# The Impact of Female Directors on the Relationship Between Corporate Social Responsibility and Capital Structure: Evidence From Egypt

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This paper examines how corporate social responsibility affects capital structure. The sample consists of 58 non-financial companies listed on the Egyptian Stock Exchange, with 464 firm-year observations made between 2014 -2021 using the generalized method of moments and ordinary least squares. Data was gathered from reports and financial statements from an Egyptian information dissemination firm. This paper demonstrates that firms with female directors explain the negative impact of the association between corporate social responsibility and capital structure. Female directors and CSR disclosure improve manager oversight and reduce information asymmetry and agency conflicts. Results support agency and gender theories that expect different behavior from women in leadership posts.

Keywords: corporate social responsibility, capital structure, female directors, agency theory, information asymmetry, OLS, GMM

## INTRODUCTION

The literature on economics, finance, and management has frequently discussed corporate social responsibility (CSR) for a long time. Most CSR studies focus on determining how CSR affects corporate performance and value. Although many publications have been written on the subject, there is still no agreement among theorists regarding how CSR impacts firm performance and value. According to the agency theory, managers frequently overinvest in CSR to enhance their reputations by utilizing resources from the company (Jensen and Meckling, 1976).

From the stakeholder theory view, CSR boosts firm value by balancing the interests of all resource-providing stakeholders (Freeman, 2010). Most empirical studies use investment choices to examine how CSR impacts corporate value. The relationship between CSR and firm value has recently been investigated using corporate finance decisions.

According to some of the literature, agency theory predicts no relationship between CSR and firm capital structure, and engaging in CSR is considered a waste of corporate resources and an attempt by entrenched management to extract rent. However, according to business research, CSR is associated with less financial leverage for two reasons (El Ghoul et al., 2011; Ng and Rezaee, 2015). First, CSR reduces information asymmetry (Dhaliwal et al., 2012; Cho et al., 2013). Second, investors view high CSR companies as less risky (Starks, 2009) because they offer insurance-like protection in the event of subpar

financial performance (Luo and Battacharya, 2009). As a result, high CSR firms have fewer capital limitations (Cheng et al., 2014) and are more likely to issue shares than low CSR firms (Pijourlet, 2013).

Corporate stakeholders have trouble verifying the validity of CSR activities and fairly assessing CSR performance in Egyptian firms. Egypt was a late adopter of CSR; therefore, it is important to investigate the effect of CSR on financial leverage in the Egyptian market. Therefore, this paper is expected to contribute to exploring the impact of female directors on the relationship between CSR and capital structure in 58 Egyptian firms listed on EGX 100 via Ordinary Least Squares (OLS) and Generalized Method of Moments (GMM). Financial statements and reports were used to gather data, which was then disseminated. Three issues are covered: (1) Is there a connection between CSR and the capital structure of EGX 100-listed Egyptian companies? (2) Is there any relationship between female directors and the capital structure of Egyptian firms listed in EGX 100? (3) Does the presence of female directors affect how Egyptian companies listed on the EGX 100 relate to CSR and capital structure?

#### LITERATURE REVIEW

## **CSR** and Capital Structure

Corporate social responsibility becomes a vital guide for corporate assessment and is crucial to firm performance and sustainability. Therefore, CSR is a good indicator of stakeholders' corporate activities and important financial decisions, including capital structure. Regarding CSR enactment, it can support a firm reputation (Gong and Ho, 2018), and upsurge the trust of stakeholders and the loyalty of the customers in the company (Marin et al., 2009; Chen et al., 2016).

The alignment between debt and equity constitutes capital structure. The decision on capital structure is essential to the business's success as it influences its profitability, continuity, and sustainability. Previous studies provided mixed and combined evidence on the association between CSR and capital structure from different perspectives. For instance, CSR activities lead to managing and declining risk, suggesting that banks may provide more constructive loan facilities for companies that are responsible socially and environmentally (Sharfman and Fernando, 2008). Accordingly, CSR practices are related to relatively low credit risk (Jiraporn et al., 2014; Stellner et al., 2015).

In the same vein, Ye and Zhang (2011) explored the relationship between CSR and the cost of debt. They evidenced that companies with strong environmental performance tend to have higher leverage because the cost of debt was reduced due to environmental risk management. They also discovered that CSR activities could lower debt and equity financing costs (El Ghoul et al., 2011) when the investment in CSR is at certain optimum levels.

Consequently, CSR practices influence the capital structure of a company. Both Sheikh (2019) and Ho, et al. (2022) evidenced a negative relationship between CSR and capital structure. High CSR will lead to low financial leverage and vice versa. This finding is harmonized with the pecking order theory. Greater CSR performance is concurrent with high information transparency and thus reduces adverse selection costs. CSR also reduces capital structure risk by providing investors with more comprehensive information than only financial disclosure. Consecutively, rising investor attention and stock liquidity since companies with good CSR practices issue more stocks ad attract more investors and as a result diminishes information asymmetry between investors and companies (Lizzeri, 1999; Leuz and Verrecchia, 2000; Gelb and Strawer, 2001; Lambert et al., 2007). This in turn can effectively lower the cost of equity. On the other side, information disclosed through CSR practices assists in decreasing the uncertainty of financial analysts and enhancing their forecasts and awareness of risk (Hong and Kacperczyk, 2009; Tsao et al., 2016). Based on the above literature, the first hypothesis could be formulated as follows:

 $H_1$ : CSR has a negative significant association with financial leverage.

