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ASSURANCE QUALITY OF SUSTAINABILITY REPORTS: EXAMINING THE ROLE OF CORPORATE GOVERNANCE

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ABSTRACT

The objective of this study is to understand the role of various corporate governance components in the assurance quality of sustainability reports in an emerging country context. The data comprise 56 firm-year observations representing 20 unique firms from Türkiye for the period 2010–2020 available at the Thomson Reuters Eikon database. Drawing on stakeholder-agency theory, the regression analysis indicates that the size of the board, the frequency of board meetings, and the percentage of female executive members increase the assurance quality of sustainability reports. The findings further suggest that by governing these corporate mechanisms, regulatory bodies can reinforce the overall quality of sustainability report assurance. Finally, this study makes a major contribution to advancing the understanding of corporate governance in emerging markets.

Keywords: *Assurance Quality, Corporate Governance, Sustainability, Emerging Country.*

Jel Codes: *M10, M14, M19.*

1. INTRODUCTION

Recent studies show that 80% of companies worldwide now report on economic, social, and environmental issues (KPMG, 2020). There is, however, an ongoing debate regarding the accuracy, transparency, reliability, or possibility of concealing unpleasant truths (Cho et al., 2015; Sebrina et al., 2023). Thus, different stakeholders demand companies to provide an assurance statement for the information they release in their reports (Wong & Millington, 2014). As a result, companies have started to release assurance reports to counter criticism and strengthen public confidence in sustainability reporting. "The assurance statement is the mechanism to give trust to stakeholders about the accuracy of the information published in the sustainability reports" (Fernández-Feijóo-Souto et al., 2012:5). Prior research shows that sustainability assurance may help firms enhance their internal information systems and improve organizational change towards sustainability problems (Gürtürk & Hahn, 2016).

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As stakeholders value both non-financial performance and sustainability reporting quality of the firms (Jadoon et al., 2021) assurance has turned into a beneficial tool for higher credibility of the reports. Recent evidence suggests that assurance quality may differ in practice (Martínez-Ferrero et al., 2018). Although there is a growing body of published work that focuses on factors impacting the quality of assurance reports, most of these have analyzed firms from developed markets (Martínez-Ferrero et al., 2018). In other words, up to now, far too little attention has been paid to the assurance quality of sustainability reports in an emerging country context (Hazaea et al., 2022). Thus, this study aims to contribute to the literature on assurance quality by focusing on firms that operate in an emerging country, Türkiye. Whilst relatively few studies have examined the varying nature of assurance quality, most of the research in the field has investigated the role of assurance service providers on assurance quality so far. Thus, the specific objective of this study is to understand whether firm-level corporate governance mechanisms affect the assurance statements quality. That is to say, the current study aims to extend this array of research by investigating the association between corporate governance characteristics and sustainability assurance quality.

2. THEORETICAL FRAMEWORK, LITERATURE REVIEW, AND HYPOTHESES DEVELOPMENT

2.1. Stakeholder-Agency Theory

While conventional agency theory primarily addresses the potential conflict of interests between the agent and the person(s) who authorized the agent, it has been criticized for addressing solely one-on-one relations by pointing out its many-folded relationships and to managers that struggle to balance multiple interests of different parties (Bendickson et al., 2016). Stakeholder theory fills this gap and suggests that managers have liabilities to a broader set of stakeholders, contrary to the conventional theory of the firm that assumes an obligation to stockholders with a reductionist approach (Freeman, 2015). Although its wider recognition of liability to different parties (Freeman,1999), stakeholder theory is claimed to fall short of offering managers concrete tools for handling competing stakeholder interests. As Hill and Jones (1992) assert, the contracts among decision-makers and the miscellaneous interest groups can be taken into consideration within an agency framework that views the stakeholder-agency relationship as an umbrella term and classifies the principal-agent relationship as a subset. They (Hill & Jones, 1992:132) stress the importance of satisfying the claims of all related stakeholder groups for optimal use of resources, viewing “each stakeholder as a part of the nexus of implicit and explicit contracts that constitutes the firm” with an encompassing approach. To put it in another way, the stakeholder-agency theory assumes multiple principles overarching the conventional agency theory which postulates the potential conflict between the principal(s), namely shareholder(s), and their agent(s) namely manager(s). Zaman et al. (2021) claimed that the voluntary nature of assurance practices may help bolster stakeholder confidence and, thus may mitigate or eliminate conflicts between the agents and multiple stakeholders but this voluntary characteristic is also deemed as the source of

