

Determinants of Corporate Sustainability Disclosure: The Case of the S&P/EGX ESG Index

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Abstract: The paper investigates the influence of the corporate board and the dissemination of a separate sustainability report on the corporate sustainability disclosure (CSD) level of corporations listed on the Egyptian sustainability index from 2016–2018. This study used the score-weighting scheme assigned by the Egyptian Stock Exchange (EGX) to evaluate, list, and rank companies in terms of their CSD. Empirical results reveal that boards with higher independence and larger size generate a higher CSD score. The results also support the assumption that the issuance of a separate sustainability report boosts the CSD score. The current study provides insights for policymakers and regulators in developing countries, in general, and in Egypt, in particular, regarding the role of corporate board and issuance of a separate sustainability report in promoting CSD. To the best of the researcher's knowledge, no prior study has discussed the determinants of the level of CSD for corporations listed on the sustainability index in Egypt.

Keywords: corporate governance, ESG reporting, S&P/EGX ESG Index, sustainability disclosure, sustainability report.

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INTRODUCTION

Financial reporting is an essential tool through which companies can communicate with stakeholders (Aktas et al., 2013). However, the traditional form of financial reporting, which is limited to financial information, does not fully reflect the company's activities because it ignores information about social and environmental activities (Bachoo et al., 2013). Thus, corporate disclosure enhances better decision-making if it reports financial and non-financial information (Aktas et al., 2013).

Evaluation of corporate performance by only financial measures is not adequate. Stakeholders could be attentive about whether a company operates according to a socially responsible approach. Thus, they could avoid investing in corporations with "sweatshops" for labor, utilizing child labor, or corporations practicing their activities in regions that have worse human rights reputation or dubious political systems. Also, stakeholders are interested in whether a corporation performs in an environmentally friendly technique (Ho & Taylor, 2007). Due to this growing concern about corporate social and environmental responsibilities, the value of corporate sustainability disclosure (CSD) has increased (Muttakin & Khan, 2014).



Also, environmental, social, and governance (ESG) reporting practices have expanded worldwide because the criticisms concerning the traditional financial reporting do not reflect a complete perception of the company's activities (Bachoo et al., 2013). Therefore, these factors have led companies around the world to adopt sustainability programs, and then corporate sustainability disclosure (CSD) practices have developed (KPMG, 2013; Muttakin & Khan, 2014; Dhaliwal et al., 2014; Michelon et al., 2015; Helfaya & Moussa, 2017).

Attention to Sustainable Development Practices has increased globally in recent years. This attention was indicated in the "2030 Agenda for Sustainable Development of the United Nations Sustainable Development Summit on 25 September 2015" (Collins et al., 2018; Maes et al., 2019; Kyle, 2020).

WBCSD states that sustainability reports are "Public reports by companies to provide internal and external stakeholders with a picture of corporate position and activities on economic, environmental and social dimensions. In short, such reports attempt to describe the company's contribution toward sustainable development" (World Business Council for Sustainable Development, 2002).

In this context, GRI refers to several benefits of corporate sustainability disclosure (CSD). For example, better-recognizing risks and opportunities, enhancing the connection between financial and non-financial performance, and governance failures, strengthening corporate reputation, and enabling stakeholders to realize the company's real value.

Although the growing importance and spread of corporate sustainability disclosure (CSD) in many countries of the world (KPMG, 2013; Dhaliwal et al., 2014; Michelon et al., 2015; Helfaya & Moussa, 2017), there are differences among companies around the world regarding corporate sustainability disclosure (CSD) practices (Hahn & Kühnen, 2013).

Consequently, several studies have investigated the determinants of corporate sustainability disclosure (CSD) in different environments to recognize the causes of these variations (Chiu & Wang, 2015; Kend, 2015; Ortas et al., 2015; Gallego-Álvarez & Quina-Custodio, 2016; Anazonwu et al., 2018; Riduwan & Andajani, 2019; Önder & Baimurzin, 2020). These studies have been conducted in different environments. Also, they have mixed results.

Given the Egyptian context, EGX has launched the Sustainability Index or Environmental, Social, Governance (ESG) Index (S&P/EGX ESG Index) for the Egyptian stock market. The index is the first in the MENA region and the second in the emerging markets after S&P/India ESG. The index measures corporate environmental, social, and governance (ESG) reporting to reflect corporate sustainability practices. EGX has released the Model Guidance for Reporting on environmental, social, and governance (ESG) Performance and Sustainable Development Goals (SDGs) in 2016.