# **Female Directors and Capital Structure**

The Board of directors comprises at least one female director and is considered gender diverse (Adams and Ferreira, 2009). Previous research indicates that gender diversity affects the level of debates and its

monitoring capacity (Kao et al., 2020; Komal et al., 2021). Female directors are more likely to have greater standards of accountability and to make sure that the board and its stakeholders are communicating more effectively (Reguera-Alvarado et al., 2017; Frye and Pham, 2018). Also, these boards take more active role in promoting non-financial performance indicators, including gender diversity, employee satisfaction, and customer satisfaction, as well as innovation and corporate social responsibility indicators.

The agency theory claims that a more diverse board results in a decrease in information asymmetries. The smaller information asymmetries connected to female directors' presence on the board improve access to outside financial resources, boost a company's share of outside equity, and reduce debt. According to agency theory, gender diversity on boards of directors should foster heterogeneity, resulting in a variety of viewpoints, more independence, and more power (Adams & Ferreira, 2009). The ability to demonstrate links between gender diversity and risk-taking is constrained by agency theory. As a result, gender theories that focus on how men and women behave differently can complement agency theory.

According to certain studies in experimental economics and psychology, women behave differently than men in various ways, including being more risk-averse, less overconfident, more independent in their thinking, and more ethical. Also, studying how men and women handle information differently has discovered that female directors demonstrate higher transparency and better quality and quantity of information sharing (Gul et al., 2011; Armstrong et al., 2014). Gender diversity is critical for risk-taking behavior, leadership styles, and communication skills in leadership jobs (Harris et al., 2019: Wicker et al., 2022). Also, female CEO-led companies have less financial leverage and are profitable (Faccio et al., 2016).

Menicucci & Paolucci (2022) claimed that when making organizational decisions, women are less risk-averse than men, which reduces the possibility of default. Females are less risk-averse than male directors (Levi et al., 2014: Hoang et al., 2019: Doan & Iskandar-Datta, 2020).

Pandey et al. (2019) argue board gender diversity lowers the agency conflict between management and creditors and may lower the probability of default. According to several studies, boards with a higher proportion of women directors tend to have lower debt levels (Alves et al. 2015; Faccio et al. 2016; Hernández-Nicolás et al. 2019: Adusei and Obeng, 2019).

Huang and Kisgen (2013) found the same results but attributed them to gender differences in the form of female directors' stronger risk aversion and lower levels of overconfidence. Due to their risk aversion, female directors are unlikely to consider any financing option with a high chance of default. Given that women tend to be risk-averse, the leverage is probably below the level managers intend if a sizable portion of the board is female directors.

Some countries have a high portion of female members on the board, like France and Germany, while other countries have less portion of female directors on the board, like Egypt, where the proportion of female directors has reached 30% for all listed German companies compared to Egyptian firms. Female directors are increasingly thought to improve the effectiveness of the board. In Norway, at least 40% of a board's members must be women. Female directors are superior to their male counterparts in terms of management abilities, human resource management, communication, and public relations understanding (Zelechowski and Bilimoria, 2004). Female directors in Finland were more likely to play active positions on their boards (Virtanen, 2012).

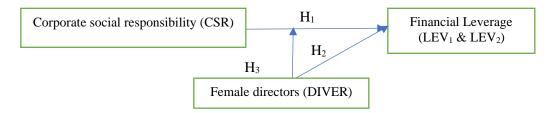
Strøm et al. (2014) show that female directors outperform those with all-male boards after looking at 73 nations between 1998 and 2008. Female directors benefit from the knowledge, experiences, networks, and monitoring abilities of other men directors, making them more effective and reducing the faceless information asymmetry; however, other studies have not been able to conclusively link gender diversity with leverage (Santen and Donker, 2009: Salloum et al., 2013: and Detthamrong et al., 2017). Board diversity promotes monitoring, and using firm leverage is one strategy to fulfill this responsibility (Nisiyama and Nakamura, 2018). Consequently, if indebtedness increases, the risk of bankruptcy increases as well, so an increase in the cost of debt should be anticipated.

Benjamin and Biswas (2017) argue that gender diversity could exacerbate disagreements between female and male directors because of their disparate points of view, so this conflict may become more frequent, communication may break down, and creditors may demand a higher interest rate. This finding is inconsistent with both agency and gender theories. According to the arguments of agency theory and the increased risk aversion of female directors provided by theories of gender-differential behavior, the second and third hypotheses are developed:

 $H_2$ : Gender diversity is adversely correlated with leverage.

H<sub>3</sub>: Gender diversity has a negative impact on the association between CSR and capital structure.

