage of shares owned by directors and executives
Foreign Ownership	FOWN	Percentage of shares owned by foreign bodies
Board Gender Diversity	FEMEM	Ratio of female members to the total number of directors
Family Board Members	FAMMEM	Ratio of family members to the total number of directors
Duality of the CEO	DUALCEO	A dummy variable, takes 1 if CEO and chairman are the same person, 0 if not
Audit Committee Size	AUDSIZE	Total numbers of members in the audit committee
Audit Committee Independence	AUDIND	Ratio of independent members to total members
Audit Committee Gender Diversity	FEAUD	Ratio of female members to total members
Institutional Ownership	INSOWN	Percentage of shares owned by institutional bodies
Concentrated Ownership	OWNCON	Block ownership greater than 5%
Board Independence	BIND	Ratio of independent directors to total members
Firm Size	SIZE	Natural logarithm of total assets
Liquidity	LIQ	Ratio of current assets to current liabilities
Leverage	LEV	Ratio of total debt to total assets
Profitability	PROF	Return on assets

Table III: Descriptive Statistics

Variable	Obs.	P25	Mean	P75	Std. Dev.	VIF
CTR	1800	0.416	0.477	0.541	0.094	-
FAMOWN	1800	0.000	0.165	0.294	0.238	4.81
MOWN	1800	0.000	0.190	0.321	0.248	8.31
FOWN	1800	0.000	0.163	0.203	0.264	1.42
FEMEM	1800	0.000	0.083	0.142	0.124	2.28
FAMMEM	1800	0.000	0.333	0.500	0.264	1.78
DUALCEO	1800	0.000	0.123	0.000	0.328	1.11
AUDSIZE	1800	3.000	3.52	4.000	0.819	1.19
AUDIND	1800	0.200	0.300	0.333	0.218	2.16
FEAUD	1800	0.000	0.076	0.000	0.153	2.10
INSOWN	1800	0.298	0.581	0.841	0.307	7.63
OWNCON	1800	0.520	0.647	0.785	0.191	2.15
BIND	1800	0.111	0.175	0.285	0.133	2.26
SIZE	1800	15.000	16.130	17.249	1.886	1.43
LIQ	1800	0.475	1.162	1.386	1.266	1.12
LEV	1800	0.004	0.805	1.053	1.200	1.13
PROF	1800	0.007	0.073	0.131	0.130	1.19

Table IV: Pearson/Spearman Correlation Matrix

	CTR	FAMOWN	MOWN	FOWN	FEMEM	FAMMEM	DUALCEO	AUDSIZE	AUDIND	FEAUD	INSOWN	OWNCON	BIND	SIZE	LIQ	LEV	PROF
CTR	1	-0.092***	0.065***	-0.005	0.020	-0.035	-0.174***	0.146***	0.066***	-0.009	0.059**	-0.095***	0.094***	0.318***	0.134***	0.108***	0.136***
FAMOWN	-	1	0.800***	0.345***	0.233***	0.600***	0.169***	-0.201***	0.170***	0.111***	0.713***	-0.149***	0.216***	0.244***	0.135***	0.152***	0.101***
MOWN	-0.046*	0.875***	1	0.374***	0.250***	0.551***	0.196***	-0.210***	0.144***	0.150***	0.836***	-0.202***	0.176***	0.301***	0.140***	0.154***	0.094***
FOWN	-	-0.305***	0.347***	1	0.188***	-0.307***	-0.090***	0.141***	0.019	0.082***	0.456***	0.182***	0.023	0.221***	0.101***	0.130***	0.221***
FEMEM	-0.009	0.245***	0.255***	0.138***	1	0.206***	0.088***	-0.098***	0.023	0.659***	0.277***	-0.040*	0.030	0.180***	0.049**	-0.033	-0.049**
FAMMEM	-0.026	0.477***	0.449***	0.292***	0.296***	1	0.193***	-0.240***	0.174***	0.137***	0.480***	-0.236***	0.262***	0.319***	0.198***	0.089***	0.098***
DUALCEO	0.175***	0.202***	0.203***	-0.042*	0.147***	0.207***	1	-0.128***	0.108***	0.075***	0.163***	-0.005	0.133***	0.090***	0.155***	-0.053**	0.146***
AUDSIZE	0.158***	-0.190***	0.202***	0.038	0.116***	-0.226***	-0.125***	1	0.097***	-0.050**	0.236***	-0.040*	0.073***	0.317***	0.154***	-0.048**	0.139***
AUDIND	0.091***	-0.183***	0.132***	0.010	-0.034	-0.210***	-0.125***	-0.017	1	-0.031	0.103***	0.040*	0.737***	0.146***	0.065***	-0.030	-0.023
FEAUD	-0.030	0.196***	0.206***	0.073***	0.718***	0.209***	0.119***	-0.097***	-0.060**	1	0.171***	-0.030	-0.026	0.115***	0.029	0.074***	0.070***
INSOWN	0.067***	-0.748***	0.844***	0.460***	0.309***	-0.476***	-0.177***	0.234***	0.107***	0.220***	1	0.417***	0.090***	0.343***	0.199***	0.181***	0.192***
OWNCON	-	0.055**	0.027	0.302***	-0.047**	-0.237***	0.006	-0.055***	0.033	-0.018	0.332***	1	-0.004	-0.034	0.008	0.202***	0.026
BIND	0.100***	-0.190***	0.147***	-0.032	-0.056**	-0.293***	-0.134***	0.093***	0.717***	-0.054**	0.116***	-0.008	1	0.227***	0.122***	0.020	0.023
SIZE	0.301***	-0.200***	0.258***	0.050**	0.198***	-0.338***	-0.086***	0.272***	0.193***	0.129***	0.337***	0.026	0.264***	1	0.076***	0.168***	0.156***
LIQ	0.054**	-0.069***	0.087***	0.006	0.008	-0.150***	-0.062***	0.102***	0.099***	0.001	0.101***	0.015	0.126***	0.059**	1	0.303***	0.383***
LEV	0.062***	0.078***	0.066***	0.131***	-0.040*	0.044*	-0.024	-0.029	-0.004	-0.039*	0.090***	-0.084***	0.022	0.102***	0.209***	1	0.248***
PROF	0.096***	-0.137***	0.125***	0.208***	0.090***	-0.097***	-0.141***	0.139***	-0.026	0.095***	0.191***	0.060**	0.024	0.137***	0.189***	0.201***	1