variations in the quality of sustainability assurance. Therefore, we employ the stakeholder-agency perspective as in recent studies (Jain & Zaman, 2020; Zaman et al., 2021) to present a comprehensive analysis of the relationship between corporate governance of the firms and the quality of sustainability assurance.

2.2. Existing Literature on Determinants of Sustainability Assurance Quality

There is a growing body of research investigating the quality of assurance statements (Gürtürk & Hahn, 2016; Fuhrmann et al., 2017; Boiral et al., 2019) and the quality of assurance has become a rising topic among academics and practitioners, society and policymakers. However, existing research examining the determinants of assurance quality still seems to be in its early stage. Some of these studies indicated the role of assurers 'characteristics (Martínez-Ferrero et al., 2018), macro-level antecedents such as weaker protection of investors (Herda et al., 2014), sustainable development level and strength of public institutions (Kılıç et al., 2021) as prominent drivers of assurance quality. There are, on the other hand, a handful of studies mentioning the association between corporate governance and assurance quality (García-Sánchez, 2020; Dalla Via & Perego, 2020; Kılıç et al., 2021; Zaman et al., 2021). Existing research recognizes that the effectiveness of corporate governance mechanisms in adopting strategies in favor of society varies depending on the context where the firms are located (Young & Thyil, 2014; Ortiz-de-Mandojana et al., 2016). Theoretically, corporate governance offers mechanisms that enable firms to operate effectively and to maximize value for a broad range of stakeholders (Aguilera, 2005), yet the context where companies are domiciled can cause different repercussions in practice.

2.3. Corporate Governance Mechanism and Assurance Quality

According to prior findings, firms that embody improved governance structures may be more likely prone to assure sustainability reports (García-Sánchez et al., 2022) and governance mechanisms may lead firms to adopt higher quality assurance services (Peters & Romi, 2015). In addition, assurance quality helps diminish information asymmetry between firms and their stakeholders, and higher assurance levels improve the perceived credibility and legitimacy of sustainability reports (Fuhrmann et al., 2017). Recent findings show that firms operating in Türkiye are becoming more conscious of non-financial reporting and thus started to have their sustainability reports assured (Kuzey & Uyar, 2017; Uyar, 2017). In this regard, various sustainability actions by corporations, increasing pressure to promote non-financial practices further, and initiatives of certain organizations supported by nationwide laws or regulations helped the development of sustainability practices (Demira et al., 2016). However, only a small percentage of companies adopts sustainability assurance services in Türkiye (Kuzey and Uyar, 2017). Further, empirical evidence shows that the non-financial practices of Turkish firms might depend on the discretion of directors (Ozdora-Aksak & Atakan-Duman, 2016), and such practices are better applied in firms with high customer recognition (Ertuna & Tükel, 2009). In light of existing

research and developments within the Turkish business context, this study is based on stakeholder-agency theory, assuming that firms with stronger governance components might have a higher quality of assurance to increase stakeholder confidence. In the subsequent sections, we propose the following hypotheses:

Board Size: When board members can offer different perspectives and leadership on sustainability issues, firms may avoid the risk of alienating their stakeholders (Wagner et al., 2009). Due to the higher diversity of voices, previous studies claimed that larger boards are more sensitive towards stakeholders (Cullinan et al., 2019) and thus associated with higher assurance quality (García-Sánchez, 2020). Based on these discussions, we hypothesize that:

H1: Firms with larger board size will have a higher level of assurance quality.