# FIGURE 1 RESEARCH MODEL



## **METHODOLOGY**

With a total of 464 observations, the sample consists of 58 non-financial Egyptian companies listed on the EGX100 between 2014 -2021. This paper uses financial reports and statements to analyze panel data using OLS and GMM. Table 1 presents all EGX100 sample sectors. The majority of the sample operates in the real estate sector (29.31%), followed by the food sector approximately (17.24%), the basic resource sector with a percentage of (8.62%), both shipping and building sectors with a percentage of (6.90%), and the minority sample was the paper sector with a percentage of (1.72%), followed by trade, media, and industrial sectors with a percentage of (3.45%) for each sector.

TABLE 1
INDUSTRIES RELEVANT TO THE SAMPLE

Industry	Freq.	Percent
Food	80	17.24
Shipping	32	6.90
Energy	16	3.45
Real Estate	136	29.31
Textile	24	5.17
Building	32	6.90
Basic	40	8.62
Travel	24	5.17
Media	16	3.45
Paper	8	1.72
Industrial	16	3.45
Construction	24	5.17
Trade	16	3.45
Total	464	100.00

This paper explores the impact of female directors on the relationship between corporate social responsibility and capital structure in Egyptian firms listed on EGX100 using OLS and GMM. The proposed model is as follows:

$$LEV_{i,t} = \beta_0 + \beta_1 CSR_{i,t} + \beta_2 DIVER_{i,t} + \beta_3 CSR_{i,t} * DIVER_{i,t} + \sum_{k}^{\beta} controls_{i,t} + \varepsilon_{i,t}$$
 (1)

$$LEV_{i,t} = \beta_0 + \beta_1 CSR_{i,t} + \beta_2 DIVER_{i,t} + \beta_3 CSR_{i,t} * DIVER_{i,t} + \beta_4 FS_{i,t} + \beta_5 ROA_{i,t} + \beta_6 FV_{i,t} + \varepsilon_{i,t}$$
(2)

where LEV is the financial leverage of firm (i) in period (t) measured by two measures (LEV<sub>1</sub> & LEV<sub>2</sub>), Total debt scaled by total assets measure LEV1, and LEV<sub>2</sub> is measured by Total debt scaled by total equity. CSR is corporate social responsibility measured by CSR disclosure score, including governmental, environmental, and social practices. DIVER is female directors measured by the ratio of female directors scaled by total board members. Three main factors serve as controls: firm size (FS), return on assets (ROA), and firm value (FV). The natural logarithm of total assets determines FS, ROA is determined by dividing net income by total assets, and FV is determined by the market value of assets scaled by the book value of assets. Table 2 lists all variables' measurements used in this investigation.

TABLE 2 VARIABLES DEFINITION AND MEASUREMENT

Var	riables	Predicted	Proxies			References	
		sig	Name	Abbrev	Measure		
Dependent Variable	Capital Structure		Leverage	LEV <sub>1</sub>	Total debt scaled by total assets	(Abdel-Wanis & Rashed, 2023; Ezeani et al., 2021; Ho et al.,2022; Ben Saad and Belkacem, 2022)	
				LEV <sub>2</sub>	Total debt divided by total equity	(Abdel-Wanis & Rashed, 2023; Adusei and Obeng, 2019; Ho, et al.,2022)	
Independent Variable	Corporate Social Responsibility	+/-	CSR index	CSR	CSR disclosure score including governmental, environmental, and social practices	(Mohamed & Rashed, 2021)	
Mediator Variable	Female Directors	-	Female directors ratio on the board	DIVER	The ratio of female directors scaled by total board members.	( Yang et al., 2019; Adusei and Obeng, 2019; Shin et al.,2020; Ezeani et al., 2021; Ben Saad and Belkacem, 2022)	

Va	Variables			Proxie	es	References
		sig	Name	Abbrev	Measure	
Control Variables	Firm Size	+/-	Firm size	FS	Natural logarithm of total assets	(Rashed, et al., 2018; Shehata and Rashed, 2021; Sheikh, 2019 & Ho, et al.,2022; Saad and Belkacem, 2022)
	Return on Assets	+/-	Return on assets	ROA	Net income scaled by total assets	(Sheikh, 2019; Saad and Belkacem, 2022)
	Firm Value	+/-	Market to book value of assets	FV	The market value of assets scaled by the book value of assets	(Ho, et al.,2022; Ben Saad and Belkacem, 2022; Rashed and Ghoniem, 2022)

# **EMPIRICAL ANALYSIS**

## **Descriptive Analysis**

TABLE 3
DESCRIPTIVE STATISTICS

Variables	Obs	Mean	Std. Dev.	Min	Max	Skew.	Kurt.
LEV1	464	.438	.2	.15	.74	.079	1.685
LEV2	464	1.066	.868	.18	2.79	.864	2.413
CSR	464	2.079	.024	2.05	2.121	.52	1.885
DIVER	464	.088	.111	0	.665	1.577	5.992
FS	464	6.72	1.272	5.291	9.174	.767	2.289
ROA	464	.11	.079	.019	.26	.652	2.189
FV	464	1.211	.502	.31	2.173	.732	2.539

Table 3 displays the descriptive summary of this study's variables of 58 Egyptian firms listed on EGX100. The mean value of LEV1 and LEV2 is typically positive and ranges between 0.438 and 1.066. The average corporate social responsibility (CSR) score throughout the study period is 2.079. Due to decreased standard deviation, firms are distinguished by the stability of both financial leverage (LEV<sub>1</sub> & LEV<sub>2</sub>) and corporate social responsibility (CSR) during the study period. The average DIVER during the study period is 0.088, and firms are distinguished by the instability of the female directors' ratio due to high standard deviation (0.111). The average FS, ROA, and FV based on the control variables are 6.72, 0.11, and 1.211, respectively. In the Egyptian market, all control variables are consistent and identical between 2014- 2021.