Lower-triangular cells report Pearson's correlation coefficients, upper-triangular cells are Spearman's rank correlation

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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Table V: Regression Results

Variable	Coefficient	SE	z-statistic	p value	Significance
FAMOWN	-0.057	0.023	-2.49	0.013	**
MOWN	0.075	0.025	2.96	0.003	***
FOWN	-0.045	0.011	-4.06	0.000	***
FEMEM	0.044	0.024	1.83	0.068	*
FAMMEM	-0.023	0.013	-1.75	0.079	*
DUALCEO	-0.036	0.005	-6.23	0.000	***
AUDSIZE	0.002	0.002	0.89	0.371	
AUDIND	0.029	0.010	2.73	0.006	***
FEAUD	0.006	0.017	0.41	0.683	
INSOWN	0.037	0.019	1.90	0.057	*
OWNCON	-0.033	0.018	-1.79	0.073	*
BIND	-0.021	0.019	-1.12	0.261	
SIZE	0.011	0.001	7.23	0.000	***
LIQ	0.001	0.001	1.16	0.246	
LEV	0.000	0.001	0.14	0.889	
PROF	0.036	0.016	2.17	0.030	**
Constant	0.282	0.030	9.34	0.000	***
Observations				1,800	
Number of Companies				150	
R <sup>2</sup>				0.1482	
Wald Chi <sup>2</sup>				197.16	



Table VI: Additional Analysis

VARIABLE	Tax Policy	Taxes & Incentives	Relationship with authorities	Tax Practices	LTJ/TaxHaven
FAMOWN	0.050* (0.026)	-0.209*** (0.062)	0.037 (0.055)	-0.045* (0.024)	0.008 (0.057)
MOWN	-0.033 (0.029)	0.125* (0.068)	0.079 (0.060)	0.110*** (0.025)	0.094 (0.074)
FOWN	0.004 (0.012)	0.037 (0.030)	-0.088*** (0.026)	-0.043*** (0.011)	0.058*** (0.015)
FEMEM	0.059** (0.028)	0.104 (0.066)	0.007 (0.058)	0.008 (0.024)	-0.071 (0.047)
FAMMEM	-0.015 (0.014)	-0.024 (0.035)	0.000 (0.031)	-0.066*** (0.013)	-0.044 (0.030)
DUALCEO	-0.018*** (0.006)	-0.076*** (0.015)	-0.072*** (0.013)	0.006 (0.005)	0.012 (0.012)
AUDSIZE	0.001 (0.003)	0.001 (0.008)	0.016** (0.007)	-0.003 (0.003)	0.001 (0.005)
AUDIND	0.001 (0.012)	0.050* (0.029)	0.032 (0.025)	0.001 (0.010)	-0.031 (0.021)
FEAUD	-0.007 (0.020)	0.007 (0.046)	0.039 (0.040)	0.019 (0.017)	0.054* (0.031)
INSOWN	0.012 (0.022)	0.080 (0.052)	0.096** (0.046)	0.029 (0.020)	0.103** (0.051)
OWNCON	-0.035* (0.020)	-0.058 (0.049)	-0.014 (0.044)	-0.001 (0.019)	0.034 (0.049)
BIND	0.053** (0.023)	-0.001 (0.052)	0.017 (0.046)	-0.028 (0.019)	0.082** (0.040)
SIZE	0.009*** (0.001)	0.019*** (0.004)	0.021*** (0.003)	0.005*** (0.001)	0.037*** (0.005)
LIQ	0.002 (0.001)	0.005 (0.003)	0.002 (0.003)	-0.000 (0.001)	0.000 (0.002)
LEV	-0.000 (0.001)	0.003 (0.004)	-0.005 (0.003)	0.002 (0.001)	0.000 (0.003)
PROF	-0.003 (0.019)	0.188*** (0.045)	0.017 (0.039)	-0.011 (0.016)	0.052* (0.029)
Constant	0.501*** (0.033)	0.147* (0.080)	-0.125* (0.071)	0.480*** (0.032)	-0.651*** (0.098)
Observations	1,800	1,800	1,800	1,800	588
No. of Companies	150	150	150	150	49
R <sup>2</sup>	0.047	0.134	0.111	0.002	0.032
Wald chi <sup>2</sup>	101.74	140.92	122.06	74.60	120.65

