

Women on boards of directors: the moderation role of female labour force participation

Moderation
role of female
labour

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Abstract

Purpose – This study aims to investigate the moderation role of the percentage of women in the country labour force in the relationship between firm-level governance factors (board size, institutional ownership, ownership concentration, board independence, performance, firm size, firm's risk and sector) and women on boards (WOBs) in publicly listed firms in Gulf Cooperation Council (GCC) countries.

Design/methodology/approach – The study relied on a sample of 436 publicly listed firms in 2018 in six GCC countries (Bahrain, Kuwait, Saudi Arabia, Oman, Qatar and the United Arab Emirates).

Findings – The study concluded that the percentage of women in the country's labour force has a moderation role in the relationship between board size and WOB, as well as firm market performance and WOBs. However, ownership concentration, firm size, firm risk and firm sector do not affect the percentage of WOB; consequently, the percentage of women in the country's labour force did not have a moderation role in the relationship between these variables and the percentage of WOBs.

Originality/value – The study incorporates an institutional level variable which is the percentage of women in the country's labour force in a firm-level relationship mostly understood by agency theory.

Keywords The presence of women on the board of directors, Board size, Institutional ownership, Board independence, Market performance (Tobin's Q), Female labour market participation, GCC financial markets, Agency theory, Institutional theory

Paper type Research paper



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1. Introduction

Women's participation in economic life is one of the most important topics of the political and economic agendas for many governments in developed and developing countries. The issue gains a global dimension after the UN General Assembly in 2015 declares that gender equality and justice is one of the sustainable development goals to be achieved by 2030. In parallel, laws and policies reinforce women's empowerment towards equal opportunities and rights.

Historically, Scandinavian countries (Norway, Sweden, Iceland and Finland) have been the leaders in implementing the principle of justice and gender equality. These countries have been able to close the gender gap according to the 2020 Global Gender Gap Report. In fact, women's economic empowerment differs between developing countries and developed countries. The latter countries are more prepared to embrace such a vision as they constitute a nurturing environment capable of supporting women's various public and professional roles (Pande and Ford, 2012).

Accordingly, studying women's representation in public and private companies is a way to support our point of view as such companies play a major role in the global economy and constitute a sign of women's economic empowerment and belief in their abilities to make strategic decisions on corporate boards.

In 2003, Norway imposed a gender quota system and applied a 40% quota for women's presence on its corporate board seats. Since then, many countries have followed and applied the same system such as Spain and France while others such as Britain have rather adopted flexible legislation urging companies to adhere to gender diversity on boards. This might reduce managerial implications in boards' decision and prevent collective thinking from prevailing in men's boards. This phenomenon breaks the rules and the exclusive presence of men on boards (Adams and Ferreira, 2009; Khamis *et al.*, 2019).

Indeed, women's presence onboard is a subject that had attracted the attention of many researchers in developed and developing countries. Some studies (Abdullah *et al.*, 2016; Abdullah, 2014; Bohren and Staubo, 2016; Nour *et al.*, 2020; Al kurdi, 2021) have examined factors affecting the appointment of women at the company level such as (size, sector, the concentration of property, family ownership, government ownership, performance, the board size, etc.). Other studies approached the topic from the government perspective (Allemand *et al.*, 2014; Grosvold, 2011; Grosvold and Brammer, 2011 and Carrasco *et al.*, 2015; Buallay *et al.*, 2020; Alareeni and Hamdan, 2020; Hamdan *et al.*, 2019; Buallay *et al.*, 2019; Jabarin *et al.*, 2019; Awad *et al.*, 2021; Al Romaihi, 2021) and studied the impact of factors such as legislative regime, the proportion of women participation on the labour market and women's education). Singh and Vinnicombe (2004) emphasized the glass ceiling effects and addressed the barriers for women to accede senior positions and to become board members. Low *et al.* (2015) and Mahadeo *et al.* (2012) examined the dynamics of women's presence on boards and the impact on a company's performance.

On economic and social scales, the integration of women in the labour market and their participation in senior management is a means to achieve justice and fairness especially when the recruitment system is tied up to competence and capabilities. A diversified gender-based board ameliorates governance, better orient the company through rational plans and informative decisions (Seyadi and Elali, 2021).

This study addresses the phenomenon of women's presence on Gulf Cooperation Council (GCC) companies "boards in the context of the Arab countries and surroundings". In the Middle East region, the proportion of women's participation in the labour market is 25% compared to 50% worldwide (Women on Boards (WOBs): A global perspective, 2017; Rahim, 2021). GCC countries have enacted many rules to empower women's roles and

support their participation in the political and business lives. For instance, in the United Arab Emirates, companies are obliged to appoint women as board members and in Bahrain, board election procedures become more transparent. Moreover, the Kingdom of Saudi Arabia has planned to increase women's participation in the labour market from 22% to 30% by 2030 as they strive to implement gender equality and to reduce foreign workers on the national labour market.