Non-executive Board Members: Non-executive members of boards serve typically without compensation and are frequently chosen through social network memberships rather than through traditional hiring or selection procedures (Cornish, 2013). Existing research has yet to reach a consensus on the influence of non-executive members on firms' sustainability-related practices. For instance, some findings indicate an inverse association between the existence of non-executives on boards and firms' voluntary sustainability practices (Lui & Zainuldin, 2022). However, considering findings showing that non-executive members promote sustainability initiatives (Uyar et al., 2020) and findings underlining similar positive effects for firms operating in Türkiye (Kılıç et al., 2015), we hypothesize the following:

H2: Firms with more non-executive members on board will have a higher level of assurance quality.

Number of Board Meetings: Board meetings are significant occasions where members debate major issues, make organizational decisions, and discuss firm strategy. Previous research reveals that firms with a higher frequency of board meetings employ assurance experts (Alsahali et al., 2023). These experts, in return, can promote more sustainable actions considering the diverse backgrounds of assurers, thus contributing to the board-level discussions on sustainability-related agenda (Channuntapipat, 2021). Results from earlier studies also show that firms where the board gathers more frequently are more prone to enhance accountability (Channuntapipat, 2021). Therefore, we hypothesize the following;

H3: Firms with a higher number of board meetings will have a higher level of assurance quality.

Board Gender Diversity: Prior evidence suggests that women convey a range of backgrounds and valuable know-how to the boards that they serve (Burke, 1997). As a result, the diversity of experience and behavior assists in improving board effectiveness and adopting sustainability initiatives (Uyar et al., 2020), especially for firms embedded in contexts where dedication to sustainable goals is lower (Mahmood et al., 2018). In Türkiye, an emerging country, (World Bank, 2019), the level of adopting sustainability goals is reported to be relatively low (Yurdakul, 2023). Based on these arguments

and previous studies on Turkish firms that resulted in the positive role of women directors towards sustainability issues (Kılıç et al., 2015), we assume that women directors might increase the level of assurance quality. Therefore, we hypothesize the following:

H4: Firms with more female members on board will have a higher level of assurance quality.

Executive Members Gender Diversity: Executive members in top management impact the formation and implementation of corporate strategy and structure for processing information (Thomas & McDaniel, 1990). Research reveals that upper management with female members is more risk-averse (Baixauli-Soler et al., 2015). Empirical evidence shows that women among top executives are more responsible towards stakeholders (Martínez et al., 2022), and positively impact sustainability practices (Prabowo et al., 2017). Given these findings, we hypothesize the following;

H5: Firms with executive female members in top management teams will have a higher level of assurance quality.

Policy Board Diversity: Female directors may have an impact on producing accurate and transparent sustainability reporting (Chams & García-Blandón, 2019), as well as improving assurance (Buertey, 2021). Therefore, we anticipate that firms with a gender diversity policy may be more committed to increasing the assurance quality of sustainability reports. Relying on these arguments, we hypothesize the following;

H6: Firms with a higher gender diversity on board will have a higher level of assurance quality.

CEO Duality: CEOs who also work as Chairman decide firm strategy and assess whether or not that strategy is effective (Finkelstein & D'aveni, 1994). It may become harder for boards to implement their oversight and disciplining in firms where CEO duality appears. CEO duality may decrease the transparency of firms towards all relevant stakeholders, negatively impact sustainability reporting practices (Ganesan et al., 2017), and is unlikely to lead to the involvement of assurance (Oware et al., 2022). Given these previous findings, we expect that there is an inverse linkage between CEO duality and assurance quality. Thus, we hypothesize that:

H7: Firms with CEO duality will have a lower level of assurance quality.