#### **Correlation Matrix**

TABLE 4 CORRELATIONS MATRIX

VAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	VIF
(1) LEV1	1.000							
(2) LEV2	0.945*	1.000						
	(0.000)							
(3) CSR	-0.151*	-0.157*	1.000					1.153
	(0.001)	(0.001)						
(4) DIVER	-0.141*	-0.137*	-0.202*	1.000				1.066
	(0.002)	(0.003)	(0.000)					
(5) FS	0.001	-0.011	0.311*	-0.098*	1.000			1.117
	(0.975)	(0.806)	(0.000)	(0.036)				
(6) ROA	-0.188*	-0.170*	0.062	0.071	-0.007	1.000		1.021
	(0.000)	(0.000)	(0.182)	(0.125)	(0.874)			
(7) FV	-0.158*	-0.163*	0.028	-0.110*	-0.071	0.087	1.000	1.029
	(0.001)	(0.000)	(0.544)	(0.018)	(0.127)	(0.060)		
<i>Note</i> : * $p < 0.05$ .								

Table 4 displays the correlation matrix for each study variable. The findings refer to the negative correlation between corporate social responsibility and financial leverage (r = -0.151 & -0.157). Also, there is a negative correlation between the female directors' ratio and financial leverage (r = -0.141 & -0.137). Moreover, financial leverage negatively correlates with both return on assets and firm value, but not with firm size. For all variables, the variance inflation factors (VIF) are all smaller than 10. Because all values are less than 10, there is a free multicollinearity issue.

# **Diagnostics Tests**

TABLE 5
DIAGNOSTICS TESTS

Diagr	nostics Tests	Coef.
Heteroskedasticity	chi2(1)	1.73
Test	Prob > chi2	0.188
Omitted Variables	F (3, 435)	0.93
Test	Prob > F	0.424
Unit-Root Test	Adjusted t	-54.45
Prob		0.0000
Autocorrelation	Durbin Watson (26.464)	1.972

Table 5 shows homoscedasticity because the Chi2 value for LEV1 is 1.73 and the probability value is more than 0.05. As the probability value is greater than 0.05 and the f-value for LEV1 is 0.93, there is no cause for concern over omitted variables. There is a stationary time series because the likelihood value is less than 0.05 and the unit root test for LEV1 is -54.45. There is no autocorrelation, as indicated by the Durbin-Watson value of 1.972.

# **Regression Analysis**

TABLE 6 REGRESSION ANALYSIS

Variable	OLS	GMM	OLS	GMM
	LE	V1	LEV	<i>V</i> 2
CSR	-1.675***	991***	-6.978***	-3.858***
DIVER	308***	313***	-1.282***	-1.315***
CSR*DIVER	136**	254**	564**	615**
FS	.030*	0.094**	.099*	.031**
ROA	440***	369***	-1.622***	-1.461***
FV	069***	059***	309***	236***
Year Dummy	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes
_Cons	3.617***	2.571***	14.141***	9.339***
N	464	464	464	464
Adj R <sup>2</sup>	.149		.150	
F-Test	4.256		4.257	
Prob > F	.000		.000	
Wald chi2(3)		54.865		59.940
Prob > chi2		.000		.000
AR1		.005		.007
AR2		.713		.535
Sargan		.812		.788
Hansen		.123		.193
<i>Note</i> : * <i>p</i> < 0.05, ** <i>p</i> < 0.01	, **** p < 0.001.			

Table 6 shows the corporate social responsibility and female directors explain financial leverage in 58 Egyptian firms in EGX100 by 15% (Adj  $R^2$  = 0.149 & 0.150). According to GMM, the instruments utilized are dependable, and AR (2) is greater than the 5% standard. Also, GMM shows that the transformed residuals do not exhibit serial correlation. Additionally, the empirical model has been correctly presented because the p-values for the Hansen and Sargan tests are higher than 0.10. The over-identifying restrictions are legitimate, and the GMM specification is accurate. These conclusions imply that the dynamic panel of financial leverage (LEV<sub>1</sub>& LEV<sub>2</sub>) models suit the data well. In both OLS and GMM models, CSR and DIVER negatively impact financial leverage (LEV<sub>1</sub>& LEV<sub>2</sub>) at the 1% level.

Table 6 shows at 1% level; female directors are detrimental to the relationship between CSR and financial leverage (LEV1 and LEV2) in both OLS and GMM models. Also, both return on assets (ROA) and firm value hurt financial leverage (LEV $_1$ & LEV $_2$ ) at 1% level, while firm size has a positive impact on financial leverage (LEV1& LEV2) in OLS model at 5% level and GMM model at 1% level.