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table VII: Family Firms and CTR Disclosure

	(1)	(2)
	CTR Disclosure	CTR Disclosure
MOWN	0.0580*** (0.0221)	0.0533* (0.0284)
FOWN	-0.0433*** (0.0110)	-0.0459*** (0.0114)
FEMEM	0.0424* (0.0244)	0.0841*** (0.0297)
DUALCEO	-0.0348*** (0.00579)	-0.0342*** (0.00791)
AUDSIZE	0.00304 (0.00296)	0.00231 (0.00324)
AUDIND	0.0307*** (0.0108)	0.0288** (0.0115)
FEAUD	0.00688 (0.0170)	-0.0231 (0.0211)
FAMILY	-0.0282*** (0.00809)	-0.0428 (0.0287)
MOWNXFAMILY	-	0.00903 (0.0314)
FOWNXFAMILY	-	0.0628 (0.0441)
FEMEMXFAMILY	-	-0.126*** (0.0470)
DUALCEOXFAMILY	-	-0.000706 (0.0112)
AUDSIZEXFAMILY	-	0.00357 (0.00774)
AUDINDXFAMILY	-	0.0106 (0.0186)
FEAUDXFAMILY	-	0.0939*** (0.0354)
INSOWN	0.0386** (0.0191)	0.0384** (0.0191)
OWNCON	-0.0367** (0.0183)	-0.0338* (0.0186)
BIND	-0.0232 (0.0193)	-0.0214 (0.0193)
SIZE	0.0119*** (0.00158)	0.0117*** (0.00159)
LIQ	0.00207 (0.00146)	0.00192 (0.00147)
LEV	0.000576 (0.00158)	0.000356 (0.00158)
PROF	0.0351** (0.0165)	0.0357** (0.0166)
Constant	0.269*** (0.0291)	0.274*** (0.0299)
Observations	1,800	1,800
Unique Firms	150	150
R <sup>2</sup>	0.1597	0.1466
Wald Chi <sup>2</sup>	199.48	211.39
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.10		

Table VIII: Robustness Tests

	Fixed Effects	Generalized Method of Moments (GMM)
L.CTR Disclosure	-	0.685*** (0.0242)
FAMOWN	-0.067*** (0.025)	-0.0400** (0.0165)
MOWN	0.073*** (0.027)	0.0496*** (0.0175)
FOWN	-0.036*** (0.012)	-0.0192** (0.00934)
FEMEM	0.041 (0.025)	0.0339 (0.0219)
FAMMEM	-0.043*** (0.014)	-0.0353*** (0.0124)
DUALCEO	-0.034*** (0.005)	-0.0179*** (0.00515)
AUDSIZE	0.001 (0.003)	0.00630** (0.00255)
AUDIND	0.029*** (0.011)	-0.00470 (0.00912)
FEAUD	0.012 (0.017)	0.0425*** (0.0147)
INSOWN	0.037* (0.021)	0.00728 (0.0147)
OWNCON	-0.024 (0.020)	-0.0126 (0.0154)
BIND	-0.018 (0.019)	0.0296* (0.0151)
SIZE	0.010*** (0.001)	-0.00269 (0.00168)
LIQ	0.001 (0.001)	-0.00103 (0.00105)
LEV	0.000 (0.001)	-0.000134 (0.00145)
PROF	0.035** (0.017)	0.0125 (0.0113)
Constant	0.296*** (0.033)	0.181*** (0.0345)
Observations	1,800	1,650
Unique Firms	150	150
Years	12	12
AR (1)	-	-8.057***
AR (2)	-	0.452
Sargan Test	-	78.24
R <sup>2</sup>	0.1164	-
F	10.53	-
Wald Chi <sup>2</sup>	-	1523.12

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.10



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