Concerning corporate sustainability disclosure (CSD) practices in Egypt, previous studies have focused on investigating corporate social responsibility disclosure practices (Rizk et al., 2008), determinants of social responsibility reporting (Hussainey et al., 2011), determinants of corporate environmental reporting (Elshabasy, 2018), the influence of corporate sustainability disclosure (CSD) on firm value (Aboud & Diab, 2018), or the effect of financial performance on the corporate sustainability disclosure (Eldomiaty et al., 2016).

However, there is a lack related to accounting literature on factors influencing CSD practices in Egypt. Hence, the study tries to fill this research gap by examining the determinants of CSD for corporations listed on the EGX.

Model Guidance for Reporting on ESG Performance & SDGs 2016 has asserted the role of the corporate's board in strengthening CSD since the board is one of the most substantial mechanisms for corporate governance. This confirms the proof of agency theory that the monitoring and oversight roles of corporate board boost disclosure practices to mitigate agency costs and information asymmetry (Shamil et al., 2014).

Egyptian Corporate Governance Code 2016 asserts that a sustainability report should be provided in a balanced way to reflect the social, environmental, governance, and economic performance of the company. In this line, previous studies (Dhaliwal et al., 2014; Helfaya & Moussa, 2017) indicate that publishing a separate sustainability report provides relevant and significant information to evaluate corporate performance toward sustainability issues, and thus enhancing corporate legitimacy, engaging stakeholders, and promoting corporate reputation.

Based on the above, the study endeavors to investigate the influence of the corporate board and publishing a separate sustainability report on the score of CSD for the corporations listed on the sustainability index in Egypt.

This study provides several contributions to the accounting literature on CSD determinants in the developing countries, and in Egypt in particular. First, the research focuses on the sustainability index for corporations in Egypt - the first in the MENA region and the second in the emerging markets - to examine determinants of CSD. Second, the study investigates the influence of the corporate board and publishing a separate sustainability report on CSD in Egypt due to the lack of accounting literature related to the impact of these factors on CSD in Egypt. Finally, no prior study, to the researcher's knowledge, has discussed the determinants of the CSD level for corporations listed on the sustainability index in Egypt. This reflects the originality and value of the research.

METHODS

EGX has launched Sustainability Index or Environmental, Social, Governance (ESG) Index (S&P/EGX ESG Index) for listed on EGX. The index is the second in the emerging markets after S&P/India ESG and the first in the MENA region. The index measures corporate environmental, social, and governance (ESG) reporting to reflect corporate sustainability practices. The methodology of the index relies on the evaluation of the 100 most performing corporations listed on the EGX in terms of ESG reporting. Each company from the 100 companies gets a score, and then the best 30 corporations (regarding highest scores) are selected to list on the index. Hence, sustainability index for the Egyptian corporations includes the top 30 corporations from 100 most corporations listed on EGX in terms of ESG reporting. Consequently, the study examines determinants of CSD for the companies listed on the sustainability index in Egypt over the period (2016-2018).

Several reasons are attributed to the focus of this period (2016-2018). Sustainability issues have received attention both internationally and nationally during this period. This is evident by the convening of the United Nations Summit in September 2015, in which the countries of the world, including Egypt, adopted the 2030 Sustainable Development Agenda and its implementation. Locally, EIOD has launched "Egyptian Corporate Governance Code third release" in 2016. Also, EGX has released the Model Guidance for Reporting on ESG Performance and Sustainable Development Goals (SDGs) in 2016.

Consequently, the sample consists of 90 companies-year observations. The study has 14 industry sectors. These sectors are Industrial Goods, Oil and Gas, Materials and Construction, Banks, Beverage and Food, Real Estate, Basic Resources, Telecommunications, Household and personal Products, Technology, Chemicals, Healthcare and Pharmaceuticals, Financial Services except Banks, and Travel & Leisure.

Data Sources are financial statements, annual reports, the board of director reports, sustainability report, corporate governance report, companies' websites, Egyptian Stock Exchange (EGX), Mubasher website, some financial and nonfinancial database (i.e., Thomson Reuters and Osiris databases).

The score of CSD is measured based on the score-weighting scheme assigned by the EGX to evaluate, list, and rank the companies in terms of their CSD. This is consistent with Eldomiaty et al. (2016); Genedy & Sakr (2017); Aboud & Diab (2018).