#### **Robustness Check**

TABLE 7 ROBUSTNESS TEST

VAR	LEV1		LF	EV2		
	OLS	GMM	OLS	GMM		
SCR	067**	075**	372**	150**		
DIV_DUM	318**	392**	-1.374**	-2.011**		
FS	.0217	.002	.085	.0241		
ROA	432**	395**	-1.516**	-1.512**		
FV	073**	069**	335**	242**		
CSR *DIV_DUM	497**	392**	-1.735**	900**		
Year and Industry	YES	YES	YES	YES		
FE						
Cons	.228	.593***	076	1.392***		
N	464	464	464	464		
Adj. R2	.136		.149			
F	3.938		4.248			
Prob > F	.000		.000			
Wald chi2		46.320		58.57		
Prob > chi2		.000		.000		
AR1		.004		.014		
AR2		.301		.248		
Sargan		.223		.345		
Hansen		.118		.125		
<i>Note</i> : * <i>p</i> < 0.05, ** <i>p</i> < 0.01, *** <i>p</i> < 0.001						

Table 7 demonstrates how to determine the female director's ratio effect is resilient by substituting a dummy variable for female directors for the DIVER value if the female director's ratio is greater than the median value take 1 and otherwise 0. The results in Table 6 show that CSR and DIVER significantly negatively impact financial leverage. The coefficient values in the OLS and GMM models are negative at the 1% level. Also, at a 1% level in both the OLS and GMM models, female directors hurt the relationship between CSR and financial leverage. The results in Table 7 are consistent with control variables, showing that at the 1% level in both OLS and GMM, ROA and FV hurt financial leverage (LEV1& LEV2). In contrast to Table 6, firm size (FS) has no impact on financial leverage (LEV1& LEV2) in either OLS or GMM models.

## **DISCUSSION**

According to the three main hypotheses, this paper analyzes the influence of CSR and female directors on capital structure in the Egyptian stock market. Also, this paper examines the impact of female directors on the association between CSR and capital structure using a panel of 58 Egyptian companies from 2014 to 2021. Both OLS and GMM model results indicate that CSR has a detrimental impact on capital structure. The first hypothesis (H<sub>1</sub>) is accepted, this result is consistent with other earlier studies that back up the claim that CSR is linked to less financial leverage (Vierwijmeren and Derwall, 2010; Ng and Rezaee, 2015; Harjoto, 2017; Sheikh, 2019: Ho, et al., 2022).

The findings demonstrate that the ratio of female directors significantly correlates with both capital structure indicators and aids in determining a firm's capital structure. As a result, less leverage exists for corporations with more women on the board. The results support  $H_2$ . Therefore, female directors provide

more oversight and aversion to risk than male directors (Li and Zhang, 2019). Results show less financial leverage from increased female board representation, which lowers the risk of bankruptcy. These findings are significant in proving the significance of female managers in lowering financial leverage (Huang and Kisgen, 2013: Kristanti et al., 2016: Mittal and Lavina, 2018). According to agency theory, results show that gender diversity on boards reduces agency conflicts and promotes risk-taking, which lowers financial leverage.

According to the findings, CSR negatively and considerably impacts financial leverage when the proportion of female directors is low. The findings corroborate H3 and are consistent with agency theory and behavioral gender differences. In empirical studies on the corporate board and financial structure, the impact of board gender diversity on the decision-making process is largely disregarded.

In terms of control variables, Table 6 demonstrates that firm size (FS) has a positive impact on financial leverage, whereas the return on assets (ROA) and firm value (FV) have negative effects in both OLS and GMM models. Concerning the robustness test, Table 7 investigates the same effect of female directors on the relationship between CSR and leverage by substituting a different way to measure the female director's ratio (a dummy variable if the female director's ratio is higher than the median value equal to 1 and otherwise equal to 0). Additionally, the empirical findings in Table 6 demonstrate that having female directors allows firms to exploit the lower cost of equity associated with CSR as a competitive advantage and decrease corporate debt. Table 6's results, supported by control variables, show no effect of company size on financial leverage in both OLS and GMM models.

This paper uses CSR index to determine the quality of CSR disclosure. CSR index presents comprehensive evaluation indicators on Egyptian listed firms based on relevant studies. Most firms only publicize CSR data that enhances their brand and keep quiet about passive activity that could harm their business. As a result, it's essential to build a consistent, efficient CSR disclosure method.

The CSR measurement method has to be further developed so that CSR indices can more thoroughly and objectively assess CSR reports from various angles. This would improve the firm's knowledge of nonfinancial data, such as CSR on financing choices. CSR reports include information on corporate financial decisions as well as the status of CSR operations to stakeholders in terms of decision-making and governance inside corporations.

This study offers empirical support for the impact of female directors on the association between CSR and capital structure in a large sample of non-financial Egyptian companies. Results show high female directors' involvement which leads to low financial leverage. The findings align with agency theory and provide credence to gender theories that assert the different behavior of leadership roles for female directors. This study makes several contributions in line with the agency theory on gender diversity. First, this paper demonstrates how CSR disclosure and the participation of women on boards improve manager oversight and lessen agency conflicts. Second, the diversity supplied by female directors lends support to agency theory predictions that call for improved oversight and reduced information asymmetry. Third, the findings support the notion that greater gender diversity is associated with lower leverage regarding debt. As a result, the findings are consistent with less information asymmetry.