CSR Sustainability Committee: Recent findings show that a committee solely for sustainability increases the likelihood of assurance adoption (Bradbury et al., 2022) and assurance level (Law Chapple et al., 2017; Mardawi et al., 2023). Since members have expertise in social and environmental issues and assurance adoption, a sustainability committee may impact the assurance quality to ensure the confidence of various stakeholders including shareholders (Ruiz-Barbadillo & Martínez-Ferrero, 2020). Therefore, we anticipate that the sustainability committee may impact assurance quality positively and hypothesize the following:

H8: Firms that have a sustainability committee will have a higher level of assurance quality.

Executive Compensation Policy: Existing research demonstrates that executive compensation policy may stimulate key decision-makers to align firms' actions with stakeholder expectations (Nandy et al., 2023), in turn, decreasing the level of conflict between firms and other related parties, as agency-stakeholder theory suggests. Besides, findings indicate that a compensation policy emphasizing social concerns promotes the adoption of GRI (Haque, 2017), thus leading to the adoption of voluntary regulations. Compensation policies that motivate executive officers to achieve long-term objectives and sustainability targets lead to higher quality assurance (Dalla Via & Perego, 2020). Based on these previous findings, we hypothesize the following;

H9: Firms with a policy for performance-orientated compensation will have higher level of assurance quality.

3. DATA AND METHODOLOGY

3.1. Sample

The original dataset used in this research included data for firms in Türkiye, which was obtained from the Thomson Reuters Eikon database, covering the period from 2010 to 2020. Firm-year observations of banks were excluded from this initial sample due to the different financial and governance dynamics of banks. Since the purpose of this research is to identify corporate governance factors at the firm-level that drive the quality of sustainability reporting assurance, we also eliminated observations of firms that do not provide assurance for their sustainability reports. The final sample covers an unbalanced panel of 56 firm-year observations representing 20 unique companies.

3.2. Model Specification

The regression model created to explore the relationship between firm-level corporate governance factors and quality of sustainability reporting assurance is as follows:

$$AQ_{it} = \beta_0 + \beta_1 Firm\ Level\ CG\ Factors_{it} + \beta_2 Control\ Variables_{it} + a_i + u_{it} \quad (1)$$

where a_i is the unobserved time-invariant factors and u_{it} is the unobserved time-varying factors affecting assurance quality (AQ_{it}); β_0 represents the intercept term; i and t refer to the specific firm and time, respectively. We also introduced YEAR dummies into the model to account for variations in AQ over different time periods.

3.3. Measurement of Variables

3.3.1. Measurement of Dependent Variables

In order to measure the dependent variable, *AQ*, the first step was the content analysis of sustainability assurance statements of the sustainability reports which were accessed through company websites. Content analysis has been commonly employed in the extant literature (Bollas-Araya et al., 2019; García-Sánchez, 2020; Nilipour, 2016; O'Dwyer & Owen, 2005; Zaman et al., 2021) to assess the

quality of assurance statements and covers scoring assurance statements against the assessment framework originally developed by O'Dwyer and Owen (2005), which sets the basic criteria of international sustainability reporting and assurance standards. We adopted the frameworks from Bollas-Araya et al. (2019) and Nilipour (2016), adding some new criteria and extending scale ranges for some of the existing criteria. The scoring of assurance statements against the criteria based on this adopted framework (see Appendix 1) results in a score between 0 to 37 points, where 0 indicates the minimum and 37 the maximum level of assurance statement quality.

In the next step to measure *AQ*, following Zaman et al. (2020) and Zaman et al. (2021), we utilized Thomson Reuters' percentile rank scoring methodology to calculate percentile ranks indicating the firm-year's rank among all firm-years in the sample, with a rank of 0 corresponding to firm-years with the lowest assurance quality and 100 to firm-years with the highest assurance quality. The following formula was used to calculate percentile scores:

$$\frac{number\ of\ firm-years\ with\ worse\ value + \frac{number\ of\ firm-years\ with\ same\ value\ including\ the\ current\ one}{2}}{number\ of\ firm-years\ with\ a\ value}$$

3.3.2. Measurement of Independent Variables

Equation (1) covers firm-level corporate governance factors as the independent variables, namely board size, non-executive board members, frequency of board meetings, board gender diversity, executive member gender diversity, policy board diversity, CEO chairman duality, CSR sustainability committee, and executive compensation policy.

