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**WOMEN ON BOARDS AND FINANCIAL PERFORMANCE OF
MALAYSIAN BANKS**

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Abstract

Through the perspective of critical mass theory, this study provides empirical evidence on the effect of the existence of women on boards (WOB) on the financial performance of Malaysian banks. Our sample included 90 bank-year observations, which span the years 2013 through 2021. Using panel data regression analysis, this study documents the insignificant impact of the existence of WOB on bank financial performance, implying that the mere presence of WOB does not improve the financial performance of Malaysian banks. Nevertheless, the proportion of WOB and a threshold of 30% WOB have a favourable effect on financial performance as measured by ROE and ROIC. This study recommends that banks concentrate on recruiting the appropriate proportion of female directors and exploiting the possible advantages of a gender-balanced board, as greater diversity may help firms achieve excellent stability, which generally improves financial performance. This study has significant ramifications for regulators, policymakers, and practitioners.

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1. Introduction

Researchers, professionals, and legislators are all interested in the problem of women's representation on corporate boards (Girardone et al., 2021). Since the advent of COVID-19, corporate boards have been confronted with a series of difficult decisions. The inclusion of women with diverse backgrounds and experiences on boards was promoted as a means to improve monitoring ability (Tampakoudis et al., 2022), provide innovative solutions to problems faced by the firms (El-Chaarani et al., 2022), enhance the ability of a firm to access different and critical resources (Tasheva & Hillman, 2018), and enhance decision making (Seierstad et al., 2017). To boost diversity and increase the number of females on corporate boards, government and non-government bodies have been supporting firms to promote female representation on boards and other management levels (Valls Martínez et al., 2019). To encourage gender equality in decision-making, some nations have enacted boardroom quotas for their top publicly listed firms, while others have established voluntary targets to raise the number of WOB (International Labor Organization, 2020; Rixom et al., 2022). Norway has taken the lead on this issue, paving the way for other countries to follow suit by enacting legislation requiring corporate boards to have at least 40% female directors (Lara et al., 2022). This mandatory and voluntary gender quota has significantly increased women's representation on corporate boards (Maida & Weber, 2022). According to a study by Frimpong (2021), between 2019 and 2021, the average percentage of board seats held by women increased from 2.9% to 5.6%.

This upward trend of women's representation is also pervasive in financial services (Rogish et al., 2022). According to a 2020 World Bank survey, the banking industry has improved the most significant progress regarding the proportion of women in senior leadership roles (Grover, 2022). A substantial proportion of WOB increases financial institutions' risk oversight and resiliency (Tampakoudis et al., 2022). Market participants pay special attention to bank governance structures, such as board diversity, and seek greater oversight and caution from banks compared to non-financial firms (Tampakoudis et al., 2022). Notably, in the wake of the COVID-19 epidemic, a significant amount of attention has been paid to how banks can continue to operate effectively while remaining resilient (Boubaker et al., 2022). While there are many studies on how WOB affects the performance of non-financial businesses, there are not many on how WOB affects the performance of banks (Stefanovic & Barjaktarovic, 2020), and the results have mainly remained inconclusive (Marquez-Cardenas et al., 2022; Tampakoudis et al., 2022). Bhatia and Gulati (2021) argue that governance in banks differs from that in other industries and requires separate considerations and that conclusions drawn for different sectors cannot be generalised to banks. Furthermore, governance in banks differs from that in other industries and requires particular concerns. Moreover, empirically, the impact of the inclusion of WOB on a bank's financial performance is less reported in emerging markets (Marquez-Cardenas et al., 2022).

To fill this void, our research expands on assessing the impact of WOB on financial performance by focusing on the Malaysian banking sector. In the case of Malaysia, only Jabari and Muhamad (2020) investigate this issue. However, in several aspects, our study differs from Jabari and Muhamad (2020). First, Jabari and Muhamad (2020) focus on Malaysian and Indonesian Islamic banks, and our analysis concentrates on Bursa Malaysia-listed banks. Because of disparities in access and control of the capital market, listed banks display more significant information asymmetry and agency costs than unlisted banks

(Tran et al., 2019). In addition, because of the larger size of listed banks, they may display a higher degree of moral hazard and engage in riskier behaviour (Tran et al., 2019), which requires effective monitoring of corporate governance. Second, this study covers the period during the regulation of the Malaysian Code of Corporate Governance (MCCG) and the time of the COVID-19 pandemic. Third, the study uses four measurements for bank financial performance, which can produce more realistic results that benefit stakeholders of these banks. Fourth, this study tested the critical mass theory, which has not been considered in previous research conducted in Malaysia on the issue of WOB and financial performance (Rahman et al., 2022).

