

THE EFFECT OF GOVERNMENT OWNERSHIP ON CORPORATE SOCIAL DISCLOSURE

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Abstract

This study aims to evaluate the extent of corporate social disclosure (CSD) in the Jordanian context. Also, the study seeks to empirically examine the effect of ownership structure (government ownership) on the extent of CSD found in firms' annual reports. Additionally, this study aims to examine the moderating effect of industry type (IT) on the relationship between government ownership (GO) and CSD. A CSD index is applied, and content analysis is performed to investigate the extent of CSD in the annual reports of listed manufacturing and services firms in the Amman Stock Exchange (ASE). The study applied quantitative research using a sample of 85 firms and 935 annual reports from 2006 to 2016. The Ordinary Least Squares estimator (OLS) was used to test the hypotheses. The two-step system Generalized Method of Moments (GMM) estimator was applied to address the endogeneity problem. The analysis shows that the CSD average is 36 %, higher than the 27% and 31% found by Gerged (2021) and Qa'dan and Suwaidan (2019) for two Jordanian samples during 2010-2014 and 2013-2015, respectively. Also, the findings show that higher government ownership is associated with increased CSD in the annual reports of Jordanian firms. Furthermore, the results display that IT has a positive and significant moderating effect on the relationship between GO and CSD. The current study contributes to the literature by analyzing the role of ownership structure, particularly government ownership, on CSD, a relatively little-researched topic. To the best of knowledge, this study is the first to test the moderating effect of IT on the relationship between GO and CSD. Besides the OLS estimator, a dynamic panel data model, specifically a two-step system GMM estimator, is used to test the study hypotheses. Accordingly, a two-step systematic GMM estimator addresses endogeneity problems, which gives more reliable findings. Second, the current study contributes to the agency theory and its applications in the Jordanian market. The results prove that Jordanian firms apply CSD as a strategic instrument to align the agency conflict with the government (principals) and mitigate agency costs.

Keywords: Agency Theory, Corporate Social Disclosure, Government Ownership, Industry Type.

1. INTRODUCTION

Social problems like poverty and unemployment are one of the biggest challenges in the emerging economies and Jordan is not an exception (Al-kasasbeh, 2022). Poverty rates in

Jordan increased from 13% to 15.7% from 2006 to 2017 (Alsharkawi et al., 2021). Unemployment enhanced from 14% to 15.3 % from 2006 to 2016 (WB, 2022). The government is responsible to seek solutions for social problems as a part of its plan to develop the economy (Al-kasasbeh, 2022). One of the solutions is to promote awareness among businesses of their social role. In Jordan, it is still vague how the existence of government in a firm's ownership structure affects a firm's social responsibility practices and disclosure. Corporate social disclosure (CSD) is important to demonstrate to the stakeholders, the extent to which a firm has performed its social function (O'Dwyer, 2002). As such, this study aims to analyze the relationship between government ownership and CSD by Jordanian firms. Additionally, the current study aims to examine the moderating effect of IT on the relationship between GO and CSD.

In the early 1990s, CSD turned out to be a hot research area (Asmeri et al., 2017; Garanina and Array, 2020). Gray et al. (1987, p.9) defined CSD as "the process of communicating the social and environmental effects of organizations' economic actions to particular interest groups within society and society at large." According to Ghazali (2007), corporate social disclosure could be defined as firms' social and environmental activities included in firms' annual reports to share with stakeholders. This study focuses only on the firms' social activities that were included in the firms' annual reports. Prior research has examined the relationship between CSD and different factors to figure out the influential determinants of CSD. Most of the studies used agency theory. In this regard, previous studies have focused on the effect of corporate governance variables on CSD (Garanina and Array, 2020; Boshnak, 2021; Sari, 2021). Corporate governance mechanisms are essential in supporting firms' transparency and improving their financial constancy (Altawalbeh, 2020). As a result, corporate governance mechanisms become a core determinant for corporate disclosure (Harun et al., 2020). According to Johnson and Greening (1999), different firm ownership structure as one of important governance mechanisms, impacts firms' decisions, performance, and values. Therefore, the firm's ownership structure seems to influence the firm's decision to report social disclosure.

Prior studies examined the effect of different types of ownership structures on CSD. Al Amosh and Mansor (2020) and Qaderi et al. (2020) studied the relationship between block ownership and CSD. Additionally, Qa'dan and Suwaidan (2019) and Boshnak (2021) analyzed the association between institutional ownership and CSD. Also, Alotaibi and Hussainey (2016) and Al Amosh and Mansor (2020) examined the effect of managerial ownership on CSD. Cuadrado-Ballesteros et al. (2015) and Boshnak (2021) analyzed the impact of family ownership on CSD. Furthermore, Garanina and Aray (2020) and Sari (2021) examined the association between foreign ownership and CSD. Lastly, Alshbili et al. (2019) and Boshnak (2021) examined the impact of government ownership on CSD. Prior studies on the relationship between government ownership and CSD mainly use a short study period. Examining the relationship between government ownership and CSD for a short period might not reflect the relationship's general pattern, especially if the short study period witnessed influential events. Regression estimates based on a short study period might be affected by certain events which took place during the short study period. In addition, prior studies only

examined the direct relationship between government ownership and CSD. The moderating effect of industry type on the association between government ownership and CSD has received very little attention. Government ownership is the amount of equity the government has in Jordanian-listed companies. In the case of Jordan, there is a lack of research on the association between government ownership and CSD. Only a few studies in Jordan examined the effect of government ownership on CSD (Suwaidan et al., 2004; Ismail and Ibrahim, 2008; Khalid et al., 2017; Al Fadli et al., 2019; Al Amosh and Mansor, 2020). The Jordanian government's biggest challenges for the last two decades are poverty and unemployment. As a social problem, they became a priority in the government plan. Thus, the government seems to be interested in firms' social activities.

This study contributes in many ways. First, it contributes to the CSD literature, where very few studies have analyzed the association between GO and CSD, especially in Jordan. Second, this study proved the applicability of agency theory to theoretically explain the association between GO and CSD in the context of Jordan. Third, this research is the first to examine the moderating effect of industry type on the relationship between GO and CSD. Finally, this study takes into account the dynamic nature of the relationship. In this regard, a dynamic panel data regression was applied to give more reliable and unbiased findings.

Unlike prior studies in this vein, the current study measures the firm's social disclosure by focusing mainly on social themes of disclosure. A social disclosure checklist is adopted and modified to achieve these goals to be consistent with the Jordanian context. Also, a content analysis approach is followed to measure the social disclosure index. The OLS estimator is applied to test the study hypothesis in this study. A two-step system GMM estimator is performed as a robustness analysis to address endogeneity.