Furthermore, while GCC is ranked among the top Arab countries in women education level, only 2% of women are represented on their corporate boards (McKinsey and Co., 2017; Hamdan, 2018; Saleh *et al.*, 2020; Ramaano, 2021). This ratio is far below the rest of the world which draws attention and curiosity to investigate reasons for such lagging fact and attempts to analyse appropriate policies and procedures. For the 2020 gender gap index, the UAE ranked second in the Arab world and first in the Gulf, followed by Kuwait, Bahrain, Oman and then Saudi Arabia.

With the first section being an introduction, the remainder of the paper is divided into five sections. Section 2 argues the literature, theories and hypotheses development. Section 3 shows the data description, methodology, measurement of variables and study models. Section 4 shows the descriptive analysis. Section 5 shows the testing of hypotheses and interpretation. Section 6 presents the study's conclusion, limitations and the scope for further research.

2. Literature review

2.1 Previous studies

Gros vold (2011) considers that the determinants of women present on the board of directors (BODs) are segregated into three different levels (company level, sector level and state level). These levels overlap at the institutional level. At the company level, the nominating committees and their internal composition play an important role in recommending female candidates to BODs. Kakabadse *et al.* (2015) demonstrate that the chief executive officer (CEO) has the power to take decision-related to the composition of gender-based BOD.

At the sector level, Hillman *et al.* (2009) emphasize that women's presence on BODs is high (50%) in specific sectors such as consumer sectors where women are keen to understand consumers' behaviour. Moreover, Hillman *et al.* (2009) find that the company size plays a key role in appointing women as board members. More specifically and in response to global governance standards, large companies are facing considerable pressure from investors and stakeholders to appoint women. Governance standards are motivating companies to integrate women on their boards and to provide them with equal opportunities to be well represented. In conjunction, the government's policies that promote women's rights attempt to ensure women's presence in the labour market. It was also noted that low-performing companies strive to appoint women on their BODs to signal a positive image to investors regardless of their competence and ability to affect the company's performance, which is known as Tokenism.

As for the nature of the company's ownership structure, Nekhili and Gatfaoui (2013) conclude that ownership structure and concentration is one important determinant for women's presence on boards. Shareholders with higher ownership percentage seek to appoint board members with whom they have a good relationship and where they can indirectly affect corporate decisions and plans. Bianco *et al.* (2015) and Abdullah (2014) emphasize that family ties significantly contribute to women's access to the BODs of family-owned companies. While Hillman *et al.* (2011) find that institutional ownership significantly affects women's access to the BODs as these institutions constantly strive to apply international corporate governance standards (Khamis *et al.*, 2015; Najaf *et al.*, 2021).

On the other hand, the determinants of women's presence on BODs of companies were compared between developing and developed countries (Russia, Brazil, India, China, the USA and Britain) (Alqooti, 2020; Saeed *et al.*, 2016; Sisaye, 2021). They found that the company size and risk were common factors among all countries, while the concentration of ownership, family and state ownership influence the presence of women on BODs according to each country's institutional and economic perspectives. Loukil and Yousfi (2016) find that women have the innate ability to assess the risk and can take due precautions to protect investors' interests.

Abdullah (2014) finds that the presence of women on the boards of Malaysian companies is not only linked to the ownership structure but also to the independence of the board of directors. Accordingly, such phenomenon increases the independence of the board, and therefore improves the corporate governance, which is consistent with Bohren and Staubo (2016) and with Adams and Ferreira (2009) main conclusions. They state that women are keen to become "independent member", able to govern independently and impartially and without any compromise. This might positively contribute to strategize the company's decision-making process (Hamdan, 2016a and 2016b; Alnoaimi and Mazzuchi, 2021).

Furthermore, women's presence in senior positions constitutes a unique phenomenon related to national determinants on a different scale such as economic, political, social and cultural ones that go beyond the company level. Grosvold and Brammer (2011) relate women's presence on boards to each country's economy and culture. On the same wave, Carrasco *et al.* (2015) address the effect of national culture and societal environment which can empower women to get promoted and to accede to senior positions. Emphasize the impact of women's presence on boards in the spectrum of state institutions. They elaborate that women through their influential networks can maintain and access senior positions. This study also tackles elites' initiatives to empower women participation and integration into the economy and the society of developing countries. For instance, the initiative of Sheikh Mohammed bin Rashid Al Maktoum in 2013 is one of the most prominent and important initiatives in both the Arab and Gulf region. The initiative calls for women inclusion on the BODs of state-owned companies with at least one woman on board.

2.2 Theories of the study

The phenomenon of women's presence on BODs derives its roots from many interrelated theoretical backgrounds. This is consistent with the nature of phenomena associated with women on the one hand and the role of governing bodies and corporate governance on the other hand. In this section, we will address some theoretical backgrounds from the micro and macro perspectives (Khamis, 2019).

2.2.1 Agency theory. The agency theory is highly connected to corporate governance theory. The first theory emphasizes the role of the board and its role to separate between the senior manager (agents) and shareholders (principles). Based on Jensen and Meckling (1976), disputes between these parties increase the agency cost. A company's shareholders tend to elect board members in their favour with the sole purpose to increase their wealth. This is evidenced in entities where ownership is highly concentrated in the hands of one group such as state ownership, institutional ownership and family ownership (Hamdan *et al.*, 2013; Hamdan, 2014; Bianco *et al.*, 2015; Abdullah *et al.*, 2016; Al Sahaf and Al Tahoo, 2021).