# **CONCLUSION**

This paper investigates the impact of female directors on the association between CSR and capital structure to help firms decide on capital structures that are more sensible and increase corporate value using 58 firms listed in the Egyptian stock market. The findings demonstrate that CSR hurts financial leverage and reduces information asymmetry. This paper offers arguments in support of promoting women's representation on corporate boards. Although the body of research implies that women are more cautious, less overconfident, and more risk-averse than men, there is a conflict in information regarding the link between gender diversity and financial leverage.

This paper provides evidence of women's lower participation on Egyptian firms' boards in the sample. This conclusion is particularly important because Egyptian firms don't require women's board quotas. This

paper agreed with agency theory that claims that more oversight of female directors lowers their financial leverage and eliminates gender behavioral inequalities in leadership roles.

Management might use the investor interpretation of CSR reports to hide or falsely present information due to pervasive agency issues. Firms must strengthen their governance and provide extensive monitoring procedures for CSR disclosure to further their interests, change investors' perceptions of the financial reporting policies, build a solid company reputation, and promote long-term development.

Investors are drawn to CSR disclosure, which also boosts stock liquidity and ultimately lowers leverage. This paper ensures the significance of nonfinancial information, such as CSR reports, in the decision-making process for financing. Government agencies should prioritize advancing institutional investors' long-term perspectives and improve their capacity to gather and examine data on CSR enterprises. This would stop insider trading, efficiently safeguard investor interests, and better use CSR reporting.

Other CSR metrics should be used in future studies to see if the findings hold. The influence of CSR disclosure and female directors may change in other countries due to differences in regulation and culture, and this study solely examines data on Egyptian firms. Future studies should use data from different nations to evaluate how female directors affect the connection between CSR and financial leverage.

#### **REFERENCES**

- Abdel-Wanis, E., & Rashed, A. (2023). The Impact of Information Asymmetry on the Relationship between Board Characteristics and Capital Structure. *Journal of Applied Business and Economics*, 25(1). https://doi.org/10.33423/jabe.v25i1.5985
- Adams, R.B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291–309. https://doi.org/10.1016/j.jfineco.2008.10.007
- Adusei, M., & Obeng, E.Y.T. (2019). Board gender diversity and the capital structure of microfinance institutions: A global analysis. *The Quarterly Review of Economics and Finance*, 71, 258–269. https://doi.org/10.1016/j.qref.2018.09.006
- Alves, P., Couto, E.B., & Francisco, P.M. (2015). Board of directors' composition and capital structure. *Research in International Business and Finance*, *35*, 1–32. https://doi.org/10.1016/j.ribaf.2015.03.005
- Armstrong, C.S., Core, J.E., & Guay, W.R. (2014). Do independent directors cause improvements in firm transparency? *Journal of Financial Economics*, 113(3), 383–403. https://doi.org/10.1016/j.jfineco.2014.05.009
- Ben Saad, S., & Belkacem, L. (2022). Does board gender diversity affect capital structure decisions? *Corporate Governance: The International Journal of Business in Society*, 22(5), 922–946. https://doi.org/10.1108/CG-12-2020-0575
- Benjamin, S., & Biswas, P.K. (2017). Board gender composition, dividend policy and cost of debt: The implications of CEO duality. In 8th Conference on Financial Markets and Corporate Governance (FMCG). http://dx.doi.org/10.2139/ssrn.2903142
- Chen, C.L., Liu, Q., Li, J., & Wang, L.F. (2016). Corporate social responsibility and downstream price competition with retailer's effort. *International Review of Economics & Finance*, 46, 36–54. https://doi.org/10.1016/j.iref.2016.08.003
- Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, *35*(1), 1–23. https://doi.org/10.1002/smj.2131
- Cho, S.Y., Lee, C., & Pfeiffer, R.J., Jr. (2013). Corporate social responsibility performance and information asymmetry. *Journal of Accounting and Public Policy*, *32*(1), 71–83. https://doi.org/10.1016/j.jaccpubpol.2012.10.005
- Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance*, 42, 689–709. https://doi.org/10.1016/j.ribaf.2017.07.011