The rest of the paper is classified as follows. Section 2 presents the literature review. Section 3 presents the hypotheses development. Section 4 discuss the research method. Section 5 results and discussions. Section 6 provides the study conclusion.

2. LITERATURE REVIEW

The current study chose to explain the social disclosure behavior of Jordanian firms from the lens of agency theory. Agency theory introduced the concept of the agency problem. One reason that brings agency problems to face is the existence of information asymmetry. Information asymmetry happens when one party (agents) has superior information than the other party (principals) (Healy and Palepu, 2001). There is an information gap between agents (management) and principals (government owners). Managers are expected to issue more social information to match the government's expectations, which will address such agency problems and minimize the associated costs (Barako et al., 2006).

The ownership structure explains how the firm ownership is distributed between different shareholders (Alqatameen et al., 2020). In this regard, different shareholders could be grouped into many ownership types: managerial ownership, block ownership, institutional ownership, family ownership, foreign ownership, and government ownership. The ownership structure that

represents one of the corporate governance mechanisms (Baba and Baba, 2021), become one of the determinants of a firm's behavior and decision process (Johnson and Greening, 1999). Therefore, a firm's ownership structure impacts the management's decision to report corporate social disclosure.

In this regard, the prior literature in Jordan examined the relationship between the firm's different types of ownership structure and the extent of CSD. The relationship between block holder ownership and CSD was examined by (Al Amosh and Mansor, 2020; Qaderi et al., 2020; Gerged 2021). Other studies like Qa'dan and Suwaidan (2019) and Gerged (2021) analyzed the effect of institutional ownership on CSD. Al-Hamadeen and Badran (2014), Qa'dan and Suwaidan (2019), Al Amosh and Mansor (2020), and Gerged (2021) studied the effect of foreign ownership on CSD. Finally, the impact of managerial ownership on CSD was examined by (Qa'dan and Suwaidan, 2019; Al Amosh and Mansor, 2020; Gerged, 2021).

In Jordan, the prior studies that examined the relationship between GO and CSD show mixed results. In this regard, Suwaidan et al. (2004) and Al Fadli et al. (2019) find a significant positive effect of government ownership on CSD. On the contrary, Ismail and Ibrahim (2008) show a significant negative association between GO and CSD. Others' findings, like Khalid et al. (2017) and Al Amosh and Mansor (2020), found that GO has no impact on CSD. This study adds to the literature by examining the moderating effect of industry type on the relationship between government ownership and CSD. Also, not much attention has been made by the prior studies to the dynamic nature of data while examining the relationship between government ownership and CSD. Thus, the findings of prior studies might suffer from inconsistency. In this regard, this study applied the dynamic panel data analysis as a robust analysis to prove the reliability of the findings.

3. HYPOTHESES DEVELOPMENT

Government ownership exists when a government or one of its agencies attains stock ownership in the firm equity. The government's activities are socially oriented in nature (Al-Gamrh and AL-Dhamari, 2016; Habbash, 2016). The priority of a firm's management is to maximize profits. In firms with government ownership, the management's goal might contradict the government's social orientations (Ntim and Soobaroyen, 2013). According to Eng and Mak (2003), this conflict in goals between the government and management leads to increase agency costs in firms with government ownership. From the view of agency theory, firms with government ownership will report extra CSD to minimize the information asymmetry between management and government and reduce agency costs. According to Barako et al. (2006) and Huang and Zhang (2008), CSD is one of the efficient tools for reducing agency costs.

In India, Muttakin and Subramaniam (2015) found that government ownership positively and significantly impacts CSD. Al-Gamrh and AL-Dhamari (2016) show a positive and significant association between government ownership and CSD in the Saudi context. In Libya, Alshbili et al. (2019) analyzed the annual reports of 28 manufacturing firms. They find a significant positive association between government ownership and CSD. Also, Boshnak (2021) examined

CSD determinants in the annual reports of 70 Saudi firms. The study shows that government ownership has a significant positive effect on CSD. In the Jordanian context, Suwaidan et al. (2004) and Al Fadli et al. (2019) found that the relationship between government ownership and CSD is significantly positive. Therefore, this study hypothesizes the following:

H1: There is a positive association between government ownership and corporate social disclosure.

Although prior studies have analyzed the direct effect of GO on CSD, the indirect impact of industry type on this relationship has not been examined. According to Dye and Sridhar (1995), companies from different industries adopted different disclosure practices. In this regard, the studies of Ho and Taylor (2007), Al Amosh and Mansor (2020), Qaderi et al. (2020), and Boshnak (2021) found that manufacturing firms disclosed more social information than non-manufacturing firms. Therefore, the current study develops the following hypothesis:

H2: The relationship between government ownership and CSD is positively moderated by industry type.

4. RESEARCH METHODOLOGY

The current study population consists of all listed firms in Amman Stock Exchange (ASE) for the year 2016. Financial sector companies were excluded. Financial companies have a distinctive nature of operations, which exposes them to different financial rules (Sadou et al., 2017; Zaid et al., 2020). Thus, prior studies support testing them separately (Wallace et al., 1994; Owusu-Ansah, 1998; Alsaed, 2006). Services and manufacturing firms that issued annual reports for the whole study period 2006-2016 were included in the study sample. Of the 116 services and manufacturing firms listed in ASE, 85 firms are embraced in the final study sample. Thus, the study sample represents 73.27 percent of the population. The number of firm-year observations is 935. Following Qa'dan and Suwaidan (2019), Qaderi et al. (2020), and Gerged (2021), this study selected annual reports as a source of data. Annual reports are considered a highly credible source of information and a significant communication channel for voluntary disclosures (Tilt, 1994; Deegan and Rankin, 1996). Many user groups perceived annual reports as the main information provider (Marston and Shrivies, 1991). Therefore, the data was collected manually from the 935 annual reports.

This study measured CSD in annual reports by following the content analysis technique. Content analysis is a reliable and valid technique for verifying the quality and quantity of disclosures (Branco and Rodrigues, 2008). As a data collection method, the content analysis relies on an index (Gray and Haslam, 1990). A disclosure index is a research tool used to find the extent of reported information in certain firms' annual reports based on a set of chosen information items (Hassan and Marston, 2010). In this study, the corporate social disclosure index is the dependent variable. The current study adopted and developed a CSD checklist.

Table 1: Sample selection

	Financial Sector	Services Sector	Manufacturing Sector	Total Number Of Companies
Listed companies on ASE in 2016	103	56	60	219
Less: financial sector companies	(103)			(103)
Less: companies that were not listed during 2006-2016		(9)	(8)	(17)
Less: companies with incomplete annual reports		(8)	(6)	(14)
Number of companies in the final analysis	0	39	46	85
Number of observations in the final analysis (85 companies*11 years)				935

The current study social disclosure checklist consists of 17 items covering community involvement, employee information, and product or service themes. The social disclosure checklist was adopted from (Haniffa and Cooke, 2002). Also, the social disclosure checklist was modified following Suwaidan et al. (2004) and Ismail and Ibrahim (2008) to guarantee its relevance to the Jordanian market (see Table.2).