The agency theory supports companies' absolute purpose to accumulate wealth and increase shareholders' wealth. In our study, we attempt to assess the impact of women's presence on BODs (The business case) on companies' profits. Haxhi and Aguilera (2017) study the effect of women's presence on BOD and find that it positively affects companies' profitability and financial performance. However, this topic remains controversial and

depends on many internal and external factors at the corporate and state levels (Post and Byron, 2015; Hasan and Hassan, 2021). In fact, women's presence on boards is related to the degree of boards' independence and the freedom of keeping the decision-making process free from biases and managers' manipulation (Adams and Ferreira, 2009; Hamdan, 2014; Bohren and Staubo, 2016; Alrayeres and Al Khaldy, 2019; Awwad, 2018; Derbali, 2021).

2.2.2 Institutional theory. Classic theories as agency theory have faced many criticisms as such theories consider companies as a black box isolated from their external environment. Divide the state into formal and informal institutions which can apply the concept "Isomorphism" and empower women representation on their BODs depending on legal, economic, societal and environmental factors. Moreover, country's societal and cultural outlook greatly impact women's roles and highlight obstacles and challenges faced by them (Carrasco *et al.*, 2015). Women's access to BODs differs from country to country due to cultural dimensions classified based on the Norwegian sociological metrics (Hofstede, 1985). Many dimensions can trigger this effect such as: parental society versus supportive society. The latter supports women and empower them to have equal opportunities with their male counterparts. Moreover, the dimension of power and perception (power distance), fully explains that societal culture is the most important factor in women's access to BODs (Gros vold, 2011; Gros vold and Brammer, 2011; Aminova *et al.*, 2020; Jamile and Diab, 2021; Hamdan, 2020; Elbardan and Abd Elgawad, 2020).

The legal framework which imposes a specified quota for women's presence on BODs is indeed a mandatory and legal pressure. Companies are required to abide by the quota act and to commit proportions based on rules and regulations. This has proved to be an effective tool towards gender equality and women's rights specifically in countries such as Norway, France and Spain.

The other pressing perspective is the increase in the level of women's academic and university education. Modern economies are described with women's high education are clear-cut evidence to the initiation and empowerment of women to accede senior positions and become a board member in modern economies (Hamdan, 2019; Salman and Laouisset, 2020; Gholami and Al Tahoo, 2021). The educational level becomes a pressure factor on companies to hire women. In addition, women's entry rates to the labour market represent the same kind of pressure on companies to hire them and benefit from their expertise and competence. Such factors embrace women's integration into the economy and pinpoint the resulting benefits on local and international economies.

In the end, the presence of women in government positions such as ministries and members of the House of Representatives is influential. Women are capable through their networks to build pressing groups, which require companies to use them and to appoint them their boards (Allemand *et al.*, 2014; Awwad and Zidan, 2021; Aminova and Marchi, 2021).

2.3 Study hypotheses

Based on previous studies and theories supporting the study and specific factors influencing the presence of women on the board of directors, we build our hypotheses as follows:

- H1. Female labour force participation moderates the relationship between WOB and board size.
- H2. Female labour force participation moderates the relationship between WOB and institutional ownership.

- H3. Female labour force participation moderates the relationship between WOB and ownership concentration.
- H4. Female labour force participation moderates the relationship between WOB and board independence.
- H5. Female labour force participation moderates the relationship between WOB and market performance (Tobin's Q).
- H6. Female labour force participation moderates the relationship between WOB and firm size.
- H7. Female labour force participation moderates the relationship between WOB and a firm's risk level.
- H8. Female labour force participation moderates the relationship between WOB and the firm's sector.

3. Research methodology

3.1 Sample and data

We based our analysis on firms listed on GCC financial markets which are 683 for 2018. The study used cross-sectional data. In our sample, we include firms, which have available published financial reports and we exclude firms' mergers and trading suspension if occurred during the studied period. The study concludes with a sample of 436 firms listed on six Gulf financial markets: Bahrain Bourse, Boursa Kuwait, Muscat Securities Market, Qatar Stock Exchange, Saudi Stock Exchange "Tadawul", UAE financial markets including Abu Dhabi Securities Exchange, Dubai Financial Market. The sample accounts for 63.8% of all Gulf financial markets.

Table 1 shows the sample composition in each of the GCC six financial market. The sample is amply representative which allow us to generalize results after validating them. Remarkably, the United Arab Emirates and the Kingdom of Bahrain are highly represented in our study.

For data extraction, we rely on three main sources. The first one is the Bloomberg database, which provides annual data on women's presence on the board, firm's performance and governance variables. The second source was the annual financial reports published by GCC listed firms. The third source is the World Bank database, which provides data on female labour force participation.