- Dhaliwal, D.S., Radhakrishnan, S., Tsang, A., & Yang, Y.G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review*, 87(3), 723–759. https://doi.org/10.2308/accr-10218
- Doan, T., & Iskandar-Datta, M. (2020). Are female top executives more risk-averse or more ethical? Evidence from corporate cash holdings policy. *Journal of Empirical Finance*, *55*, 161–176. https://doi.org/10.1016/j.jempfin.2019.11.005
- El Ghoul, S., Guedhami, O., Kwok, C.C., & Mishra, D.R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, *35*(9), 2388–2406. https://doi.org/10.1016/j.jbankfin.2011.02.007
- Ezeani, E., Salem, R., Kwabi, F., Boutaine, K., & Komal, B. (2021). Board monitoring and capital structure dynamics: Evidence from bank-based economies. *Review of Quantitative Finance and Accounting*, pp. 1–26. https://doi.org/10.1007/s11156-021-01000-4
- Faccio, M., Marchica, M.T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance*, *39*, 193–209. https://doi.org/10.1016/j.jcorpfin.2016.02.008
- Freeman, R.E. (2010). Strategic management: A stakeholder approach. Cambridge University Press.
- Frye, M.B., & Pham, D.T. (2018). CEO gender and corporate board structures. *The Quarterly Review of Economics and Finance*, 69, 110–124. https://doi.org/10.1016/j.qref.2017.12.002
- Gelb, D.S., & Strawser, J.A. (2001). Corporate social responsibility and financial disclosures: An alternative explanation for increased disclosure. *Journal of Business Ethics*, *33*, 1–13. https://doi.org/10.1023/A:1011941212444
- Gong, Y., & Ho, K.C. (2021). Corporate social responsibility and managerial short-termism. *Asia-Pacific Journal of Accounting & Economics*, 28(5), 604–630. https://doi.org/10.1080/16081625.2018.1540941
- Gul, F.A., Srinidhi, B., & Ng, A.C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, *51*(3), 314–338. https://doi.org/10.1016/j.jacceco.2011.01.005
- Harris, O., Karl, J.B., & Lawrence, E. (2019). CEO compensation and earnings management: Does gender really matters? *Journal of Business Research*, *98*, 1–14. https://doi.org/10.1016/j.jbusres.2019.01.013
- Hernández-Nicolás, C.M., Martín-Ugedo, J.F., & Mínguez-Vera, A. (2019). The effect of gender diversity on the board of Spanish agricultural cooperatives on returns and debt: An empirical analysis. *Agribusiness*, 35(4), 639–656. https://doi.org/10.1002/agr.21608
- Ho, K.C., Wang, Q., Sun, X., & Wang, L.F. (2022). How does corporate social responsibility affect firm leverage? *Kybernetes*, *51*(10), 2902–2926. https://doi.org/10.1108/K-10-2020-0708.
- Hoang, T.T., Nguyen, C.V., & Van Tran, H.T. (2019). Are female CEOs more risk averse than male counterparts? Evidence from Vietnam. *Economic Analysis and Policy*, *63*, 57–74. https://doi.org/10.1016/j.eap.2019.05.001.
- Huang, J., & Kisgen, D.J. (2013). Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics*, 108(3), 822–839. https://doi.org/10.1016/j.jfineco.2012.12.005.
- Jensen, M.C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X
- Jiraporn, P., Jiraporn, N., Boeprasert, A., & Chang, K. (2014). Does corporate social responsibility (CSR) improve credit ratings? Evidence from geographic identification. *Financial Management*, 43(3), 505–531. https://doi.org/10.1111/fima.12044
- Kao, E.H., Huang, H.C., Fung, H.G., & Liu, X. (2020). Co-opted directors, gender diversity, and crash risk: evidence from China. *Review of Quantitative Finance and Accounting*, *55*, 461500. https://doi.org/10.1007/s11156-019-00850-3