Table 2: CSD checklist

Category	No	Social disclosure item
Community involvement	1	Charity and philanthropic donations
	2	Public welfare
	3	Community programs
	4	Creating job opportunities and minimizing the unemployment rate
Employee information	5	Promotions and rewards
	6	Appointment policy
	7	Employees' welfare
	8	Profit-sharing schemes policy
	9	Number of employees
	10	Employee training
	11	Employees' health and safety
	12	Employment of disabled
Product or service information	13	Product quality
	14	Customer service
	15	Distribution of marketing network for finished products—foreign market
	16	Customer awards/ratings received
	17	Responsiveness to customer complaints

This study used the dichotomous (unweighted) approach to determine each firm's CSD index (Beattie et al., 2004). The unweighted approach assumes that every disclosure item has the same importance; therefore, it reduces the subjectivity in assigning the weight for each disclosure item (Ahmed and Courtis, 1999; Chau and Gray, 2002; Bisogno et al., 2014). In this regard, the disclosure item is given a value score of 1 if it is reported in the firm's annual report and 0 otherwise. Additionally, this study applied the interrater reliability method to measure the percentage of agreement between two or more data scorers. In this regard, the test of Cohen's kappa shows a coefficient of 0.90. The corporate social disclosure index for each firm was calculated as follows:

$$CSDI_y = \frac{\sum_{t=1}^{n_y} X_{iy}}{n_y}$$

CSDI_y = Corporate Social Disclosure Index for yth firm

n_y = number of items expected for yth company, n ≤ 17

X_{i y} = 1, if ith item disclosed, otherwise 0

So that $0 \leq CSDI_y \leq 1$

The current study applied the OLS model to analyze the hypotheses (see Table 6).

$$CSD = \alpha + \beta_1 GO_{i,t} + \beta_2 IT_{i,t} + \beta_3 GO*IT_{i,t} + \beta_4 FPROF_{i,t} + \beta_5 FLEV_{i,t} + \beta_6 FAGE_{i,t} + \beta_7 FLIQ_{i,t} + \beta_8 FGROW_{i,t} + \beta_9 BSIZE_{i,t} + \beta_{10} BMEET_{i,t} + \beta_{11} CEOD_{i,t} + \beta_{12} WOB_{i,t} + \beta_{13} FD_{i,t} + \beta_{14} AUF_{i,t} + \epsilon_i$$

Where:

CSD = Corporate social disclosure.

α = Intercept.

β₁ - 14 = Variable's coefficient.

ε_i = Error term.

i = Represents the observation (annual report).

t = Represents the time (year).

Table 3: Summary of variables

Proxy	Variable	Measurement	Data Source
Dependent variable			
CSD	Corporate Social Disclosure	Corporate social disclosure index.	Firms' annual reports
Independent variable			
GO	Government Ownership	Percentage of shares owned by the government to the total number of shares issued (Al Fadli et al., 2019; Al Amosh and Mansor, 2020).	Firms' annual reports
Moderator variable			
IT	Industry type	Dummy variable equals one if the firm belongs to the manufacturing sector and 0 otherwise (Qaderi et al., 2020; Boshnak 2021).	Firms' annual reports
Control variables			
FPROF	Profitability	Return on equity (Rouf and Hossan, 2020; Wahyuningrum et al., 2021).	Firms' annual reports
FLEV	Firm Leverage	Total debt/ total assets (Muttakin et al., 2018; Boshnak 2021).	Firms' annual reports
FAGE	Firm Age	The number of years since the firm's inception (Muttakin et al., 2018; Boshnak, 2021).	Firms' annual reports
FLIQ	Firm Liquidity	Current ratio (Alotaibi and Hussainey, 2016).	Firms' annual reports
FGROW	Firm Growth	Percentage of annual change in sales (Ahmad et al., 2017a; Ahmad et al., 2017b).	Firms' annual reports
BSIZE	Board Size	Total number of directors sit in the board (Rouf and Hossan, 2020; Gerged 2021).	Firms' annual reports
BMEET	Board Meetings	Total number of corporate board meetings during the year (Bansal et al., 2018; Alshbili et al., 2019).	Firms' annual reports
CEOD	CEO Duality	Dummy variable equals one if the same person holds the positions of Chief Executive Officer and Chairperson in a firm, and otherwise equals zero (Qa'dan and Suwaidan, 2019; Gerged 2021).	Firms' annual reports
WOB	Women on Board	Percentage of women on board. (Qa'dan and Suwaidan, 2019; Rouf and Hossan, 2020).	Firms' annual reports
FD	Foreign Directors	Percentage of foreigners on board (Ibrahim and Hanefah, 2016; Dyduch and Krasodomska, 2017).	Firms' annual reports
AUF	Audit Firm	Dummy variable that equals one if the audit firm is one of the big four and 0 otherwise (Boshnak, 2021; Gerged, 2021).	Firms' annual reports

5. RESULTS AND DISCUSSION

Table 4. Shows the descriptive statistics for the continuous variables before and after data transformation. To control the effect of the outliers, the data of this study is winsorized at the 1% and 99% levels. Then, the natural logarithms transformation was applied to the following continuous control variables: FPROF, FLEV, FGROW, BSIZE, BMEET, WOB, and FD. The CSD index has an average of 36% for the study period 2006-2016 and ranges from 0.058 to 0.705. This average means that the Jordanian firms disclose 36 percent of the 17 key items of CSD. This percentage indicates that the extent of CSD is enhanced compared to prior studies in Jordan. Previous studies in Jordan showed the extent of CSD reported as 27% Gerged (2021) and 31 % Qa'dan and Suwaidan (2019). The mean of government ownership is 0.014 and ranges from 0 to 1. Additionally, the firm profit average is 0.0076, ranging from -2.748 to 1.150. Also, the mean value of firm leverage is 0.330, with a minimum score of 0.005 and a maximum score of 1.081. Furthermore, the descriptive statistics show a mean score of 25.152 for firm age, 2.56 for firm liquidity, and 0.424 for firm growth. The descriptive statistics also provide a mean score of the corporate governance variables. The board size has a mean value of 8.635, with a score range between 2 to 23. Also, Table 4. Shows a mean score of 6.994 for the board meetings, 0.037 for the women on board, and 0.0694 for the foreign directors. The results of the Pearson correlation analysis between CSD and continuous variables are shown in Table 5. The findings of the Pearson correlation show that the government ownership (GO), firm profit (FPROF), firm leverage (FLEV), firm age (FAGE), firm liquidity (FLIQ), board size (BSIZE), board meetings (BMEET), and foreign directors (FD) are positively related to CSD ($P < 0.01$). Also, Table 5 shows the results of the Point biserial correlation between the CSD and dichotomous variables. The results show that the audit firm variable (AUF) positively relates to CSD. The highest correlation value (0.297) exists between the CSD and FAGE. According to Gujarati (2003), correlation values should be bigger than 0.80 to cause the

problem of multi-collinearity. Therefore, the Pearson correlation and Point biserial correlation results indicate the absence of multi-collinearity problems.

