

Gender Diversity and Women Empowerment Effects on Firms' Financial Sustainability: Evidence from Developing Countries

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The present study aims to investigate the influence of gender diversity on business financial sustainability. Financial sustainability has drawn academic attention in both the developed and developing worlds for several decades as a fundamental prerequisite for institutional longevity and long-term service. Despite progress in acknowledging women's impact in many aspects of life, society has yet to completely recognize women's position and influence in business. Little attention has been devoted, in particular, to the impact of gender diversity on financial sustainability of firms in developing countries. To address this gap, this study uses a sample of 8340 firms from 7 MENA countries from 2015 to 2021, World Bank Enterprise surveys, in order to examine whether firms' gender diversity influences financial sustainability. Findings document that firms with Females' Top Managers (FTMs) are financially less sustainable than their male-led counterparts. Results also indicate that the effect of female in top management on firm sustainability depends on firm size. Namely, the negative impact of FTMs on financial sustainability vanishes in larger firms. Finally, our findings emphasize the need of carefully matching business types and CEO traits. When hiring female business executives, managers need to keep in mind that the market-oriented matching process is impeded in countries where the government has a significant economic effect.

Keywords: Emerging countries, Female empowerment, Firm sustainability, Gender equality, Panel data

Introduction

Following recent global corporate governance failures and accounting scandals, there is a renewed interest in researching the impact of corporate governance determinants on company outcomes. Regulators, legislators, and scholars have emphasized women's participation on corporate boards as one of the most essential parts of corporate governance. For instance, the European Commission proposed legislative action and issued a regulation with a 40% female board of directors target. The Sustainable Development Goals (SDGs) and namely SDG 5 related to gender equality, emphasize the need for gender diversity on business boards. Furthermore, the International Labor Organization, the World Bank, and the Organization for Economic Cooperation and Development agree that increased gender balance on company boards has economic benefits.

Financial sustainability is one of the critical challenges of today's business world that regulators and investors have been paying close attention to. Financial sustainability is the constancy of companies in providing good outcomes that not only cover costs

but also accelerate the company growth.¹ It comprises leveraging on economies of scale, being cost-conscious, boosting innovation, decreasing information and asymmetry costs, lowering adverse selection and moral hazard, and advancing outreach while incurring the fewest losses.² Institutional traits, agency costs, environmental/governance factors, and company strategy have all been widely characterized in earlier studies as the main determinants of financial sustainability.³ In this setting, gender diversity, a crucial component of corporate governance, has a great potential to have a significant impact on the board's decisions and, consequently, the long-term success of the companies.

The relationship between gender diversity and financial performance is clarified by a number of academic frameworks- including the stakeholder theory, agency theory, resource dependence theory, critical mass theory, social psychological theory, and social identity theory. These theories will serve as the theoretical foundation for this study's attempt to explain how gender diversity affects company performance.

First, according to stakeholder theory⁴, having a diverse mix of women on the company's board of

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directors can put pressure on firms to implement various environmentally friendly and sustainable practices to satisfy shareholders' expectations and demands.⁵ Additionally, gender diversity tends to raise the pressure on businesses to engage in a variety of environmentally friendly, socially responsible actions in order to meet stakeholder expectations.⁵ Agency theory claims that organizations with good governance standards outperform their competitors because these practices call for close monitoring of managers' individualistic behavior.⁶

According to the resource dependency hypothesis, a gender-diverse board benefits from a variety of resources that enhance both its operational and social performance.⁷ Furthermore, resource dependency theory is integrated with the diversity of the boardroom. Using this theoretical framework as a guide, organizations try to control their surroundings by selecting the resources they need to live.⁸ As a result, the boardroom is seen as a conduit between the business and the vital resources that an organization requires from the outside world in order to function better. Members with a diverse set of skills, cultural backgrounds, and gender identities, among other things, will serve as a strategic resource for the company, perhaps leading to increased performance.

Based on the critical mass theory⁹, a board member minority having certain characteristics (age, race, gender, nationality, tenure) will significantly contribute to the board function once they reach a certain threshold. According to the paradigm of gender diversity "one is a token, two is a presence, and three is a voice".¹⁰ In this regard, some scholars argue that only a critical mass of female directors (three or more) may have a major impact on board activities and innovation in businesses.¹¹ Furthermore, having three or more female directors has a considerable impact on the company's financial performance.¹²

Despite what has been stated above, gender diversity on the board does not automatically imply more efficient board management, as more diversified boards may have more conflicts of interest among their members.¹³ According to the social psychology theory, diversity may have a beneficial or bad impact on how the board functions. While Campbell and Mnguez-Vera¹⁴ contend that gender diversity can be detrimental to the decision-making process, Westphal and Milton¹⁵ provide some evidence for the idea that minorities may lessen groupthink by offering diverse opinions in board discussions.