2. Women on Board and Bank Performance

The women's involvement in the boardroom issue has received significant attention in corporate governance as one of the board quality and effectiveness tenets (Amin et al., 2022; Raddant & Takahashi, 2022). Gender diversity refers to the proportion of female boardroom members (Haque & Jones, 2020). Advocates of gender diversity on boards contend that the presence of WOB correlates with more prudent and sustainable decision-making (Girardone et al., 2021), may improve monitoring effectiveness and decrease agency disputes conflicts (Alharbi et al., 2022), and improve communication across organisational levels and among board members (Karim, 2021). Hence, WOB is suspected of impacting firms' performance from the financial and economic perspective (Lafuente & Vaillant, 2019; Noja et al., 2021) and boosting investor confidence and market value (Alharbi et al., 2022).

However, according to the critical mass hypothesis, the presence of WOB may not be sufficient to effect real change and strengthen corporate governance at the board level (Charles et al., 2015). Women directors cannot assume their full responsibilities on a board until a critical number of women have been appointed (Kanter, 1977a; Kanter, 1977b). This theory assumes that female board members can only make substantial contributions if at least three; otherwise, they will be marginalised in male-dominated boardrooms if there are fewer (Owen & Temesvary, 2018). When a critical mass is attained, there will be less of a barrier to acceptance and communication, making it more likely that the opinions of female directors will be heard (Konrad et al., 2008). This situation improves business success (Joecks et al., 2013).

The diverse empirical evidence on the WOB - firms' financial performance nexus is reported. Several studies have revealed no link between WOB and bank financial performance (for instance, Abubakar & Mamman, 2016; Amrani et al., 2022; Arquisola et al., 2018; Ekadah & Kiweu, 2012; El-Chaarani et al., 2022; Elgadi & Ghardallou, 2022; Eni-Egwu et al., 2022; Grover, 2022; Olufemi, 2021; Stefanovic & Barjaktarovic, 2020; Yar & Ahmed, 2020). Their research indicates that the presence of WOB in banks does not inevitably result in improved financial performance.

On the other hand, numerous studies have found that including and adding more WOM indiscriminately can be counterproductive, become a potential source of conflict and sluggish decision-making, and contribute to a decline in financial performance (see Kramaric & Pervan, 2016; Manyaga et al., 2020). While the inclusion of females in corporate bank boards may strengthen the governance quality, excessive monitoring through active women's participation in boardrooms may deteriorate shareholder value (Gulamhussen & Santa, 2015). For instance, Owen and Temesvary (2018) found that gender diversity benefits a bank's performance once a specific threshold is met. However, Farag and Mallin (2017) offered

evidence that adding female directors above a particular threshold, which in their case is 21%, may result in a drop in the European bank's financial performance.

Numerous scholarly studies show a positive relationship between WOB and bank financial success, implying that more diverse boards bring a wide range of perspectives, values and views, as well as more valuable resources, which improve bank financial performance. Bukar and Ahmed (2020), García-Meca et al. (2015), Onyekwere et al. (2019) and Uyar et al. (2022), for example, illustrate that gender diversity enhances governance and report a favourable association between WOB and bank performance. Baselga-Pascual and Vähämaa (2021), Bhatia and Gulati (2021), Dong et al. (2017), Jabari and Muhamad (2020), Mateus and Belhaj (2016), and Stefanovic and Barjaktarovic (2020) concluded that banks perform better when there are more women on bank boards. Some other researchers (Alharbi et al., 2022; Boadi et al., 2022; George & Muiruri, 2022) also show the benefits of having WOB outweigh the costs. Following theoretical discussions and the majority of empirical evidence, our hypotheses are as follows:

H1. The existence of at least one WOB is associated with improved financial performance.

H2. The proportion of WOB and financial performance have a positive relationship.

H3. A positive relationship exists between WOB and financial performance when at least 30 per cent of members on board is female.

3. Research Methods

3.1. Data and sample description

The study's population includes all Bursa Malaysia-listed banks. This study focuses on the banking industry since it is a critical engine for the global economy's recovery (Demirgüç-Kunt et al., 2021), and this is especially significant for Malaysia, where banks have been instrumental in the nation's development. As of July 31st, 2022, ten operational banks were listed on Bursa Malaysia. This study uses secondary data from these banks from 2013 to 2021, which adds up to a total of ninety observations. The period chosen for data collection encompasses the code of corporate governance reforms and the COVID-19 pandemic. The board diversity data came from the annual reports, while the financial and economic statistics came from the Thomson Reuters Eikon database.

3.2. Variables used and model

The influence of WOB on a bank's financial performance is investigated using panel data regression. The study's multivariate regression model is as follows:

$$\text{Financial Performance}_{i,t} = \beta_0 + \beta_1 \times \text{Gender}_{i,t} + \beta_2 \times \text{Controls}_{i,t} + \varepsilon_{i,t}$$