- Komal, B., Ezeani, E., Shahzad, A., Usman, M., & Sun, J. (2021). Age diversity of audit committee financial experts, ownership structure and earnings management: Evidence from China. *International Journal of Finance & Economics*. https://doi.org/10.1002/ijfe.2556
- Kristanti, F.T., Rahayu, S., & Huda, A.N. (2016). The determinant of financial distress on Indonesian family firm. *Procedia-Social and Behavioral Sciences*, *219*, 440–447. https://doi.org/10.1016/j.sbspro.2016.05.018
- Lambert, R., Leuz, C., & Verrecchia, R.E. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research*, 45(2), 385–420. https://doi.org/10.1111/j.1475-679X.2007.00238.x
- Leuz, C., & Verrecchia, R.E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, pp. 91–124. https://doi.org/10.2307/2672910
- Levi, M., Li, K., & Zhang, F. (2014). Director gender and mergers and acquisitions. *Journal of Corporate Finance*, 28, 185–200. https://doi.org/10.1016/j.jcorpfin.2013.11.005
- Lizzeri, A. (1999). Information revelation and certification intermediaries. *The RAND Journal of Economics*, pp. 214–231. https://doi.org/10.2307/2556078
- Luo, X., & Bhattacharya, C.B. (2009). The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk. *Journal of Marketing*, 73(6), 198–213.
- Marin, L., Ruiz, S., & Rubio, A. (2009). The role of identity salience in the effects of corporate social responsibility on consumer behavior. *Journal of Business Ethics*, 84(1), 65–78. https://doi.org/10.1007/s10551-008-9673-8
- Menicucci, E., & Paolucci, G. (2022). Gender diversity and bank risk-taking: an empirical investigation in Italy. *Corporate Governance: The International Journal of Business in Society*, 22(2), 317–339. https://doi.org/10.1108/CG-11-2020-0498
- Mittal, S., & Lavina. (2018). Females' representation in the boardroom and their impact on financial distress: An evidence from family businesses in India. *Indian Journal of Corporate Governance*, 11(1), 35–44. https://doi.org/10.1177/0974686218763857
- Mohamed, N., & Rashed, A. (2021). An investigation of the relationship between corporate social responsibility and corporate financial performance in Egypt: The mediating role of information asymmetry. *Journal of Accounting, Business, and Management (JABM)*, 28(1), 73–86.
- Ng, A.C., & Rezaee, Z. (2015). Business sustainability performance and cost of equity capital. *Journal of Corporate Finance*, 34, 128–149. https://doi.org/10.1016/j.jcorpfin.2015.08.003
- Nisiyama, E.K., & Nakamura, W.T. (2018). Diversity of the board and capital structure. *Revista de Administração de Empresas*, 58, 551–563. https://doi.org/10.1590/S0034-759020180604
- Pijourlet, G. (2013). *Corporate social responsibility and financing decisions*. Working paper, Universite d'Auvergne, France.
- Rashed, A., & Ghoniem, W. (2022). The impact of cash holding on stock returns in small and medium enterprises on the Egyptian Nile Stock Exchange. *Investment Management and Financial Innovations*, 19(3), 83–92. http://dx.doi.org/10.21511/imfi.19(3).2022.08
- Rashed, A., Abd El-Rahman, E., Ismail, E., & Abd El-Samea, D. (2018). Ownership structure and investment efficiency: Evidence from Egypt. *International Journal of Accounting and Financial Reporting*, 8(4), 1–22. https://doi.org/10.5296/ijafr.v8i4.13630
- Reguera-Alvarado, N., de Fuentes, P., & Laffarga, J. (2017). Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics*, *141*, 337–350. https://doi.org/10.1007/s10551-015-2735-9
- Salloum, C.C., Azoury, N.M., & Azzi, T.M. (2013). Board of directors' effects on financial distress evidence of family owned businesses in Lebanon. *International Entrepreneurship and Management Journal*, *9*, 59–75. https://doi.org/10.1007/s11365-011-0209-9
- Santen, B., & Donker, H. (2009). Board diversity in the perspective of financial distress: Empirical evidence from The Netherlands. *Corporate Board: Role, Duties and Composition*, 5(2), 23–35.
- Sharfman, M.P., & Fernando, C.S. (2008). Environmental risk management and the cost of capital. Strategic Management Journal, 29(6), 569–592. https://doi.org/10.1002/smj.678

- Shehata, W., & Rashed, A. (2021). Accounting Conservatism, Information Asymmetry, and Cash Holdings. *Journal of Accounting, Business, and Management (JABM)*, 28(1), 63–72. https://doi.org/10.31966/jabminternational.v28i1.826
- Sheikh, S. (2019). Corporate social responsibility and firm leverage: The impact of market competition. *Research in International Business and Finance*, *48*, 496–510. https://doi.org/10.1016/j.ribaf.2018.11.002
- Shin, Y.Z., Chang, J.Y., Jeon, K., & Kim, H. (2020). Female directors on the board and investment efficiency: Evidence from Korea. *Asian Business & Management*, 19, 438–479. https://doi.org/10.1057/s41291-019-00066-2
- Starks, L.T. (2009). Corporate governance and corporate social responsibility: What do investors care about? What should investors care about? *Financial Review*, *44*(4), 461–468. https://doi.org/10.1111/j.1540-6288.2009.00225.x
- Stellner, C., Klein, C., & Zwergel, B. (2015). Corporate social responsibility and Eurozone corporate bonds: The moderating role of country sustainability. *Journal of Banking & Finance*, *59*, 538–549. https://doi.org/10.1016/j.jbankfin.2015.04.032
- Strøm, R.Ø., D'Espallier, B., & Mersland, R. (2014). Female leadership, performance, and governance in microfinance institutions. *Journal of Banking & Finance*, 42, 60–75. https://doi.org/10.1016/j.jbankfin.2014.01.014
- Tsao, S.M., Lu, H.T., & Keung, E.C. (2016). Voluntary monthly earnings disclosures and analyst behavior. *Journal of Banking & Finance*, 71, 37–49. https://doi.org/10.1016/j.jbankfin.2016.04.010
- Virtanen, A. (2012). Women on the boards of listed companies: Evidence from Finland. *Journal of Management & Governance*, 16, 571–593. https://doi.org/10.1007/s10997-010-9164-z
- Wicker, P., Feiler, S., & Breuer, C. (2022). Board gender diversity, critical masses, and organizational problems of non-profit sport clubs. *European Sport Management Quarterly*, 22(2), 251–271. https://doi.org/10.1080/16184742.2020.1777453
- Yang, W., Yang, J., & Gao, Z. (2019). Do female board directors promote corporate social responsibility? An empirical study based on the critical mass theory. *Emerging Markets Finance and Trade*, 55(15), 3452–3471. https://doi.org/10.1080/1540496X.2019.1657402
- Ye, K., & Zhang, R. (2011). Do lenders value corporate social responsibility? Evidence from China. *Journal of Business Ethics*, 104, 197–206. https://doi.org/10.1007/s10551-011-0898-6
- Zelechowski, D.D., & Bilimoria, D. (2004). Characteristics of women and men corporate inside directors in the US. *Corporate Governance: An International Review*, *12*(3), 337–342. https://doi.org/10.1111/j.1467-8683.2004.00374.x