Table 1.
Study sample

Country	Financial market	Number of listed firms	Study sample	Sample ratio (%)
Bahrain	Bahrain Bourse	43	39	90.70
Kuwait	Boursa Kuwait	175	77	44.00
Oman	Muscat Securities Market	116	52	44.80
Qatar	Qatar Stock Exchange	46	19	41.30
Saudi Arabia	TADAWUL	171	131	76.60
United Arab Emirates	Abu Dhabi Securities Exchange	66	61	92.40
	Dubai Financial Market	66	57	86.40
Total		683	436	63.80

3.2 Measurement of variables

This part provides an overview of the dependent, independent, moderation and control variables used in the study (Al Hawaj and Buallay, 2021; Al-Qudah *et al.*, 2021; Hamdan and Hamdan, 2020a and 2020b).

3.2.1 Dependent variable: women's presence on the board of directors. The presence of women on the board of directors is the dependent variable in this study and it is measured as the proportion of women on the board of directors. This proportion is found by dividing the number of women on the board by the total number of the board of directors.

3.2.2 Independent variables. The study examines several internal factors related to the company, whose impact on the presence of women on the board is to be indicated such as the size of the board of directors, the percentage of institutional ownership, the ownership concentration and the independence of the board of directors. Others relate to the company's performance such as Tobin's Q and the latter relate to the company's characteristics such as size, risk and sector.

3.2.3 Moderation variable. The study used the female labour force participation as a moderation variable between internal factors related to the company and women's presence on the board of directors. Table 2 explains the detailed definition and method of measurement of these factors.

3.3 Moderation models

The major argument of this study is that the relationship between women's presence on the boards and the independent variables (board size, institutional ownership, ownership concentration, board independence, firm's market performance, firm size, firm risk and sector) is moderated by female labour force participation. The moderator variable affects the direction and significance of the relationship. Firstly, the relationship between the dependent and independent variables is tested using the following model:

$$\begin{aligned} WOBoard_{ig} = & \beta_0 + \beta_1 BoardSize_{ig} + \beta_2 InstOwner_{ig} + \beta_3 OwnerConc_{ig} + \beta_4 Indep_{ig} \\ & + \beta_5 Perf_{ig} + \beta_6 FirmSize_{ig} + \beta_7 FinLev_{ig} + \beta_8 Sector_{ig} + \beta_{14} Country_g \\ & + \varepsilon_{ig} \end{aligned} \quad (1)$$

where $WOBoard_{ig}$: the dependent variable, which is the presence of women on the board of directors of the firm (i) in the country (g). β_0 : the constant value which indicates the level of women's presence on the board without considering the proposed independent variables. β_{1-14} : It is the slope of independent variables. $BoardSize_{ig}$: An independent variable, which is the size of the board of directors of the firm (i) in the country (g). $InstOwner_{ig}$: An independent variable, which is the ratio of institutional ownership of the firm (i)'s shares in the country (g). $OwnerConc_{ig}$: An independent variable, which is the concentration of ownership in the firm (i)'s shares in the country (g). $Indep_{ig}$: An independent variable, which is the percentage of independent members of the board of directors of the firm (i) in the country (g). $Perf_{ig}$: An independent variable, which is the performance of the firm (i) in the country (g) expressed as the Tobin's Q. $FirmSize_{ig}$: An independent variable, which is the size of the firm (i) in the country (g). $Sector_{ig}$: An independent variable, which is firm (i) sector in the country (g). $Country_g$: A control variable, which is the country of the firm (i). $\varepsilon_{i,t}$: Random error, which accounts for other variables affecting the presence of women on the board.

Following that, each independent variable is multiplied by the moderating variable (female labour force participation FLFP) to create an interaction variable as in Table 3.

Table 2.
Dependent and
independent
variables and
measurement scale

Variables	Definition and measurement scale
<i>Dependent variable:</i> The proportion of women on the board of directors	The number of women members of the board of directors is divided by the total number of members of the board
<i>Independent variables:</i> Board size Institutional ownership	Number of board members Percentage of shares owned by institutions. Institutions are intended for all non-individual investment entities
Ownership concentration Board independence	The proportion of shares owned by the three largest investors The number of independent and non-executive members of the Board is divided by the total number of board members
Firm's market performance (Tobin's Q) Firm size Firm risk	Measured by its simple equation (market value of equity + total liabilities + preferred equity + minority interest) ÷ book value of assets Logarithm of the company's total assets Measured as financial leverage and calculated by dividing the total liabilities by the total assets of the firm
Sector	Dummy variable that equals one for industrial firms
<i>Moderation and control variables:</i> Female labour force participation Country	Labour force participation rate is the proportion of the population ages 15 and older that is economically active Dummy variable that equals one for firms from X country otherwise 0