According to the social identity theory, board diversity may be damaging to the company's functioning. Individuals do, in fact, categorize themselves into various social groups based on psychological and demographic traits. This self-categorization within gender-diverse groups can lead to a variety of challenges and conflicts, including a lack of cohesiveness, misunderstanding, and diminished collaboration.¹⁶ As a result, having more women on corporate boards leads to worse business performance. By combining resource dependency theory and social identity theory, Ali *et al.*⁷ suggest an inverted U-shaped link between board gender diversity and corporate success. However, they are unable to maintain the aforementioned non-linear connection.

According to proponents of the positive impacts, the composition of the board with regard to gender can have a substantial impact on how well any company does financially. According to Siele¹⁷, the presence of different genders on the board results in higher expectations for productivity, effectiveness, and value generation. Additionally, it is thought that women often have higher expectations for their duties as directors, which may affect how effective the board is in maximizing productivity. Furthermore, women directors are seen as having a positive perspective on the organization's environmental¹⁸, social¹⁹, and overall sustainable²⁰ issues. These female directors' qualities, such as emotionality and empathy, as well as their expertise and competence, contribute a feminist transformational perspective to the board's decision-making. The female board members advocate for funding long-term environmental initiatives and other socially conscious endeavors.²¹ The inclusion of women on the board contributes to extra advantages, including new ideas, supplemental expertise, and improved problem-solving techniques, all of which have a favorable effect on the long-term financial viability of the company.²²

Other scholars, however, focus on the disadvantages of gender diversity in high managerial roles. Indeed, a wider range of opinions may obstruct the decision-making process by dividing the directors' board and escalating issues and conflicts. Similarly, because top managerial roles with greater gender diversity bring a wider range of opinions to the table, decision-making would be less effective, leading to more conflicts than on a board with less diversity.^{23,24} Additionally, Rovers²⁴ contends that any increase in the firm's

performance may be countered by greater costs and organizational issues caused by gender heterogeneity. Having more women on board leads to stricter supervision, which might be seen as a disadvantage because, it typically lowers production.²⁵

These theoretical controversies are not yet resolved by the empirical literature, where results are not conclusive. For instance, Alakeci and Al-khatib²⁶ studied the impact of corporate governance on the financial sustainability of 20 microfinance firms listed on the Palestine Stock Exchange. Financial sustainability proxies include return on investment, market value to book value and return on equity, while corporate governance proxies are board size, gender diversity, board composition, and institutional ownership. The effectiveness of corporate governance and financial sustainability were found to be positively and statistically significantly correlated. Comparably, Chenuos *et al.*²⁷ investigated the impact of corporate governance on the financial sustainability of 42 Kenyan microfinance institutions between 2000 and 2011. Results showed that corporate governance is crucial for ensuring the financial viability of MFIs. However, other studies^{28,29} did not find a connection between the proportion of women on corporate boards and either financial or non-financial success. The underrepresentation of women on corporate boards in contrast to their male counterparts is one of the most frequently mentioned causes. Additionally, it was noted that stereotype prejudices against women directors due to their gender prohibit them from having an impact on board decisions. Additionally, this does not give them sufficient power or resources to influence the organization's decision-making process.³⁰

The above review of the literature demonstrates that studies on the gender diversity-financial sustainability linkage are mainly focused on microfinance institutions. However, because financial sustainability affects the broader financial system, it should be extended to all types and sizes of businesses¹. To the best of the authors' knowledge, no study has been published that directly examines the relationship between financial sustainability and gender diversity in Middle East and North Africa (MENA) countries, particularly among senior female managers. Our contribution can be summarized as follows: First, we incorporate the comprehensive World Bank Enterprise Survey (WBES) dataset, which covers firm-level features as well as economic and institutional factors at the national level. The

second addition of our study is that its global context allows us to give a more in-depth investigation of the "contextual" character of the female leadership-sustainability relationship in the MENA area.

The paper is structured as follows. The next section presents the material and methods details by describing the empirical methodology. Results and discussion are presented in section three, and the last section concludes the paper.