Table 4: Descriptive statistics

Panel A: Descriptive statistics based on raw/actual data of continuous variables								
Variable	Obs	Mean	Median	P25	P75	Std.Dev.	Min	Max
Dependent Variable								
CSD	935	0.364	0.352	0.294	0.470	0.132	0.058	0.705
Independent Variables								
GO (%)	935	0.014	0.000	0.000	0.000	0.077	0.000	1
Control Variables								
FPROF - ROE (%)	935	0.0076229	0.046	-0.018	0.098	0.316	-2.748	1.150
FLEV (%)	935	0.330	0.292	0.158	0.435	0.225	0.005	1.081
FAGE (years)	935	25.152	20	14	34	15.196	0.000	65
FLIQ (%)	935	2.56	1.599	0.960	2.842	2.999	0.029	23.680
FGROW (%)	935	0.424	0.029	-0.112	0.183	4.022	-0.992	52.482
BSIZE (number of directors)	935	8.635	9	7	10	2.428	2	23
BMEET (number of yearly meetings)	935	6.994	6	6	7	2.148	3	19
WOB (%)	935	0.037	0.000	0.000	0.000	0.076	0.000	0.555
FD (%)	935	0.0694	0.000	0.000	0.100	0.136	0.000	0.8333
Panel B: Descriptive statistics based on transformed data of continuous variables								
Variable	Obs	Mean	Median	P25	P75	Std.Dev.	Min	Max
Dependent Variable								
CSD	935	0.364	0.352	0.294	0.470	0.132	0.059	0.706
Independent Variables								
GO	935	0.015	0.000	0.000	0.000	0.078	0.000	1.000
Control Variables								
FPROFlg	935	5.846	5.846	5.846	5.846	0.001	5.838	5.849
FLEVlg	935	-1.395	-1.228	-1.842	-0.830	0.872	-5.119	0.585
FAGE	935	25.152	20	14	34	15.194	0.000	64
FLIQlg	935	0.466	0.469	-0.040	1.044	1.035	-7.55	3.029
FGROWlg	935	2.098	2.083	2.065	2.102	0.134	1.948	3.386
BSIZElg	935	2.119	2.197	1.945	2.302	0.276	1.609	2.833
BMEETlg	935	1.912	1.791	1.791	1.945	0.238	1.386	2.833
WOBlg	935	-7.491	-9.210	-9.210	-9.210	3.089	-9.21	-1.252
FDlg	935	-6.89	-9.210	-9.210	-2.301	3.489	-9.21	-.182
Panel C: Frequency distribution for dummy variables								
		Freq.		Percent		Cum.		
IT	0	429		45.88		45.88		
	1	506		54.12		100.00		
	Total	935		100.00				
CEOD	0	775		82.89		82.89		

	1	160	17.11	100.00
	Total	935	100.00	
AUF	0	609	65.13	65.13
	1	326	34.87	100.00
	Total	935	100.00	

Note: CSD: corporate social disclosure, GO: government ownership, FPRO: firm profit, FLEV: firm leverage, FAGE: firm age, FLIQ: firm liquidity, FGROW: firm growth, BSIZE: board size, BMEET: board meetings, WOB: women on board, FD: foreign directors, FPROflg: logarithm of firm profit, FLEVlg: logarithm of firm leverage, FLIQlg: logarithm of firm liquidity, FGROWlg: logarithm of firm growth, BSIZElg: logarithm of board size, BMEETlg: logarithm of board meetings, WOBlg: logarithm of women on board, FDIlg: logarithm of foreign directors. Values are in Jordanian Dinar (JOD).

Table 5: Correlation analysis

Panel A: Pearson correlations matrix											
	CSD	GO	FPROF	FLEV	FAGE	FLIQ	FGROW	BSIZE	BMEET	WOB	FD
CSD	1.000										
GO	0.169***	1.000									
FPROF	0.182***	-0.042	1.000								
FLEV	0.150***	0.131***	-0.150***	1.000							
FAGE	0.297***	0.226***	0.073**	0.062*	1.000						
FLIQ	0.076*	-0.080**	0.146***	-0.527***	0.030	1.000					
FGROW	-0.047	-0.010	0.060*	-0.012	-0.051	-0.063*	1.000				
BSIZE	0.258***	0.123***	0.106***	-0.037	0.144***	0.022	0.000	1.000			
BMEET	0.117***	0.176***	0.080**	0.094***	0.112***	-0.032	-0.038	0.006	1.000		
WOB	-0.028	-0.086***	0.090***	-0.204***	-0.116***	0.062*	0.028	0.014	0.060	1.000	
FD	0.162***	0.030	-0.001	-0.053	0.025	0.047	0.038	0.205***	-0.115***	0.056*	1.000

Panel B: Point biserial correlation				
	CSD	IT	CEOD	AUF
CSD	1			
IT	-0.039	1		
CEOD	-0.034	-0.026	1	
AUF	0.363***	-0.142***	-0.189***	1

Note: CSD: corporate social disclosure, GO: government ownership, FPROflg: logarithm of firm profit, FLEVlg: logarithm of firm leverage, FAGE: firm age, FLIQlg: logarithm of firm liquidity, FGROWlg: logarithm of firm growth, BSIZElg: logarithm of board size, BMEETlg: logarithm of board meetings, WOBlg: logarithm of women on board, FDIlg: logarithm of foreign directors, IT: industry type, CEOD: chief executive officer duality, AUF: audit firm. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6 displays the impact of GO, GO*IT, and control variables on the CSD by using the static panel data estimator OLS. The adjusted R squared of Model 1 displays that the explanatory variables explain 34.8 percent of the variation in the dependent variable "CSD." The estimates of Model 1 display a significant positive relationship between GO and CSD. Therefore, the first hypothesis is accepted. This result is consistent with the following prior studies (Suwaidan et al., 2004; Al Fadli et al., 2019), which confirmed the positive impact of GO on CSD. This result means that firms listed in ASE with higher government ownership reported a greater extent of CSD. From an agency theory perspective, this suggests that firms with government ownership will report extra CSD to minimize the government's information

asymmetry and reduce agency costs (Barako and Brown, 2008; Huang and Zhang, 2008). Regarding the control variables, the results show a significant positive impact of the firm profit, firm leverage, firm liquidity, board size, board meetings, foreign directors, and audit firm on CSD with a coefficient of 28.793, 0.038, 0.026, 0.084, 0.027, 0.003, and 0.063. Model 2 of Table 6 examines the role of industry type on the association between government ownership and CSD. The adjusted R squared of Model 2 shows that the explanatory variables explain 35.1 percent of the variation in the dependent variable "CSD." The coefficient of interaction term GO*IT is the critical concern of the moderation hypothesis. The positive coefficient of the GO*IT states that the IT variable positively moderates the association between GO and CSD. In other words, manufacturing firms with government ownership in their ownership structure disclose more social information than services firms with government ownership in their ownership structure.