Table 3.
The moderation
models

Independent variable	Hypothesis	The moderation model
Board size	1	$WOBoard_{ig} = \beta_0 + \beta_1(BoardSize_{ig} * FLFP_g) + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (2)$
Institutional ownership	2	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2(InstOwner_{ig} * FLFP_g) + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (3)$
Ownership concentration	3	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3(OwnerConc_{ig} * FLFP_g) + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (4)$
Board independence	4	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4(Indep_{ig} * FLFP_g) + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (5)$
Firm's market performance	5	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5(Perf_{ig} * FLFP_g) + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (6)$
Firm size	6	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6(FirmSize_{ig} * FLFP_g) + \beta_7FinLev_{ig} + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (7)$
Firm risk	7	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7(FinLev_{ig} * FLFP_g) + \beta_8Sector_{ig} + \beta_{14}Country_g + \varepsilon_{ig} \quad (8)$
Sector	8	$WOBoard_{ig} = \beta_0 + \beta_1BoardSize_{ig} + \beta_2InstOwner_{ig} + \beta_3OwnerConc_{ig} + \beta_4Indep_{ig} + \beta_5Perf_{ig} + \beta_6FirmSize_{ig} + \beta_7FinLev_{ig} + \beta_8(Sector_{ig} * FLFP_g) + \beta_{14}Country_g + \varepsilon_{ig} \quad (9)$

4. Descriptive analysis

This is a preliminary descriptive analysis of the dependent and independent variables used in our study.

4.1 Description of the presence of women on the board of directors

Table 4 presents some descriptive analysis for women’s presence on the board of directors for GCC public companies and Table 5 shows these measures according to the country. From Table 3, the average number of women on the board of directors in Gulf firms was only 0.610 and did not reach one woman on each board. The proportion of WOBs in Gulf firms was 7.3% and in the best case, there were 4 women on the board.

Table 4 also shows the categories of the presence of Gulf women on BODs, from which the vast majority of Gulf firms (85.6%) do not have women or only have one woman on their boards. While 8% of companies have two or more women on their board of directors and 6.4% of the sample has 3 or more women on their boards. As data is not normally distributed, we have used a natural logarithm to cope with this problem and to validate our model.

Table 5 shows the percentage of women’s presence on the board of directors by country. For instance, women are more present on the board of directors in UAE public firms, where on average there is one woman on each board. In fact, women’s presence constitutes 14% of the board of directors in UAE firms where 19 firms have two women on their boards, 18 have three or more women while 81 firms do not have women on their boards.

Moreover, Table 5 shows that firms listed on the Saudi financial market “TADAWUL” are the lowest in terms of the presence of women on the board of director. Results show that 130 firms have only one woman or do not have women on their boards. One single firm has two women on its board of directors and there are no firms with three women or more on its

Table 4.
The presence of
women on the board
of directors

Variable	Mean	Min	Max	SD	Skewness	Kurtosis
Number of WOB	0.610	0.000	4.000	0.902	1.492	1.498
The proportion of WOB	0.073	0.000	0.600	0.113	1.891	3.742
Categories of WOB				Freq	%	
Category I: Companies with zero-one WOB				373	77.386	
Category II: Companies with two WOB				35	7.261	
Category III: Companies with three or more WOB				28	5.809	

Table 5.
The presence of
women on the board
of directors by
country

Country	Mean		Categories of women’s presence on the board of directors		
	No. of WOB	% WOB	Firms with zero-one woman on BoD	Firms with two women on BoD	Firms with three or more women on BoD
United Arab Emirates	1.178	0.140	81	19	18
Saudi Arabia	0.076	0.008	130	1	0
Kuwait	0.481	0.059	70	3	4
Qatar	0.526	0.066	17	2	0
Oman	0.904	0.11	40	8	4
Bahrain	0.59	0.067	35	2	2

board of directors. This indicates the low presence of women in KSA compared to other GCC states and to the other international countries.

Interestingly, UAE's superiority over the rest of the Gulf countries in terms of women's presence on the board of directors is due to the existing quota law which requires women presence on companies' board of directors.

4.2 Description of the factors that affect the presence of women on the board of directors and moderation variable

Table 6 shows the descriptive analysis of the studied internal factors affecting the presence of women on the board of directors. The average board size of GCC firms is 8 members. The lowest board is composed of 3 members, while the largest has 15 members. The average percentage of institutional ownership in GCC firms was 8.814% and the largest percentage is 89%. This high percentage is attributed to full control by investing institutions and is one of the determinants of corporate governance. The ownership concentration (the ownership percentage of the three largest shareholders) is 43.4% which is below average compared to other countries. Table 6 explains that the average independence of the board of directors is 23.5%. Some firms do not have independence on their boards while others have 80% independent members. It is important to mention that board independence is still considered a controversial topic in the corporate governance literature. Some studies stress the importance of the inclusion of independent members to better achieve corporate goals and protect the interest of all stakeholders while others conclude that the existence of independent non-executive members is a barrier to firm performance and goal achievement. As for the market performance of Gulf firms, which was measured by Tobin's Q, Table 6 shows that the average Tobin's Q for GCC firms is 1.068, which is a good indicator reflecting that such firms are well perceived by investors. The analysis also shows that the lowest performance was 0.220 in the sense that the company is not well perceived by investors. The largest Tobin's Q in 2018 is 3.350 which signals that the said firm was valued threefold more than its book value. The leverage indicators in Table 6 show the extent to which GCC firms depend on debt financing and the debt-to-asset ratio for those companies is 65.9%.