Materials and Methods

Sample and Data

Two databases are used in the investigation. The first one is the WBES dataset, which is a new firm-level data set made available by the World Bank and its international partners. The second is the World Bank's indicator database. The most recent Enterprise Surveys offer firm-level data from more than 130,000 distinct businesses in 146 countries. We use the latest WBES data, covering the years 2015 through 2021. During this time, a nation may be surveyed once, twice, or three times. The final sample consists of 8340 businesses from seven MENA nations.

The Dependent Variable

The data at our disposal dictates the financial sustainability metrics we choose. We quantify financial sustainability using two variables: sales growth (S-growth) and labor productivity growth (Labor) in accordance with earlier studies.^{31,32} The WBES is used to get these variables.

The Independent Variables

We use two metrics for female top executives. The percentage of businesses having a Female Top Manager (FTM) is the first indicator. This refers to the percentage of women in a company's top management. A second variable which is a dummy variable takes a unit value if the top manager is a woman and 0, otherwise (FTM-binary). These variables are obtained from the WBES.

The Control Variables

We include a number of additional control factors in accordance with previous studies.³³ Firm control variables and country control variables are used. Firm age (Age), which refers to the number of years the firm has been in operation, is measured as (Ln(Age)); firm size (Size) is proxied by the number of permanent employees of the firm and is equal to (Ln(employees)); Firm's Financial Access (Access-

Table 1 — Countries and firms included in the sample

Country	Total companies	Small (5-19 employees)	Medium (20-99 employees)	Large (100+ employees)	Firms with female top manager (% of firms)
Egypt, Arab Rep.	4889	2358	1527	1004	5.6
Jordan	601	342	188	71	3.1
Lebanon	532	279	194	59	5.9
Malta	242	112	99	31	11.3
Morocco	1096	403	382	311	5.4
Tunisia	615	223	246	146	10.4
West Bank and Gaza	365	200	119	46	0.9
Total	8340	3917	2755	1668	—

Finance) is a binary dummy variable that equals one if the organization has access to bank loans and zero otherwise; Years of professional experience of the senior management (Experience) and is equal to $(\ln(\text{Experience}))$ and is a binary variable that determines whether or not the company exports its products. These variables are obtained from the WBES. To account for labor market conditions at the national level, we also take into consideration macroeconomic indicators at the country level, such as GDP (in constant 2010 US dollars), GDP Growth (GDP-Growth), GDP per Capita (GDP-Capita) (in constant 2010 US dollars), inflation (Inf), and the labor force participation rate (LFP). The World Development Indicators are the source of these variables.

The Econometric Model

We employ the following model specification:

$$\text{Financial sustainability}_{i,t} = \beta_0 + \beta_1 \text{FTM}_{i,t} + \text{firm controls}_{i,t} + \text{country controls}_{i,t} + \varepsilon_{i,t} \quad \dots (1)$$

Sales growth or, alternatively, growth in labor productivity serve as proxies for financial sustainability. FTM is approximated by the percentage of enterprises with a female top manager and a dummy variable that has a value of 1 if the top manager is female and 0 otherwise. All regressions contain controls at the firm and country levels. We group standard errors at the country level in order to prevent any heteroscedasticity problems. Based on our hypothesis, we expect that β_1 will be negative and significant. Cross-sectional regressions will be used to produce econometric estimations.³⁴

Results and Discussion

Descriptive Statistics

The number of companies in each country, companies' size classification (small, medium, and large), and the percentage of enterprises with female

Table 2 — Summary statistics

Variable	Mean	Std	Min	Max
S-Growth	0.03	0.34	-5.88	3.34
Labor	3.12	1.10	-4.01	9.04
FTM-binary	0.86	0.22	0	1
FTM	0.06	1.35	0.009	0.113
Size	2.26	0.72	0	10.01
Age	2.42	0.26	0	4.71
Experience	1.09	0.23	0	3.06
Export	0.15	0.01	0	1
Access-Finance	0.18	0.43	0	1
GDP	20.44	3.09	15.03	26.55
GDP-Growth	2.43	3.01	-19.23	21.11
GDP-Capita	5.21	0.46	4.22	9.54
Inf	7.43	4.22	-29.60	40.02
LP	21.08	6.27	15.43	32.96

top managers in each country are shown in Table 1. MENA countries are identified based on the classification of the World Bank. An overview of the variables employed in our study is provided in Table 2 which shows that the average proportion of FTP for all periods and countries is close to 86% with a standard deviation of 0.22.