Table 6: Ordinary Least Squares (OLS)

	Model (1)		Model (2)	
	CSD	Std.err	CSD	Std.err
GO	0.15***	(0.048)	0.084	(0.054)
IT			-0.005	(0.008)
GO*IT			0.28**	(0.111)
FPROFlg	28.793***	(4.092)	27.649***	(4.111)
FLEVlg	0.038***	(0.005)	0.038***	(0.005)
FAGE	0.000	(0.000)	0.000	(0.000)
FLIQlg	0.0260***	(0.0004)	0.025***	(0.004)
FGROWlg	-0.007	(0.027)	-0.007	(0.027)
BSIZElg	0.084***	(0.013)	0.080***	(0.014)
BMEETlg	0.027*	(0.015)	0.033**	(0.016)
CEOD	0.015	(0.010)	0.013	(0.010)
WOBlg	-0.001	(0.001)	-0.001	(0.001)
FDlg	0.003***	(0.001)	0.003***	(0.001)
AUF	0.063***	(0.009)	0.061***	(0.009)
constant	-168.127***	(23.912)	-161.439***	(24.026)
Observations	935		935	
R-squared	0.364		0.368	
Adjusted R-squared	0.348		0.351	

Note: CSD: corporate social disclosure, GO: government ownership, IT: industry type, GO*IT: the interaction term between GO and IT, FPROFlg: logarithm of firm profit, FLEVlg: logarithm of firm leverage, FAGE: firm age, FLIQlg: logarithm of firm liquidity, FGROWlg: logarithm of firm growth, BSIZElg: logarithm of board size, BMEETlg: logarithm of board meetings, CEOD: chief executive officer duality, WOBlg: logarithm of women on board, FDlg: logarithm of foreign directors, AUF: audit firm. Standard errors are in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

As a robustness test, the current study applies the GMM estimator to provide consistent estimates. GMM is a statistical technique for analyzing dynamic panel data. Under the GMM method, there is a difference GMM and system GMM. To avoid the weaknesses of difference-GMM, Blundell and Bond (1998) developed the two-step systematic GMM. GMM is a capable statistical method to address heteroskedasticity, heterogeneity, autocorrelation, and

endogeneity problems (Alhazaimeh et al., 2014). Therefore, the provided results by the GMM estimator are unbiased, consistent, and efficient. The consistency of the GMM estimates depends on three diagnostic tests. The first two are first-order autocorrelation and second-order autocorrelation for the error terms. The third test is the Hansen test of over-identification restriction. The dynamic panel data model is shown as follows:

$$CSD = \alpha + \beta_1 CSD_{t-1} + \beta_2 GO_{i,t} + \beta_3 IT_{i,t} + \beta_4 GO*IT_{i,t} + \beta_5 FPROF_{i,t} + \beta_6 FLEV_{i,t} + \beta_7 FAGE_{i,t} + \beta_8 FLIQ_{i,t} + \beta_9 FGROW_{i,t} + \beta_{10} BSIZE_{i,t} + \beta_{11} BMEET_{i,t} + \beta_{12} CEOD_{i,t} + \beta_{13} WOB_{i,t} + \beta_{14} FD_{i,t} + \beta_{15} AUF_{i,t} + \epsilon_i$$

Where:

CSD = Corporate social disclosure.

CSD_{t-1} = Lagged value of CSD.

α = Intercept.

$\beta_1 - 15$ = Variable's coefficient.

ϵ_i = Error term.

i = Represents the observation (annual report).

t = Represents the time (year).

A linear regression model can determine the nature of regressors as exogenous or endogenous by using the Durbin-Wu-Hausman (DWH) test (Janot et al., 2016). The DWH allows defining whether there is a correlation between residuals and regressors or not by using the DWH test (Davidson and MacKinnon 1989). Following Ullah et al. (2018), this study checks the endogeneity of GO and IT. Table 7 shows a significant P value of the GO residuals and IT residuals, which means both of the interest variables GO and IT are endogenous. In other words, the null hypothesis of exogeneity is rejected when the P value of the GO residuals or IT residuals is less than 5 percent. Therefore, the OLS model in Table 6 is influenced by endogeneity, and the estimates are inconsistent. The current study tests hypotheses by applying the two-steps system GMM to address the endogeneity problem,

Table 7: The Durbin-Wu-Hausman test for explanatory variables' endogeneity

	Model (1)		Model (2)	
	CSD	Std.err	CSD	Std.err
RSDGO	4.588***	(0.816)		
RSDIT			0.836***	(0.149)
GO	-4.471***	(0.814)	-0.109*	(0.062)
IT	-0.039***	(0.01)	-0.841***	(0.148)
FPROFlg				
FLEVlg	0.07***	(0.008)	0.076***	(0.009)
FAGE	0.006***	(0.001)	0.008***	(0.001)
FLIQlg	0.018***	(0.005)	0.125***	(0.018)
FGROWlg	-0.012	(0.028)	-0.027	(0.028)
BSIZElg	0.189***	(0.025)	-0.018	(0.022)

BMEETlg	0.25***	(0.042)	-0.29***	(0.06)
CEOD	0.011	(0.01)	-0.029**	(0.013)
WOBlg	-0.008***	(0.002)	-0.017***	(0.003)
FDlg	0.006***	(0.001)	-0.007***	(0.002)
AUF	0.073***	(0.01)	-0.096***	(0.03)
Constant	-0.5***	(0.145)	1.177***	(0.191)
Observations	935		935	
R ²	0.276		0.276	
Adj.R ²	0.265		0.265	
F-statistics	26.96		26.96	
Prob.(F)	0.000		0.000	