From Table 7 we note that Kuwait has achieved an advanced rate in bridging the gap between men and women in the labour market, followed by Bahrain, Qatar, the United Arab Emirates and Oman, while women's participation in the labour market is only 33.7% in Saudi Arabia which is the lowest rate. Finally, on the existence of a law that gives women a certain quota on the board of directors, the UAE is the only one that has a law setting the minimum representation of women on such boards.

5. Moderation models and hypotheses testing

To test the moderation effect in a relationship, regression should be made on two stages.

Variables	Mean	Min	Max	SD	Skewness	Kurtosis
Board size	8.590	3.000	15.000	1.834	0.100	0.249
Institutional ownership	8.814	0.000	89.182	19.662	2.314	4.235
Ownership concentration	0.434	0.000	1.262	0.287	0.496	-0.649
Board independence	0.235	0.000	0.800	0.182	0.621	-0.196
Market performance (Tobin's Q)	1.068	0.220	3.350	0.359	1.272	4.963
Firm size (US\$'000)	70,412,695	4,797	846,897,478	133,392,503	2.912	9.791
Firm risk (financial leverage)	0.659	0.000	72.375	3.658	19.527	383.845

Table 6.
Factors affecting the
presence of women
on the board of
directors

Stage One: Applying regression model to test the relationship between the percentage of WOBs and independent variables (board size, institutional ownership, ownership concentration, board independence, firm’s market performance, firm size, firm risk and sector) without moderation variable. At this stage, the regression models were estimated without considering the moderation variable, the results of the study models are shown in [Table 8](#). Firm-level factors that are derived from agency theory (i.e. board size, board independence, institutional ownership, ownership concentration, firm size, firm sector and financial leverage). It is noticed in [Table 8](#), that the constant of study models is statistically significant which indicates that the model is suitable. Board size, Institutional ownership, Board independence and Market performance (Tobin’s Q) has a positive and statistically significant effect on the percentage of WOBs at less than 1% and 5%. Ownership concentration, Firm size, Firm risk and sector did not have any significant effect.

Stage two: Applying ordinary least squares regression (OLS) models to test the moderation effect for a woman in labour force in the relationship between independent variables (board size, institutional ownership, ownership concentration, board independence, firm’s market performance, firm size, firm risk and sector) and percentage of WOBs. The results of moderated regression are shown in [Tables 8](#).

5.1 Testing the moderation effect of female labour force participation on the relationship between women on boards and board size

The results of Model 2 validate the first hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and board size. From [Table 8](#) it is noticed that Model 2 was accepted and suitable as the constant value was statistically significant, as well as (F) value for the model. It is manifest from [Table 8](#) that the Adjusted R^2 was higher for Model 2 compared to Model 1 (Adj. R^2 11.6% > 10.6%). The interactive variable (Board size*FLFP) was statistically significant (T-test 3.444; $P < 0.01$). Therefore, we accept this hypothesis as female labour force participation moderates the relationship between women on the board of directors and board size. This indicates that board size affects WOBs and this relationship moderating by female labour force participation, our finding are consistent previous studies such as ([Abdullah et al., 2016](#)), who explained that companies which tend to increase its board size, appoint women instead of replacing existing members. While finding contradicts with [Martín-Ugedo and Mínguez-Vera \(2014\)](#), who found that board size did not affect women’s presence, as their relative appointment is based on competence and expertise.

5.2 Testing the moderation effect of female labour force participation on the relationship between women on boards and institutional ownership

Institutional ownership is one determinant of corporate governance which seeks to guarantee the rights of stakeholders in the firm. In GCC countries, institutional ownership affects the presence of women in public companies BOD as shown in Model 1 ([Table 8](#)).

Table 7.

Woman in labour
force and legal
support

Variables	Country					
	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	United Arab Emirates
Percentage of woman in labour force	0.515	0.541	0.430	0.511	0.337	0.439
Legal support (quota)	No	No	No	No	No	Yes