Correlation Matrix

The correlation matrix is shown in Table 3. Between any two independent variables, there are no correlation coefficients larger than 0.50. Furthermore, the variance inflation factor (VIF) in our data ranges from 1.03 to 3.28, which is less than the typical criterion of 10. This suggests that multicollinearity is unlikely to be a problem.

Estimation Results

The estimation results of Eq. 1 are displayed in Table 4. The FTM and FTM-binary coefficients are negative and statistically significant for all financial sustainability indices. Women's empowerment in the workplace results in poorer sales growth and labor productivity on average. According to our preliminary

Table 3 — Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	VIF
S-Growth	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2.13
Labor	0.24	1	—	—	—	—	—	—	—	—	—	—	—	—	2.15
FTM	-0.22	-0.45	1	—	—	—	—	—	—	—	—	—	—	—	3.02
FTM-binary	-0.13	-0.32	0.49	1	—	—	—	—	—	—	—	—	—	—	1.03
Size	0.24	0.22	0.19	0.10	1	—	—	—	—	—	—	—	—	—	2.13
Age	0.36	0.37	0.04	0.07	0.33	1	—	—	—	—	—	—	—	—	2.07
Experience	0.53	0.53	0.06	0.05	0.02	0.16	1	—	—	—	—	—	—	—	2.24
Export	0.39	0.40	0.11	0.12	0.22	0.28	0.11	1	—	—	—	—	—	—	1.86
Access-Finance	0.67	0.73	0.15	0.18	0.40	0.18	0.31	0.47	1	—	—	—	—	—	1.76
GDP	0.67	0.54	0.05	0.06	0.04	0.02	0.31	0.22	0.11	1	—	—	—	—	1.55
GDP-Growth	0.43	0.56	0.22	0.27	0.03	0.07	0.26	0.12	0.01	0.32	1	—	—	—	2.45
GDP-Capita	0.55	0.43	0.19	0.01	0.12	0.10	0.22	0.13	0.10	0.31	0.07	1	—	—	3.28
Inf	-0.38	-0.39	0.06	0.04	0.11	0.09	0.13	0.10	0.07	-0.27	-0.34	-0.43	1	—	2.66
LP	0.25	0.31	0.33	0.22	0.36	0.29	0.41	0.33	0.16	0.04	0.18	0.12	0.02	1	1.98

findings, our hypothesis is supported. These findings are expected since MENA countries have a low level of female senior management, as illustrated in Table 1. Based on Social psychology theory, Westphal and Milton¹⁵ offered some evidence for the concept that minorities can lessen groupthink by bringing diverse viewpoints to board meetings, whereas Campbell and Mnguez-Vera¹⁴ claimed that gender diversity can harm decision-making. Furthermore, the social identity theory contends that gender diversity on the board results in misunderstanding and lack of cohesion among groups of different genders, which may impede the board's decision-making process and ability to find appropriate solutions. Gender diversity on corporate boards, as a result, decreases company performance and sustainability.

The negative relationship between gender diversity and financial sustainability may also be explained by the fact that a larger range of perspectives and viewpoints may inhibit decision-making by causing divides within the board of directors, which raises issues and disputes. Similarly, numerous scholars suggest that because gender diversity in top management roles leads to a greater range of opinions, decision-making would be less efficient and longer-lasting, resulting in more disputes as compared to a less diverse board.^{23,24} According to Campbell and Mnguez-Vera¹⁴, even if these concerns result in higher decision quality, this may not balance the negative implications of a less effective decision process, especially when the market requires a quick response to deal with possible volatility issues. Furthermore, Rovers²⁴ contend that greater costs and organizational issues after gender heterogeneity might counterbalance any gain in business performance.