CSR sustainability committee (*CSRC*) represents a binary variable that equals "1" when the company has a committee or team dedicated to CSR activities, and "0" otherwise.

Board size (*BSIZE*) represents the overall count of board members.

Non-executive board members (*NEX*) are the proportion of board members who are not in executive roles.

Board meetings (*BM)* show the frequency of board meetings during the year.

Board gender diversity *(BGD*) is the proportion of female on the board.

Executive member gender diversity *(EGD*) is the proportion of female among executive members.

Policy board diversity (*PBD*) represents a binary variable that equals "1" when the company has a policy concerning gender diversity on its board, and "0" otherwise.

CEO chairman duality (*CEOD*) represents a binary variable that is assigned the value of "1" when the CEO and chairman of the company is the same person, and "0" otherwise.

Executive compensation policy (*CPOL*) represents a binary variable that equals "1" when the company has a policy in place for performance-based executive compensation, and "0" otherwise.

3.3.3. Measurement of Control Variables

In alignment with existing research, several control variables were introduced into Equation (1). These are *AUDITOR*, which indicates whether the assurance is provided by one of the big four audit firms and certain financial variables including size (*SIZE*), leverage (*LEV*), return on assets (*ROA*) and capital expenditures (*CAPEX*) of the company. The descriptions and data sources of all the variables in Equation (1) are summarized in Table 1.

Table 1. Descriptions of Variables

Dependent Variable	**Description**	**Data Source**
AQ	Percentile score of assurance statement quality measured based on the scoring framework for assurance statements in Appendix 1	Authors' calculation
Firm Level CG Factors		
CSRC	A binary variable that equals "1" when the company has a committee or team dedicated to CSR activities, and "0" otherwise	Thomson Reuters Eikon Database
BSIZE	Overall count of board members	
NEX	Proportion of board members who are not in executive roles.	
BM	Frequency of board meetings during the year	
BGD	Proportion of female on the board	
EGD	Proportion of female among executive members	
PBD	A binary variable that equals "1" when the company has a policy concerning gender diversity on its board, and "0" otherwise	
CEOD	A binary variable that equals "1" when the CEO and chairman of the company is the same person, and "0" otherwise	
CPOL	A binary variable that equals "1" when the company has a policy in place for performance-based executive compensation, and "0" otherwise	
Control Variables		
AUD	A binary variable that that equals 1 when the assurance is provided by one of the big four audit firms, and "0"" otherwise	Thomson Reuters Eikon Database
SIZE	natural log of total assets	
LEV	proportion of liabilities to assets	
ROA	return on assets	
CAPEX	capital expenditure % sales	

4. EMPIRICAL FINDINGS

4.1. Descriptives

All financial variables in Equation (1) (*SIZE*, *LEV*, *ROA*, *CAPEX*) were subjected to a winsorization process, which involved trimming the extreme 5% of values from both the lower and upper ends, to prevent any potential outliers misleading the regression results. The summary of descriptives and pairwise correlations are presented in Table 2. The correlation coefficients in Table 2, all of which are under 0.6 along with the variance inflation factors (VIF) determined after Equation (1) estimation, affirm the absence of multicollinearity.