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant α	3.784 ^{***} (0.000)	3.854 ^{***} (0.000)	4.294 ^{***} (0.000)	4.149 ^{***} (0.000)	4.896 ^{***} (0.000)	4.163 ^{***} (0.000)	4.898 ^{***} (0.000)	5.385 ^{***} (0.000)	3.769 ^{***} (0.000)
Board size (Board size * FLFP)	2.864 ^{***} (0.004)	3.444 ^{***} (0.001)	-3.251 ^{***} (0.001)	2.909 ^{***} (0.004)	3.887 ^{***} (0.000)	2.783 ^{***} (0.006)	2.868 ^{***} (0.004)	2.856 ^{***} (0.005)	2.879 (0.004)
Institutional ownership (InstOwner * FLFP)	2.588 ^{***} (0.005)	2.504 ^{***} (0.013)	3.505 ^{***} (0.000)	1.610 (0.108)	2.220 ^{***} (0.027)	1.310 (0.191)	1.874 [*] (0.062)	1.768 [*] (0.078)	1.687 [*] (0.092)
Ownership concentration (OwnerConc * FLFP)	0.594 (0.553)	0.489 (0.625)	1.278 (0.202)	1.148 (0.252)	0.306 (0.760)	0.746 (0.456)	0.812 (0.417)	0.691 (0.490)	-0.606 (0.545)
Board independence (Indep * FLFP)	1.959 ^{***} (0.048)	0.667 (0.506)	1.419 (0.157)	1.060 (0.290)	3.069 ^{***} (0.002)	0.952 (0.342)	0.914 (0.361)	0.994 (0.321)	1.086 (0.278)
Market performance (Tobin's Q) (Perf * FLFP)	1.993 ^{**} (0.039)	1.498 (0.135)	1.038 (0.300)	1.367 (0.173)	1.018 (0.309)	2.137 ^{***} (0.031)	1.515 (0.131)	1.698 [*] (0.091)	1.778 [*] (0.076)
Firm size (FirmSize * FLFP)	0.289 (0.773)	1.173 (0.242)	0.406 (0.685)	0.216 (0.829)	0.102 (0.919)	0.008 (0.994)	-0.656 (0.513)	0.291 (0.772)	0.374 (0.708)
Firm risk (FinLev * FLFP)	-0.120 (0.905)	-0.140 (0.888)	0.025 (0.980)	0.004 (0.997)	0.139 (0.890)	-0.071 (0.943)	-0.118 (0.906)	-0.173 (0.863)	-0.128 (0.898)
Sector * FLFP	-0.555 (0.579)	-0.739 (0.460)	-0.921 (0.358)	-0.916 (0.360)	-0.484 (0.629)	-0.534 (0.593)	-0.495 (0.621)	-0.534 (0.594)	-0.648 (0.518)
Country	-3.125 ^{***} (0.002)	-3.380 ^{***} (0.001)	-2.878 ^{***} (0.004)	-3.114 ^{***} (0.002)	-2.910 ^{***} (0.004)	-2.999 ^{***} (0.003)	-2.821 ^{***} (0.005)	-3.381 ^{***} (0.001)	-0.684 (0.876)
R^2	0.130	0.139	0.163	0.126	0.180	0.143	0.131	0.131	0.131
Adjusted R^2	0.106	0.116	0.135	0.102	0.152	0.118	0.107	0.110	0.111
F-statistic	5.451 ^{***}	5.906 ^{***}	5.915 ^{***}	5.691 ^{***}	6.612 ^{***}	5.269 ^{***}	5.495 ^{***}	6.203 ^{***}	6.471 ^{***}
p-value	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note: The upper value is for t -statistic test and the lower value in brackets (p -value) is the probability value for this test. Symbols mean significance at: *10%; **5%; and ***1% levels

Table 8.
Testing the study
hypotheses

Results for the moderating role of female labour force participation in the relationship between the percentage of WOBs and institutional ownership can be found in [Table 8](#), it is noticed that Model 3 was accepted and suitable as the constant value was statistically significant, as well as (F) value for the model. It is manifest from [Table 8](#) that the Adjusted R^2 was higher for Model 3 compared to Model 1 (Adj. R^2 13.5% > 10.6%). The interactive variable (InstOwner*FLFP) was statistically significant (t -test 3.505; $p < 0.01$). Therefore, we accept the second hypothesis as female labour force participation moderates the relationship between women on the board of directors and institutional ownership. This factor is statistically significant which lead to accepting the second hypothesis. This effect is positive indicating that firms with a high institutional ownership percentage with a country with high female labour force participation tend to include women on their boards. This finding is attributed to companies' societal environment which is ready to provide confidence and trust to women's existence on boards. Our findings are accordant with [Hillman et al. \(2009\)](#) and [Terjesen et al. \(2015\)](#) ones. While [Govotsos \(2017\)](#) and [Nekhili and Gatfaoui \(2013\)](#) conclude the same result which resonates with the importance to account for the societal environment especially that GCC countries are described with a low ratio of institutional ownership.

5.3 Testing the moderation effect of female labour force participation on the relationship between women on boards and ownership concentration

The results of Model 4 validate the third hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and ownership concentration. From [Table 8](#) we note that the Adjusted R^2 was lower for Model 4 compared to Model 1 (Adj. R^2 10.2% < 10.6%). The interactive variable (OwnerConc*FLFP) was not statistically significant (t -test 1.148; $p > 0.05$). Therefore, we reject the third hypotheses as female labour force participation not moderates the relationship between women on the board of directors and ownership concentration. Our findings contradict those of [Abdullah \(2014\)](#) and [Abdullah et al. \(2016\)](#).

5.4 Testing the moderation effect of female labour force participation on the relationship between women on boards and board independence

Board independent member is a critical element to ensuring corporate governance as they play a key role in channelling the companies "benefits and expertise to the external community and other stakeholders", such a position was attracting and empowering women's employment, as evidenced in [Table 8](#).

The Results of the fourth hypothesis can be found in [Table 7](#), it is noticed that Model 5 was accepted and suitable as the constant value was statistically significant, as well as (F) value for the model. It is manifest from [Table 8](#) that the Adjusted R^2 was higher for Model 5 compared to Model 1 (Adj. R^2 15.2% > 10.6%). The interactive variable (Indep*FLFP) was statistically significant (t -test 3.069; $p < 0.01$). Therefore, we accept the fourth hypothesis as female labour force participation moderates the relationship between women on the board of directors and board independence. Our findings are accordant with [Abdullah et al. study \(2016\)](#) and [Bohren and Staubo \(2016\)](#).