Table 4 — Estimation results

	Model 1 S-Growth	Model 2 Labor	Model 3 S-Growth	Model 4 Labor
FTM	-0.002*** (0.053)	-0.006* (0.223)	—	—
FTM-binary	—	—	-0.023*** (0.240)	-0.091** (0.282)
Firm controls				
Age	0.098* (0.350)	0.110* (0.326)	0.023* (0.423)	0.108 (0.406)
Size	0.006 (0.203)	0.028* (0.312)	0.022* (0.218)	0.106** (0.208)
Access-Finance	0.054*** (0.173)	0.101* (0.175)	0.112*** (0.210)	0.105** (0.143)
Export	0.165* (0.122)	0.110 (0.106)	0.103** (0.033)	0.098 (0.176)
Experience	0.100* (0.242)	0.087* (0.200)	-0.065 (0.250)	0.132* (0.196)
Country controls				
GDP	0.085*** (0.125)	0.061*** (0.160)	0.100*** (0.190)	0.103*** (0.108)
GDP-Growth	0.110** (0.155)	-0.099 (0.190)	0.101** (0.169)	0.102* (0.198)
GDP-Capita	0.036 (0.222)	0.037* (0.270)	0.035* (0.244)	-0.037* (0.102)
Inf	-0.095*** (0.128)	-0.005*** (0.199)	-0.106*** (0.163)	0.047*** (0.155)
LP	0.085** (0.205)	0.049* (0.180)	0.081** (0.173)	0.048* (0.158)
N	7950	7952	7950	7952
R ²	0.34	0.29	0.34	0.29

Note: The coefficients for the proportion of female top managers are included in the table, along with an indicator variable that equals 1 if the top manager is female. Control variables at the business and county levels are included in all models. The standard errors in parentheses have been corrected for heteroscedasticity. The symbols *, **, and *** represent significance levels of 10, 5, and 1%, respectively.

Table 5 — Estimation results by firm size

	Model 1 S-Growth	Model 2 Labor
Panel A: Small		
FTM	-0.021** (0.120)	-0.023** (0.122)
FTM-binary	-0.034*** (0.145)	-0.022** (0.292)
N	3750	3751
R ²	0.33	0.32
Panel B: Medium		
FTM	-0.024*** (0.128)	-0.054* (0.165)
FTM-binary	0.315** (0.109)	0.438** (0.094)
N	2630	2630
R ²	0.29	0.23
Panel C: Large		
FTM	0.076 (0.213)	0.075 (0.163)
FTM-binary	0.066 (0.398)	0.100 (0.321)
N	1570	1571
R ²	0.12	0.13

Note: This table displays the outcomes by firm size. All regressions contain year and industry dummies. Standard errors are corrected for heteroscedasticity (in parentheses). *** p < 0.01; ** p < 0.05; * p < 0.10.

These findings might also be explained by the fact that the influence of cultural norms, institutional growth, and uneven legislative framework application on women in business vary significantly among and within regions. Indeed, the cultural standards in MENA countries are substantially friendlier to male entrepreneurs. As a result, deep-seated cultural standards are projected to have a detrimental impact on female-led businesses in those countries. As a result, our data suggest that the development of regional institutions, as well as societal and cultural norms, have a major influence on the FTM-sustainability relationship.

In terms of control factors, the findings in Table 4 reveal that larger and older businesses expand quicker and have higher worker productivity. Besides, firms with exporters and higher access to finance are more sustainable. Furthermore, the senior manager's years of industry expertise strengthens the firm's financial sustainability. Finally, the relevance of country control factors in impacting company financial sustainability is confirmed.

The above findings are further investigated by determining if the negative FTM-financial sustainability

relationship is impacted by business size. We divide our sample into three groups to investigate how company size may impact the FTM-financial sustainability relationship. The WBES separates the firms into three subsamples based on size: small (5-19 workers), medium (20-99 employees), and big (100+ employees). Consequently, we re-estimate Eq. 1 independently for each firm size and show the findings in Table 5.

As indicated in Table 5, SMEs in Panels A and B where H1 is supported are substantially responsible for our baseline results. In large enterprises, the negative FTM-sustainability relationship disappears (Panel C). These findings imply that interventions targeted at closing gender inequalities in access to vital resources and organizational outcomes should begin at the SME level for maximum impact. Smaller businesses confront more financial, legal, and corruption challenges.³⁵ Small enterprises profit more than large firms when institutional development improves.

Conclusions

This research covers a knowledge gap about the relationship between female leadership and corporate financial sustainability. We demonstrate that in terms of financial sustainability, male-led firms outperform female-led firms. This is consistent with the research, which shows that cultural norms, institutional development, and uneven implementation of legal frameworks have a wide variety of consequences on women in business both within and between regions. Furthermore, we find that female leadership has a negative effect on SMEs, whereas women in top executive positions appear to have no influence on the financial sustainability of large enterprises.

Various managerial insights and policy recommendations result from our research. Gender diversity needs to be expanded, with necessary legislation playing an important role. This is especially true for organizations in the MENA where female involvement is severely low. Our findings emphasize the need of carefully matching business types and CEO traits.

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