The independent variables of the study are the board size (BDS), board independence (BDI), role duality (CEODU), and publishing a separate sustainability report (PSSR). First, BDS reflects the members number in the board (Samaha et al., 2012; Amran et al., 2014). Second, BDI represents the ratio of non-executive independent members of the board (Michelon & Parbonetti, 2012; Shamil et al., 2014). Third, CEODU is coded as 1 if the CEO has a chairman position, and it is coded as 0 otherwise (Samaha et al., 2012; Shamil et al., 2014). Finally, PSSR is measured by a dummy variable which is included as 1 if the corporate publishes a separate sustainability report, and it is coded as 0 otherwise (Iyer & Lulseged, 2013; Legendre & Coderre, 2013; Kend, 2015).

The study employs corporate size, financial performance, and financing activities (leverage) as control variables. Prior studies have found corporate size (Chiu & Wang, 2015; Karaman et al., 2018), financial performance (Iyer & Lulseged, 2013; Legendre & Coderre, 2013), and financing activities (Andrikopoulos et al., 2014) have a significant influence on CSD. Table 1 shows the variable definition.

Table 1 Variable Definition

Abbreviated Name	Variable Name	Measurement
Dependent variable: CSD	Level of sustainability reporting	The score-weighting scheme assigned by the Egyptian Stock Exchange (EGX) to evaluate, list, and rank the companies in terms of their sustainability disclosure (Eldomiaty et al., 2016; Genedy & Sakr, 2017; Aboud & Diab, 2018).
Independent variables:		
BDS	Board size	Number of board members (Samaha et al., 2012; Amran et al., 2014).
BDI	Board independence	Percentage of non-executive independent members of the board (Michelon & Parbonetti, 2012; Shamil et al., 2014).
CEODU	Role duality	Dummy variable that is included as 1 if the CEO has a chairman position, and it is coded as 0 otherwise (Samaha et al., 2012; Shamil et al., 2014).
PSSR	Publishing a sustainability report	Dummy variable which is coded as 1 if the corporate publishes a standalone sustainability report, and it is coded as 0 otherwise (Iyer & Lulseged, 2013; Legendre & Coderre, 2013; Kend, 2015).
Control variables:		
LOGASS	Corporate size	The natural log of total assets (Samaha et al., 2012).
ROA	Financial performance	Return on total assets (Elfeky, 2017).
DEBT	Financing activities	Leverage, and is measured by total debt to equity (Andrikopoulos et al., 2014).

OLS regression was employed to test the hypotheses. The equation of OLS regression is as follow:

$$CSD = a + \beta_1 BDS + \beta_2 BDI + \beta_3 CEODU + \beta_4 PSSR + \beta_5 LOGASS \text{ (control variable)} + \beta_6 ROA \text{ (control variable)} + \beta_7 DEBT \text{ (control variable)} + e$$

RESULTS AND DISCUSSION

Table 2 shows the descriptive statistics of the level of sustainability reporting (CSD), board size (BDS), board independence (BDI), role duality (CEODU), publishing a separate sustainability report (SSR), corporate size (LOGASS), financial performance (ROA), and financing activities (DEBT). The descriptive statistics include mean, median, min, max, and standard deviation values for these variables. First, for the score of CSD, the results indicate that the mean of score is 3.333%, the median is 3.3%, and the standard deviation value is 0.23. Also, the results suggest that the score of sustainability index among the sample companies is ranged between 4.28% and 2.95%. Second, the table indicates that the mean BDS is approximately 9 members, with a minimum of 5 members and a maximum of 19 members. Also, the median of board size is 9, and the standard deviation is 3.19. Third, the average value of BDI in the sample is 27%, which means that the majority of the directors in the sample are not independent. Also, the median of BDI is 28%, while the standard deviation value is 17%. In addition, the findings reveal that BDI of the sample companies is ranged between 0 and 67%. Fourth, about 40.9% of the corporate's CEO has a chairman position. Fifth, the average of PSSR is 33.33%, which implies that about a third of the sample companies publish a separate sustainability report. Sixthly, the average of the natural log of total assets is 3.87, with a minimum 1.41 and a maximum 5.53. Finally, the mean of ROA is 6.21%, whilst the average of DEBT is 15.97%.