Table 2. Descriptives and Correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. AQ	50	28.65	1.00														
2. CSRC	.91	.29	0.20	1.00													
			(0.13)														
3. BSIZE	11.34	3.71	0.31*	0.08	1.00												
			(0.02)	(0.56)													
4. NEX	82.65	13.82	0.26*	0.07	0.45*	1.00											
			(0.05)	(0.62)	(0.00)												
5. BM	9.88	10.77	-0.16	-0.26*	-0.29*	-0.32*	1.00										
			(0.24)	(0.06)	(0.03)	(0.01)											
6. BGD	10.12	11.28	0.02	0.02	-0.51*	-0.29*	-0.02	1.00									
			(0.89)	(0.87)	(0.00)	(0.03)	(0.91)										
7. EGD	11.65	8.57	0.52*	0.29*	0.22	0.41*	-0.49*	0.17	1.00								
			(0.00)	(0.03)	(0.10)	(0.00)	(0.00)	(0.22)									
8. PBD	.36	.48	-0.20	-0.03	0.01	-0.05	0.11	-0.01	-0.24*	1.00							
			(0.14)	(0.84)	(0.93)	(0.73)	(0.42)	(0.96)	(0.07)								
9. CEOD	.16	.37	-0.13	0.14	-0.50*	-0.56*	0.08	0.49*	-0.20	-0.12	1.00						
			(0.34)	(0.31)	(0.00)	(0.00)	(0.57)	(0.00)	(0.14)	(0.37)							
10. CPOL	.77	.43	-0.36*	0.27*	-0.01	0.20	-0.01	-0.09	-0.08	0.32*	-0.10	1.00					
			(0.01)	(0.04)	(0.96)	(0.14)	(0.94)	(0.52)	(0.56)	(0.02)	(0.44)						
11. AUD	.52	.50	0.37*	0.07	-0.08	-0.21	0.05	0.15	0.14	-0.10	0.23*	-0.36*	1.00				
			(0.01)	(0.59)	(0.58)	(0.12)	(0.70)	(0.27)	(0.31)	(0.46)	(0.09)	(0.01)					
12. SIZE	23.29	.77	0.02	-0.09	-0.06	0.21	0.00	-0.03	0.07	0.34*	-0.32*	0.40*	-0.03	1.00			
			(0.90)	(0.50)	(0.68)	(0.12)	(0.99)	(0.85)	(0.62)	(0.01)	(0.02)	(0.00)	(0.81)				
13. LEV	.68	.11	-0.18	-0.15	0.05	-0.03	0.23*	0.25*	-0.09	0.56*	0.03	0.20	0.09	0.23*	1.00		
			(0.18)	(0.26)	(0.70)	(0.81)	(0.08)	(0.06)	(0.52)	(0.00)	(0.84)	(0.13)	(0.50)	(0.09)			
14. ROA	5.14	3.88	-0.06	0.26*	-0.11	0.00	-0.10	-0.10	-0.12	0.02	0.16	0.16	-0.36*	-0.16	-0.43*	1.00	
			(0.69)	(0.06)	(0.40)	(0.99)	(0.48)	(0.45)	(0.37)	(0.86)	(0.24)	(0.24)	(0.01)	(0.23)	(0.00)		
15. CAPEX	7.56	5.83	-0.09	-0.26*	0.10	0.15	0.21	-0.31*	-0.06	-0.21	-0.30*	-0.13	-0.17	0.15	-0.17	0.04	1.00
			(0.53)	(0.06)	(0.45)	(0.28)	(0.11)	(0.02)	(0.66)	(0.11)	(0.03)	(0.34)	(0.20)	(0.25)	(0.21)	(0.76)	

Notes: Table 1 provides the definitions of the variables. * p < 0.10, ** p < 0.05, *** p < 0.01.

4.2. Regression Results

Prior to estimating the regression model presented by Equation (1), the initial step involved assessing the precision of the model's specification. The link test for model specification provided a significant variable of prediction (_hat: 1.19, p: 0.000) and an insignificant variable of squared prediction (_hatsq: -.002, p: 0.466) which means that our model is specified correctly. We also performed the Ramsey regression specification-error test for omitted variables. The insignificant test statistic (1.40, p: 0.263) from this test confirmed that there are no omitted variables in our model.