Note: CSD: corporate social disclosure, RSDIT: residuals of the industry type, RSDGO: residuals of government ownership, GO: government ownership, IT: industry type, FPROFlg: logarithm of firm profit, FLEVlg: logarithm of firm leverage, FAGE: firm age, FLIQLg: logarithm of firm liquidity, FGROWlg: logarithm of firm growth, BSIZElg: logarithm of board size, BMEETlg: logarithm of board meetings, CEOD: chief executive officer duality, WOBlg: logarithm of women on board, FDlg: logarithm of foreign directors, AUF: audit firm. Standard errors are in parenthesis *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Model 1 in Table 8 provides the relationship between GO and CSD, along with control variables using the two-step system GMM estimator. The results show a significant positive relationship between GO and CSD in Jordan. This result is similar to the OLS model with the direction of the impact of GO on CSD but different in the significance level. The significance level in the GMM model decreased from ($P < 0.001$) to ($P < 0.10$). Regarding the control variables, the results show a significant positive impact of firm leverage, firm liquidity, board meetings, foreign directors, and audit firm on CSD with a coefficient of 0.014, 0.007, 0.055, 0.001, and 0.019. Conversely, there is a negative and significant association between firm growth and CSD at the 0.001 level, with a coefficient of -0.27. Model 2 of Table 8 examines the moderating impact of IT on the relationship between GO and CSD. The coefficient of GO*IT (interaction term) is positive and significant at 0.001 level. This result is similar to the OLS model with the sign of GO*IT (interaction term) but different from the significance level. The significance level in the GMM model enhanced from ($P < 0.05$) to ($P < 0.001$). Regarding control variables, the estimates show a significant positive impact of firm leverage, firm liquidity, board meetings, foreign directors, and audit firm on CSD with a coefficient of 0.015, 0.007, 0.079, 0.001, and 0.017. On the contrary, there is a negative and significant association between firm growth and CSD at the 0.001 level, with a coefficient of -0.29.

Table 8: Dynamic panel-data estimation, two-step system GMM

	Model (1)		Model (2)	
	CSD	St.err	CSD	St.err
L.CSD	0.769***	(0.020)	0.757***	(0.020)
GO	0.032*	(0.017)	-0.055***	(0.015)
IT			-0.006	(0.005)
GO*IT			0.247***	(0.044)
FPROFlg	2.601	(1.753)	2.538	(1.854)
FLEVlg	0.014***	(0.004)	0.015***	(0.004)
FAGE	0.000	(0.000)	0.000	(0.000)
FLIQlg	0.007***	(0.002)	0.007***	(0.002)
FGROWlg	-0.270***	(0.064)	-0.290***	(0.068)
BSIZElg	0.023	(0.016)	0.021	(0.017)
BMEETlg	0.055***	(0.018)	0.079***	(0.017)
CEOD	-0.001	(0.005)	-0.002	(0.005)
WOBlg	0.000	(0.001)	0.000	(0.001)
FDlg	0.001**	(0.001)	0.001**	(0.001)
AUF	0.019***	(0.004)	0.017***	(0.005)
Constant	-14.685	(10.183)	-14.307	(10.769)
Observations	850		850	
AR1	0.000		0.000	
AR2	0.635		0.755	
Hansen test	0.115		0.142	
No. Groups	85		85	
No. Instruments	64		66	

Note: CSD: corporate social disclosure, LCSD: lagged corporate social disclosure, GO: government ownership, , IT: industry type, GO*IT: interaction effect between government ownership and industry type, FPROFlg: logarithm of firm profit, FLEVlg: logarithm of firm leverage, FAGE: firm age, FLIQlg: logarithm of firm liquidity, FGROWlg: logarithm of firm growth, BSIZElg: logarithm of board size, BMEETlg: logarithm of board meetings, CEOD: chief executive officer duality, WOBlg: logarithm of women on board, FDlg: logarithm of foreign directors, AUF: audit firm. Standard errors are in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

6. CONCLUSION

This study examined the relationship between government ownership and CSD in Jordan. It also examines the role of industry type in strengthening the relationship between government ownership and CSD. The current study used a large sample from Jordanian manufacturing and services companies from 2006 to 2016. This study found that the extent of CSD in the annual reports of Jordanian companies has a wide range from 0.058 percent to 0.705 percent. This study applied a checklist of 17 CSD items and performed a content analysis. The OLS estimation model was used was applied to analyze 935 annual reports. Then, this study applied

the Durbin and Wu-Hausman tests to check whether the variables of interest are endogenous or exogenous. The DWH test estimates prove that the OLS model findings were affected by the endogeneity problem. This study applied a dynamic panel-data estimation, two-step system GMM to address the endogeneity problem, the findings show that the mean CSD is 36% for Jordanian companies. This means the score of CSD is higher than the mean found by Gerged (2021) of 27%, Qa'dan and Suwaidan (2019) of 31 %, and Ibrahim and Hanefah (2016) of 30%, referring to a significant enhancement in CSD extent across the Jordanian companies. The study findings indicate that government ownership significantly positively affects the extent of CSD. Also, the results show that the industry-type variable has a positive and significant moderating effect on the relationship between GO and CSD. This result led to a deeper understanding of the determinants of CSD within Jordanian companies. The current study contributes to the literature on the association between GO and CSD. Indeed, this study extends the prior studies on the relationship between GO and CSD by examining the role of IT in strengthening this relationship. Also, the current study contributes to the agency theory and its applications in the Jordanian market. The results prove that Jordanian firms apply CSD as a strategic instrument to align the agency conflict with the government (principals) and mitigate agency costs. Finally, this study contributes to the practice by giving a rationalization for the government's responsibility in developing CSD practice. This study is helpful to policymakers in identifying the relevant variables that will promote CSD since the prior studies in Jordan found that the extent of CSD is generally low. In this regard, the findings of this study attract the attention of interested parties to the positive effect that manufacturing firms with greater government ownership have on CSD practice. This study has many limitations. First, this study examined the effect of one type of ownership on CSD. Second, this study relies on annual reports as a source of data. Third, the current study focused on agency theory. Therefore, future studies may consider adopting other theories to explain the association between government ownership and CSD. Additionally, future studies may consider examining the effect of other ownership types on CSD by selecting a disclosure document other than the annual reports.

REFERENCES

- Ahmad, N. B. J., A. Rashid and J. Gow (2017a). "CEO duality and corporate social responsibility reporting: evidence from Malaysia." *Corporate Ownership & Control* 14(2): 69-81.
- Ahmad, N. B. J., A. Rashid and J. Gow (2017b). "Board independence and corporate social responsibility (CSR) reporting in Malaysia." *Australasian Accounting, Business and Finance Journal* 11(2): 61-85.
- Ahmed, K. and J. K. Courtis (1999). "Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis." *The British Accounting Review* 31(1): 35-61.
- Al-Gamrh, B. A. and R. A. AL-Dhamari (2016). "Firm Characteristics and Corporate Social Responsibility Disclosure." *International Business Management* 10(18): 4283-4291.
- Al-Hamadeen, R. and S. Badran (2014). "Nature and determinants of CSR disclosure: experience of the Jordanian public shareholding companies." *European Journal of Business and Management* 6(13): 18-34.
- Al-kasasbeh, O. (2022). "COVID-19 Pandemic: Macroeconomic Impacts and Understanding its Implications for Jordan." *Journal of Environmental Science Economics* 1(2): 51-57.