Table 2 Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Median	Min	Max
CSD	90	3.3331	0.2346	3.3	2.95	4.28
BDS	90	9.3	3.19	9	5	19
BDI	90	0.2709	0.175	0.28	0	0.67
CEODU	90	0.4091	0.49735	0	0	1
SSR	90	0.3333	0.47405	0	0	1
LOGASS	90	3.8769	0.73792	3.7622	1.41	5.53
ROA	90	0.0621	0.16824	0.0515	-1.17	0.48
DEBT	90	0.1597	3.60216	0.2745	-28.91	7.2

Notes: CSD is the dependent variable, it represents the score-weighting scheme assigned by EGX to evaluate, list, and rank the companies in terms of their sustainability disclosure; BDS represents board size that is measured through the members number of the board; BDI indicates to board independence which is measured as the ratio of non-executive independent members of the board; CEODU represents role duality which is included as 1 if the CEO has a chairman position, and it is coded as 0 otherwise; PSSR is publishing a sustainability report, it is employed as a dummy variable which is included as 1 if the corporate publishes a standalone sustainability report, and it is coded as 0 otherwise; LOGASS refers to the log of the total assets, it is used as a measure of corporate size; ROA is the return on total asset, it measures the financial performance; DEBT refers to financing activities, it is measured by total debt to equity.

Table 3 shows correlations matrix between study variables. The correlations matrix provides initial proof concerning the relationship between the score of corporate sustainability disclosure (CSD) and independent variables before conducting the regression model.

A positive correlation between BDS and the score of CSD, since ($r=0.1$). In contrast, a negative correlation between the CEODU and the CSD, since ($r=-0.11$). BDI, PSSR, LOGASS are positively significantly correlated with CSD, since ($p\text{-value}<0.01$). A negative correlation is found between ROA and CSD, since ($r=-0.048$). While a positive correlation between DEBT and CSD has been found, since ($r=0.04$). Regarding the correlation between the independent variables, the correlation coefficients indicate no correlation risk.

Table 3 Pearson Correlation Coefficients

Variables	CSD	BDS	BDI	CEODU	PSSR	LOGASS	ROA	DEBT
CSD	1.000							
BDS	.100	1.000						
BDI	0.30***	-0.33***	1.000					
CEODU	-0.11	0.23**	-0.20**	1.000				
PSSR	0.34***	0.079	0.25***	0.11	1.000			
LOGASS	0.25***	0.088	0.18**	-0.20**	0.13	1.000		
ROA	-0.048	0.145*	0.006	0.02	0.12	0.06	1.000	
DEBT	0.04	0.094	-0.070	0.16*	0.001	-0.001	0.01	1.000

Notes: CSD is the dependent variable, it represents the score-weighting scheme assigned by EGX to evaluate, list, and rank the companies in terms of their sustainability disclosure; BDS represents board size that is measured through the members number of the board; BDI indicates to board independence which is measured as the ratio of non-executive independent members of the board; CEODU represents role duality which is included as 1 if the CEO has a chairman position, and it is coded as 0 otherwise; PSSR is publishing a sustainability report, it is employed as a dummy variable which is included as 1 if the corporate publishes a standalone sustainability report, and it is coded as 0 otherwise; LOGASS refers to the log of the total assets, it is used as a measure of corporate size; ROA is the return on total asset, it measures the financial performance; DEBT refers to financing activities, it is measured by total debt to equity.

*significant at 0.1, **significant at 0.05, and ***significant at 0.01.

Table 4 Ordinary Least Squares (OLS) Regression Results

Variables	Sign	Coefficient	t-stat	p-value	VIF
Constant	?	2.93	20.388	.000***	
BDS	+	0.014	1.77	.079*	1.257
BDI	+	0.340	2.32	.023**	1.308
CEODU	-	0.055	-1.12	.265	1.184
PSSR	+	0.135	2.65	.01**	1.151
LOGASS	+	0.042	1.322	0.19	1.128
ROA	-	0.166	-1.221	.229	1.038
DEBT	+	.004	.673	.503	1.033
Model summary					
R square			0.246		
F-statistic			3.81		
Sign			0.001		

Notes: CSD is the dependent variable, it represents the score-weighting scheme assigned by EGX to evaluate, list, and rank the companies in terms of their sustainability disclosure; BDS represents board size that is measured through the members number of the board; BDI indicates to board independence which is measured as the ratio of non-executive independent members of the board; CEODU represents role duality which is included as 1 if the CEO has a chairman position, and it is coded as 0 otherwise; PSSR is publishing a sustainability report, it is employed as a dummy variable which is included as 1 if the corporate publishes a standalone sustainability report, and it is coded as 0 otherwise; LOGASS refers to the log of the total assets, it is used as a measure of corporate size; ROA is the return on total asset, it measures the financial performance; DEBT refers to financing activities, it is measured by total debt to equity.

*significant at 0.1, **significant at 0.05, and ***significant at 0.01.