The second step was to select the most appropriate estimator to estimate the Equation (1). Breusch-Pagan LM test was applied to decide between pooled ordinary least squares (OLS) and random effects estimator. The test statistic of the Breusch-Pagan LM test yielded an insignificant p-value, indicating that random individual effects are not statistically significant, and their variances are effectively zero. Consequently, we opted for the pooled OLS estimator.

Finally, Equation (1) was estimated by pooled OLS estimator, and we calculated both robust standard errors and Driscoll Kraay standard errors to account for heteroskedasticity, serial correlation, and cross-sectional dependence.

Table 3 presents the pooled OLS estimation results of Equation (1) by robust and Driscoll Kraay standard errors in the first and second columns, respectively. According to the Driscoll Kraay results, the positive and significant coefficients of the variables BSIZE (board size), BM (board meetings), and EGD (executive gender diversity) suggest a positive relationship between assurance quality and certain firm-specific corporate governance factors, including board size, frequency of board meetings, and proportion of female executive members. However contrary to our expectations, a positive correlation was found between CEOD (CEO duality) and assurance quality. Finally, the negative and significant coefficient of CPOL (existence of a policy for performance-oriented compensation) indicates a negative association between assurance quality and having a compensation policy.

When it comes to control variables a positive correlation was found between assurance quality and the variables AUD (assurance provided by one of the big four audit firms) and SIZE (log of total assets). On the other hand, LEV (ratio of liabilities to assets) and CAPEX were found to be negatively correlated with assurance quality.

Table 3. Regression Results

	(1) ROBUST	(2) DRISCOLL-KRAAY
CSRC	7.630	7.630
	(0.59)	(0.67)
BSIZE	3.028*	3.028*
	(1.99)	(1.97)
NEX	0.585*	0.585
	(1.95)	(1.68)
BM	0.967***	0.967***
	(2.82)	(3.40)
BGD	0.446	0.446
	(1.16)	(1.67)
EGD	1.135**	1.135***
	(2.38)	(3.63)
PBD	4.027	4.027
	(0.41)	(0.34)
CEOD	12.03	12.03*
	(0.94)	(2.14)
CPOL	-26.80**	-26.80***
	(-2.69)	(-6.34)
AUD	12.66	12.66***
	(1.50)	(4.33)
SIZE	13.26**	13.26**
	(2.53)	(2.69)
LEV	-93.91*	-93.91**
	(-2.03)	(-2.91)
ROA	0.378	0.378
	(0.36)	(0.55)
CAPEX	-1.740**	-1.740***
	(-2.63)	(-6.22)
YEAR	Yes	Yes
Constant	-291.9**	-291.9**
	(-2.33)	(-3.01)
R2	0.7237	0.7237
N	56	56

Notes: Table 1 provides the definitions of the variables. t statistics in parentheses * p < 0.10, ** p < 0.05, *** p < 0.01

4.3. Sensitivity Analyses

We checked whether OLS estimation results of the Equation (1) are sensitive to the endogeneity issue by The Durbin-Wu-Hausman Test of Endogeneity. The insignificant test statistic of The Durbin-Wu-Hausman Test of Endogeneity (wu-hausman: 76623, p: .6784) suggests that OLS estimates are consistent.

The sensitivity of the results to the variables employed as proxies for firm-level corporate governance factors was also assessed by employing alternative proxies. Equation (1) was modified to include "non-executive board members score", "board gender diversity score", "executive gender diversity score", "policy board diversity score", "CEO-chairman separation score", "executive compensation policy score" instead of "proportion of board members who are not in executive roles", "proportion of female on the board", "proportion of female executive members", "existence of a policy regarding the gender diversity of the board", "CEO duality", and "existence of a policy for performance-oriented compensation", respectively. The newly introduced set of variables falls under the ESG Indicator Scores category within the Thomson Reuters Eikon database, with values ranging from 0 to 100. The untabulated estimation results of the modified Equation (1) including this new set of corporate governance proxies resulted in quantitatively similar results to the reported ones.