- Al Amosh, H. and N. Mansor (2020). "The Implications of Ownership Structure on the Environmental Disclosure in Jordan." *International Journal of Academic Research in Business Social Sciences* 10(3): 330-346.
- Al Fadli, A., J. Sands, G. Jones, C. Beattie and D. Pensiero (2019). "Board gender diversity and CSR reporting: evidence from Jordan." *Australasian Accounting Business Finance Journal* 13(3-Article 4): 29-52.
- Alhazaimeh, A., R. Palaniappan and M. Almsafir (2014). "The impact of corporate governance and ownership structure on voluntary disclosure in annual reports among listed Jordanian companies." *Procedia-Social and Behavioral Sciences* 129: 341-348.
- Alotaibi, K. O. and K. Hussainey (2016). "Determinants of CSR disclosure quantity and quality: Evidence from non-financial listed firms in Saudi Arabia." *International Journal of Disclosure Governance* 13(4): 364-393.
- Alqatameen, D. A., M. A. A. Alkhalailah and M. N. Dabaghia (2020). "Ownership Structure, Board Composition and Voluntary Disclosure by Non-financial Firms Listed in ASE." *International Business Research* 13(7): 93-107.
- Alsaeed, K. (2006). "The association between firm-specific characteristics and disclosure: The case of Saudi Arabia." *Managerial Auditing Journal* 21(5): 476-496.
- Alsharkawi, A., M. Al-Fetyani, M. Dawas, H. Saadeh and M. Alyaman (2021). "Poverty classification using machine learning: The case of Jordan." *Sustainability* 13(3): 2-16.
- Alshbili, I., A. A. Elamer and E. Beddewela (2019). "Ownership types, corporate governance and corporate social responsibility disclosures." *Accounting Research Journal* 33(1): 148-166.
- Altawalbeh, M. A. F. (2020). "Corporate governance mechanisms and firm's performance: Evidence from Jordan." *Accounting Finance Research* 9(11): 11-22.
- Asmeri, R., T. Alvionita and A. Gunardi (2017). "CSR disclosures in the mining industry: Empirical evidence from listed mining firms in Indonesia." *Indonesian Journal of Sustainability Accounting Management* 1(1): 16-22.
- Baba, B. U. and U. A. Baba (2021). "The effect of ownership structure on social and environmental reporting in Nigeria: the moderating role of intellectual capital disclosure." *Journal of Global Responsibility* 12(2): 210-244.
- Bansal, S., M. V. Lopez-Perez and L. Rodriguez-Ariza (2018). "Board independence and corporate social responsibility disclosure: The mediating role of the presence of family ownership." *Administrative Sciences* 8(3): 1-21.
- Barako, D. G. and A. M. Brown (2008). "Corporate social reporting and board representation: evidence from the Kenyan banking sector." *Journal of Management and Governance* 12(4): 309-324.
- Barako, D. G., P. Hancock and H. Izan (2006). "Factors influencing voluntary corporate disclosure by Kenyan companies." *Corporate Governance: an international review* 14(2): 107-125.
- Bataineh, K. and A. Alrabee (2018). "Improving the energy efficiency of the residential buildings in Jordan." *Buildings* 8(85): 1-16.
- Beattie, V., B. McInnes and S. Fearnley (2004). "A methodology for analysing and evaluating narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality attributes." *Accounting Forum* 28(3): 205-236.
- Bisogno, M., F. Citro and A. Tommasetti (2014). "Disclosure of university websites. Evidence from Italian data." *Global Business Economics Review* 16(4): 452-471.

- Blundell, R. and S. Bond (1998). "Initial conditions and moment restrictions in dynamic panel data models." *Journal of Econometrics* 87(1): 115-143.
- Boshnak, H. A. (2021). "Determinants of corporate social and environmental voluntary disclosure in Saudi listed firms." *Journal of Financial Reporting Accounting*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JFRA-05-2020-0129>
- Branco, M. C. and L. L. Rodrigues (2008). "Factors influencing social responsibility disclosure by Portuguese companies." *Journal of Business Ethics* 83(4): 685-701.
- Chau, G. K. and S. J. Gray (2002). "Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore." *The International journal of accounting* 37(2): 247-265.
- Cuadrado-Ballesteros, B., L. Rodríguez-Ariza and I.-M. García-Sánchez (2015). "The role of independent directors at family firms in relation to corporate social responsibility disclosures." *International Business Review* 24(5): 890-901.
- Davidson, R. and J. G. MacKinnon (1989). "Testing for consistency using artificial regressions." *Econometric theory*: 363-384.
- Deegan, C. and M. Rankin (1996). "Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority." *Accounting, Auditing & Accountability Journal* 9(2): 50-67.
- Dhaliwal, D., O. Z. Li, A. Tsang and Y. G. Yang (2014). "Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency." *Journal of Accounting and Public Policy* 33(4): 328-355.
- Dyduch, J. and J. Krasodomska (2017). "Determinants of corporate social responsibility disclosure: An empirical study of Polish listed companies." *Sustainability* 9(11): 1-24.
- Dye, R. A. and S. Sridhar (1995). "Industry-wide disclosure dynamics." *Journal of Accounting research* 33(1): 157-174.
- Eng, L. L. and Y. T. Mak (2003). "Corporate governance and voluntary disclosure." *Journal of Accounting and Public Policy* 22(4): 325-345.
- Garanina, T. and Y. Aray (2020). "Enhancing CSR disclosure through foreign ownership, foreign board members, and cross-listing: does it work in Russian context?" *Emerging Markets Review*: 1-36. Retrieved: <https://doi.org/10.1016/j.ememar.2020.100754>.
- Gerged, A. M. (2021). "Factors affecting corporate environmental disclosure in emerging markets: The role of corporate governance structures." *Business Strategy the Environment* 30(1): 609-629.
- Ghazali, N. (2007). "Ownership structure and corporate social responsibility disclosure: some Malaysian evidence." *Corporate Governance: The International Journal of Business in Society* 7(3): 251-266.
- Giacosa, E., A. Ferraris and S. Bresciani (2017). "Exploring voluntary external disclosure of intellectual capital in listed companies." *Journal of Intellectual Capital* 18(1): 149-169.
- Goss, A. and G. S. Roberts (2011). "The impact of corporate social responsibility on the cost of bank loans." *Journal of Banking and Finance* 35(7): 1794-1810.
- Gray, R. and J. Haslam (1990). "External reporting by UK universities: an exploratory study of accounting change." *Financial Accountability & Management* 6(1): 51-72.
- Gray, R., D. Owen and K. Maunders (1987). *Corporate social reporting: Accounting and accountability*, Prentice-Hall, London.