5.5 Testing the moderation effect of female labour force participation on the relationship between women on boards and market performance (Tobin's Q)

The fifth hypothesis examined the extent to which firms with outstanding market performance in a country with high female labour force participation tend to attract women

to their boards as they strive to improve their reputation in the existing society (Abdullah, 2014). From the results presented in Table 8, we can accept the fifth hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and market performance. From Table 8 we note that the Adjusted R^2 was higher for Model 6 compared to Model 1 (Adj. R^2 11.8% > 10.6%). The interactive variable (Perf*FLFP) was statistically significant (t -test 2.137; $p < 0.05$).

5.6 Testing the moderation effect of female labour force participation on the relationship between women on boards and firm size

Hillman *et al.* (2009) demonstrate that large firms appoint women on their boards to improve their reputation and satisfy stakeholders and investors. The results of Model 7 validate the sixth hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and firm size. From table 8 we note that the Firms size variable and the interactive variable (FirmSize*FLFP) was not statistically significant (t -test 0.289 and -0.656 ; $p > 0.05$). Therefore, we reject the sixth hypothesis as female labour force participation not moderates the relationship between women on the board of directors and firm size. This can be attributed to the fact that GCC firms are characterized by their flexibility and their ability to attract investors without considering their diversified gender-based boards.

5.7 Testing the moderation effect of female labour force participation on the relationship between women on boards and firm's risk level

Previous studies indicate an inverse relationship between the presence of women on BODs and company's risk (Nekhili and Gatfaoui, 2013). Women have an innate ability to sense and avoid risks, thus the study used financial leverage to measure the risk. The results of Model 8 validate the seventh hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and the firm's risk level. From Table 8 we note that the Firms risk variable and the interactive variable (FinLev*FLFP) not statistically significant (t -test -0.120 and -0.173 ; $p > 0.05$). Therefore, we reject the seventh hypothesis as female labour force participation not moderates the relationship between women on the board of directors and the firm's risk level. This finding contradicts the findings of Saeed *et al.* (2016), who found that the company's risk is proportionally inversed to women's presence on BODs. This may be due to the women's low representation on GCC companies' boards.

5.8 Testing the moderation effect of female labour force participation on the relationship between women on boards and firm sector

Hillman *et al.* (2009) relate women's BOD presence in specific sectors such as the consumer industry where they are highly recruited and where similar companies are interested to have a better understanding of customers' needs. In our study, there was no clearance between the company's sector and women presence as evidenced in Model 1, Table 8. The results of Model 9 validate the eighth hypothesis concerning that female labour force participation moderates the relationship between women on the board of directors and the firm sector. From Table 8 we note that the Sector variable and the interactive variable (Sector*FLFP) not statistically significant (T -test -0.555 and -0.684 ; $P > 0.05$). Therefore, we reject the eighth hypothesis as female labour force participation not moderates the relationship between women on the board of directors and the firm sector. This may be due to the previously mentioned reason that women are not highly represented on GCC firms' boards.

6. Conclusion and recommendations

This study aimed to look at the moderation role of the percentage of women in the country labour force in the relationship between firm-level governance factors (board size, institutional ownership, ownership concentration, board independence, performance, firm size, firm's risk and sector) and WOBs in publicly listed firms in GCC countries. The sample includes 436 listed companies for the year 2018. The study relied on the least-square regression and tested 9 models. Results indicated a drop in the presence of women on GCC companies' boards. In parallel, our study demonstrated that in the UAE, women are more represented than in other GCC countries. Remarkably, the quota law and other government measures which took place strongly supported this presence.

The study concluded that the percentage of women in the country's labour force has a moderation role in the relationship between board size and WOB, as well as firm market performance and WOBs. However, ownership concentration, firm size, firm risk and firm sector do not affect the percentage of WOB; consequently, the percentage of women in the country's labour force did not have a moderation role in the relationship between these variables and the percentage of WOBs.

We recommend activating and implementing the quota system in all GCC countries where it is advisable to set a minimum level of women's representation on Gulf companies' BODs such as in the UAE. GCC countries are encouraged to activate policies, which support women and introduce them into the labour market to overcome societal and cultural norms.

We also recommend GCC countries foster their corporate governance standards to stimulate gender diversity and integrate women on their boards. This can be achieved through the development of appropriate and adequate succession plans for board members and a transparent election system for nominating committees where women are given equal opportunities with their male counterparts. Finally, companies should offer training and qualification for women to compete with male candidates. Experienced and competent prevent discrimination and provide equal opportunities in the BODs selection process.

7. Limitations and suggestions for future research

The current study tried to identify many internal factors affecting the presence of women in GCC companies' BODs. We were not able to include some important factors such as family ownership due to the lack of data. We recommend adding these variables in future research. We also suggest relying on panel data to be able to generalize its findings. The topic constitutes a major achievement in the corporate governance sphere. Women's presence and inclusion on companies' boards will certainly foster equality, fairness and might improve GCC economic outcomes.

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