5. DISCUSSION

This study set out with the aim of exploring firm-level corporate governance determinants of the assurance quality in sustainability reporting.

While some of our findings align with our expectations, some of them contradict existing research and theory. The finding indicating a positive relationship between assurance quality and board size supports the existing research (García-Sánchez, 2020) and also the theoretical argument claiming that larger companies facing asymmetric information problems are likely to prefer employing a more advanced quality assurance service to send positive indicators to the market about the credibility of their sustainability report (Zhou et al., 2016).

The frequency of board meetings was also found to be positively correlated with assurance quality. This result matches those observed in the studies of García-Sánchez (2020) and Zaman et al. (2021) confirming that boards that engage in more meetings effectively oversee company management and promote the selection of higher-quality assurance to inform stakeholders about their endeavors. The positive correlation between assurance quality and the proportion of female executive members is again in agreement with García-Sánchez's (2020) findings and suggests that female directors play a beneficial role in improving non-financial reporting quality and the credibility of information (Liao et al., 2018). We found a negative correlation between assurance quality and having a policy for performance-oriented compensation. Although this finding seems to conflict with the results of García-Sánchez (2020), who showed that the presence of compensation mechanisms enhances assurance quality, the contradiction arises from differing bases of compensation policy variables used in the two studies. In this study, the compensation variable represents a policy linked to a company's financial performance, as opposed to the sustainability focus in García-Sanchez's (2020) study. Consequently, it could be posited that compensation policies tied to financial performance might have a detrimental effect on assurance quality.

One unanticipated finding is the positive correlation between assurance quality and CEO duality. The reason behind this result might lie within the ownership structure of the Turkish firms. In Türkiye, where individual family members are reported to dominate the majority of the listed companies (Yurtoglu, 2000; 2003), executive positions are mostly occupied by family members or in some cases by an acquaintance with a long-term relationship with the controlling family (Ararat & Ugur, 2003). Besides, previous research (Cennamo et al., 2012) indicates that family members are more likely to give priority to the preservation of their socioemotional wealth and thus engage in proactive stakeholder practices. As a result, considering the ownership structure of the Turkish listed firms, a chairman-CEO might be more inclined to adopt strategies, which can establish or increase stakeholder confidence in return.

Finally, by examining control variables, it is found that assurance quality is positively associated with assurance provided by one of the big four audit firms and firm size, while it is negatively associated with leverage ratio and capital expenditures.

6. CONCLUSION

The present study was designed to identify the firm-level corporate governance factors driving the assurance quality of sustainability reports. For this purpose, related data of a sample comprising 56 firm-year observations from 20 unique companies in Türkiye, was analyzed via content analysis and panel data techniques.

The primary findings of this study indicate that enhancing a company's corporate governance structure, as reflected in factors like board size, frequency of board meetings, and the proportion of female executive members, would have a positive impact on the quality of assurance in sustainability reports.

This research contributes to the existing research, which has predominantly concentrated on assurance adoption in developed countries, by examining not the adoption but the quality of assurance reports within a developing nation context. The results of this study hold significant implications for companies, investors, and regulatory bodies alike. This study establishes a significant association between strong corporate governance and high assurance quality of sustainability reports. Higher assurance quality means higher transparency for companies and more reliable reports for investors. Moreover, from a regulatory perspective, this research furnishes a valuable instrument for ensuring high assurance quality—specifically, through the oversight of corporate governance factors. By regulating these corporate governance factors, regulatory bodies can effectively bolster the overall assurance quality of sustainability reports.

While this study makes notable contributions, it is essential to recognize its inherent limitations with regard to the generalizability of its findings. Given that the sample exclusively encompasses firm-year observations from Turkish companies, the findings' generalizability to other developing countries

may be constrained. To overcome this limitation, future research could expand its scope by incorporating multiple developing countries in their samples. However, such research handling more than one country should also take into account country-specific governance factors that might have an impact on the quality of assurance in sustainability reports.

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