Table 4 shows the results of OLS regression analysis. It indicates that F-statistic is 3.815 (p-value=0.001). This indicates that the model is statistically significant. Thus, there is a relationship between determinants and corporate sustainability disclosure (CSD). This confirms the goodness of fit statistically. In addition, R square is 0.246, which indicates that the independent variables (determinants) can explain 24.6% of the variation in the

score of CSD (dependent variable). Given the results of the Variance Inflation Factor (VIF) statistic that is employed to test multicollinearity, the largest value of (VIF) is 1.257 (BSIZE) less than 2. Thus, the model has no multicollinearity. This boosts goodness of fit statistically.

The results indicate that the effectiveness of larger boards in increasing the score of CSD for the corporations listed on the sustainability index, due to p-value less than 0.1. This means that H1 is accepted. This is proportionate with the findings of Shamil et al. (2014); Janggu et al. (2014). This result confirms the perspective of both resource dependency theory and stakeholders theory that boards of directors with a large number of members are expected to possess several diverse expertise, competency, and skills. Thus, the board of directors becomes more efficient in making decisions that meet the needs of stakeholders (Al-Musalli & Ismail, 2012).

Also, a statistically significant positive influence of BDI on the score of CSD for the corporations listed on the sustainability index (significant at the level 5%). So H2 is accepted. This confirms the argument of stakeholders theory that board independence (BDI) is an effective mechanism to enhance corporate sustainability disclosure (Amran et al., 2014; Saha & Kabra, 2019).

Moreover, PSSR is positively associated with the score of CSD for the corporations listed on the sustainability index (significant at the level 5%). Thus, H4 is accepted. This is consistent with Helfaya & Moussa (2017), who suggest that the issuance of a separate sustainability report boosts corporate legitimacy and engagement stakeholders and thus enhancing corporate reputation.


The results indicate that the CEODU has an insignificant influence on the score of CSD for the corporations listed on the sustainability index. This means that H3 is rejected. So, the role duality of CEO has no significant effect on CSD for the corporations listed on the sustainability index. This result is conflicting with Shamil et al. (2014); Rath et al. (2020) who suggest a significant positive effect for CEODU on CSD. Regarding the control variables, the findings show that LOGASS, ROA, and DEBT do not affect CSD for the corporations listed on the sustainability index.

CONCLUSION

Corporate sustainability disclosure (CSD) practices have received significant attention, whether from professional bodies or researchers. However, there are differences among companies regard to CSD practices since it is still voluntary. Therefore, the researchers are prompted to examine the factors influencing CSD in different environments to recognize the causes of these variations. Given the Egyptian context, the EGX has launched the Sustainability Index or Environmental, Social, Governance (ESG) Index (S&P/EGX ESG Index) for the Egyptian stock market. The index is the leading in the MENA region and the second in the emerging markets after S&P/India ESG. The index measures ESG reporting to reflect corporate sustainability practices. EGX has released "Model Guidance for Reporting on ESG Performance and Sustainable Development Goals (SDGs)" in 2016. The guidance has asserted the role of the corporate's board in strengthening CSD since the board of directors is one of the most significant mechanisms for corporate governance. Also, the Egyptian Corporate Governance Code 2016 asserts that a sustainability report should be provided in a balanced way to reflect the social, environmental, governance, and economic performance of the company. However, there is a lack related to accounting literature on factors influencing CSD in Egypt, especially the board of directors and issuance of a separate sustainability report. Hence, the study tries to fill this research gap by examining the determinants of CSD practices for corporations listed on the EGX. Especially examining the influence of the corporate board and PSSR on the score of CSD for the corporations listed on the sustainability index in Egypt.

No prior study, to a researcher's knowledge, has discussed the determinants of CSD for corporations listed on the sustainability index in Egypt. The results suggest that boards with larger size and higher independence provide a higher score of CSD. Also, the findings support that PSSR boosts the score of CSD. The current study faces certain limitations that can be highlighted from the researcher's perspective. For example, the study employs certain board attributes (e.g., board independence, board size, and role duality) to discuss the influence of the corporate board on CSD. This study is also based on observations of corporations listed on the EGX, especially "S&P/EGX ESG index". Consequently, Future studies could discuss the impact of other board characteristics (e.g., board effectiveness, board culture, foreign directors, gender, board professionalism, etc.). Moreover, future research could investigate determinants of CSD practices in MENA region based on other sustainability indexes (e.g., The S&P/Hawkamah ESG Pan Arab Index, united nations global compact, or GRI).

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