- Gujarati, D. N. (2003). *Basic Econometrics*. Forth Edition, McGraw-Hill Companies. The USA.
- Habbash, M. (2016). "Corporate governance and corporate social responsibility disclosure: evidence from Saudi Arabia." *Social Responsibility Journal* 12(4): 740-754.
- Haniffa, R. M. and T. Cooke (2002). "Culture, corporate governance and disclosure in Malaysian corporations." 38(3): 317-349.
- Harun, S., K. Hussainey, A. Mohd Kharuddin Khairul and A. Farooque Omar (2020). "CSR Disclosure, Corporate Governance and Firm Value: a study on GCC Islamic Banks." *International Journal of Accounting & Information Management* 28(4): 607-638.
- Hassan, O. A. and C. Marston (2010). "Disclosure Measurement in the Empirical Accounting Literature-A Review Article, Economics and Finance Working Paper Series, Brunel University, Working Paper No. 10-18." <http://dx.doi.org/10.2139/ssrn.1640598>
- Healy, P. M. and K. G. Palepu (2001). "Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature." *Journal of Accounting and Economics* 31(1-3): 405-440.
- Ho, L. C. and M. E. Taylor (2007). "An empirical analysis of triple bottom-line reporting and its determinants: evidence from the United States and Japan." *Journal of International Financial Management Accounting* 18(2): 123-150.
- Huang, P. and Y. Zhang (2008). Does enhanced disclosure really reduce agency costs? Evidence from the value of corporate cash holdings and dividends. China International Conference in Finance, in: <http://www.cicf.org.cn/cicf2008/download.php>.
- Ibrahim, A. H. and M. M. Hanefah (2016). "Board diversity and corporate social responsibility in Jordan." *Journal of Financial Reporting Accounting* 14(2): 279-298.
- Ismail, K. and A. H. Ibrahim (2008). "Social and environmental disclosure in the annual reports of Jordanian companies." *Issues in Social and Environmental Accounting* 2(2): 198-210.
- Janot, A., P.-O. Vandanjon and M. Gautier (2016). "A revised Durbin-Wu-Hausman test for industrial robot identification." *Control Engineering Practice* 48: 52-62.
- Johnson, R. A. and D. W. Greening (1999). "The effects of corporate governance and institutional ownership types on corporate social performance." *Academy of Management Journal* 42(5): 564-576.
- Khalid, T. B., R. Kouhy and A. Hassan (2017). "The impact of corporate characteristics on social and environmental disclosure (CSED): The case of Jordan." *Journal of Accounting Auditing: Research Practice* Vol. 1 (2017): 1-29.
- Lindgreen, A., V. Swaen and W. Johnston (2009). "Corporate social responsibility: An empirical investigation of US organizations." *Journal of Business Ethics* 85(2): 303-323.
- Marston, C. L. and P. J. Shrivies (1991). "The use of disclosure indices in accounting research: a review article." *The British Accounting Review* 23(3): 195-210.
- McWilliams, A., D. S. Siegel and P. Wright (2006). "Corporate social responsibility: Strategic implications." *Journal of Management Studies* 43(1): 1-18.
- Muttakin, M. B., A. Khan and D. G. Mihret (2018). "The effect of board capital and CEO power on corporate social responsibility disclosures." *Journal of Business Ethics* 150(1): 41-56.
- Muttakin, M. B. and N. Subramaniam (2015). "Firm ownership and board characteristics: Do they matter for corporate social responsibility disclosure of Indian companies?" *Sustainability Accounting, Management and Policy Journal* 6(2): 138-165.

- Ntim, C. G. and T. Soobaroyen (2013). "Black economic empowerment disclosures by South African listed corporations: The influence of ownership and board characteristics." *Journal of Business Ethics* 116(1): 121-138.
- O'Dwyer, B. (2002). "Managerial Perceptions of Corporate Social Disclosure." *Accounting, Auditing & Accountability Journal* 15(3): 406-436.
- Owusu-Ansah, S. (1998). "The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe." *The International Journal of Accounting* 33(5): 605-631.
- Qa'dan, M. B. A. and M. S. Suwaidan (2019). "Board composition, ownership structure and corporate social responsibility disclosure: the case of Jordan." *Social Responsibility Journal* 15(1): 28-46.
- Qaderi, S. A., T. R. Alhmod and B. A. A. Ghaleb (2020). "Audit Committee Features and CSR Disclosure: Additional Evidence From an Emerging Market." *International Journal of Financial Research* 11(5): 226-237.
- Rouf, M. A. and M. A. Hossan (2020). "The effects of board size and board composition on CSR disclosure: a study of banking sectors in Bangladesh." *International Journal of Ethics Systems* 37(1): 105-121.
- Sadou, A., F. Alom and H. Laluddin (2017). "Corporate social responsibility disclosures in Malaysia: evidence from large companies." *Social Responsibility Journal* 13: 177-202.
- Sari, R. (2021). "The effect of company size, profitability, and international share ownership on corporate social responsibility disclosure." *Point of View Research Accounting and Auditing* 2(1): 35-42.
- Siregar, S. and Y. Bachtiar (2010). "Corporate social reporting: empirical evidence from Indonesia Stock Exchange." *International Journal of Islamic and Middle Eastern Finance and Management* 3(3): 241-252.
- Suwaidan, M. S., A. M. d. Al-Omari and R. H. Haddad (2004). "Social responsibility disclosure and corporate characteristics: the case of Jordanian industrial companies." *International Journal of Accounting, Auditing and Performance Evaluation* 1(4): 432-447.
- Tilt, C. A. (1994). "The influence of external pressure groups on corporate social disclosure." *Accounting, Auditing & Accountability Journal*.
- Ullah, S., P. Akhtar and G. Zaefarian (2018). "Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data." *Industrial Marketing Management* 71: 69-78.
- Wahyuningrum, I., S. Oktavilia, N. Putri, B. Solikhah, H. Djajadikerta and E. Tjahjaningsih (2021). *Company financial performance, company characteristics, and environmental disclosure: evidence from Singapore. IOP Conference Series: Earth and Environmental Science, IOP Publishing. Sci. 623 012065.*
- Wallace, R. O., K. Naser and A. Mora (1994). "The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain." *Accounting and Business Research* 25(97): 41-53.
- WB, T. W. B. (2022). "Unemployment, total (% of total labor force) (modeled ILO estimate) - Jordan." from Retrieved from <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=JO>.
- Zaid, M. A., S. T. Abuhijleh and M. C. Pucheta-Martínez (2020). "Ownership structure, stakeholder engagement, and corporate social responsibility policies: The moderating effect of board independence." *Corporate Social Responsibility and Environmental Management* 27(3): 1344-1360.