3.2.1. Independent variable - financial performance

We use accounting measures of performance because it is widely used, effective at tracking firm performance, and less noisy than market performance metrics (Lopez et al., 2007). We used four accounting-based measures, i.e., ROA, ROE, ROIC and EPS. These four metrics are among the literature's most frequently employed accounting performance measures (Abukari et al., 2022). ROA represents the

firm's efficiency in generating income from its real investments and financial resources (Hassan, 2003). ROA is the proxy used where it is the net income divided by total assets (Carmo et al., 2022; Gulamhussen & Santa, 2015). ROE assesses the firm's efficiency in generating profits and its return on shareholders' equity (Al-ahdal et al., 2020), and it denotes the returns on investment that a firm can cause (Madinios et al., 2009). ROIC is the most accurate indicator of financial performance because it is unaffected by a company's capital structure decisions and share buybacks (Damodaran, 2007) and takes both operating and capital efficiency into account (Tey et al., 2020). ROIC measures the percentage of returns obtained by the company on the invested capital and is calculated as a ratio of operating income after tax and invested capital (Sarsour & Aldalou, 2021). The EPS ratio measures the entire profit scale of outstanding shares (Oktaria & Arifa, 2022). EPS is calculated as the ratio of earnings and profits obtained per share (Noja et al., 2021).

3.2.2. Dependent variable – board gender diversity

We consider the institutional representativeness of women in three ways. First, if the firm has at least one WOB and 0; otherwise, a dummy variable is coded (1WOM) (Carmo et al., 2022). Second, the proportion of women on boards of directors (PWOM) is calculated by dividing the total of female directors by the total size of the board (Carmo et al., 2022; Eni-Egwu et al., 2022). Third, a dummy variable coded one if the bank's board includes at least 30% female directors and coded 0 otherwise (30% WOM) (MCCG, 2017).

3.2.3. Controls variables

Board size (BOARD), leverage (LEV), and firm size (SIZE) were included as control variables that might affect a bank's overall financial performance. A larger board of directors may provide more diversified experience, robust oversight mechanisms, and effective communication (Khatib et al., 2021). BOARD was represented by the natural logarithm of total members (Carmo et al., 2022). Due to scale economies, a bank's financial performance can be better explained by firm size (Mia et al., 2021). The natural logarithm of total assets was used to measure the firm size (Carmo et al., 2022). Leverage has been potentially recognised as determining corporate profitability (Short, 1979) and insolvency risk (Angbazo, 1997). It is determined by dividing total liabilities by total assets (Carmo et al., 2022).

4. Findings

WOM is described in Table 1 across the sample years. The number of BOARD members goes from 5 to 14, whereas the number of WOB ranges from 0 (zero) to 4. Over the years, there has been a fluctuating trend in the proportion of board gender diversity, but starting from 2019 onwards, the average WOB increased to thirty per cent due to the requirement by MCCG. However, 33% of WOB was presently beginning from 2014 with only one bank until 2018. From the table, only two banks have two WOB for 2019 and the most recent year of the sample, i.e., 2021.

Table 1. Description of WOB over the sample years

Years	Total Number Members of the Board			Total Number WOB			The proportion of WOB (%)			Boards with at Least 1 Women	Boards with at Least 2 Women	Boards with at Least 3 Women	Boards with at Least 20% Women	Boards with at Least 30% Women
	Min	Median	Max	Min	Median	Max	Min	Median	Max	Number of Companies				
2013	7	10	13	0	1	4	0	12	40	5	1	0	0	0
2014	7	10	13	0	1	3	0	13	33	5	2	1	0	1
2015	6	9	14	0	1	4	0	15	40	4	3	0	0	1
2016	3	9	13	0	1	3	0	18	40	4	2	2	0	1
2017	6	9	13	0	2	4	0	21	44	3	2	1	0	1
2018	5	8	11	0	2	4	0	23	43	3	4	1	1	1
2019	6	9	14	1	3	4	11	30	50	2	2	4	1	2
2020	5	9	14	1	3	3	20	30	50	1	1	8	1	1
2021	7	10	14	2	3	4	18	30	43	5	2	7	0	2

Table 2 indicates that the average ROA value is 0.918222, suggesting the return is less than what the banks have invested in their assets. ROE and ROIC have mean values of 10.19289 and 6.927444, implying that the bank effectively uses the investors' funds to generate profits. The mean value for EPS is 0.641, indicating that the shareholders only receive, on average less than RM1 per share invested. The primary variable of the study, PWOM, shows that banks in the sample have an average of nearly 21.33% of women as board members. All the banks are large (25.78408), and their capital structure is financed by debt at an average rate of 10% of their assets (0.10).

Table 2. Descriptive statistics (n=90)

Variable	Mean	Std. dev.	Min	Max
ROA	0.918222	0.425033	-2.25	1.56
ROE	10.19289	5.272827	-23.04	22.4
ROIC	6.927444	3.284838	-11.44	14.3
EPS	0.641	0.545173	-1.27	2
PWOM	21.333	13.79518	0	50
BOARD	2.1795	0.28408	1.099	2.639
SIZE	25.78408	0.993158	23.124	27.512
LEV	0.099667	0.040487	0.02	0.17

Table 3 depicts the correlation analysis between the variables tested. The highest correlation is reported between WOM and PWOM (0.610). As the correlation coefficient is less than 0.8, multicollinearity is not a concern in this study. Furthermore, the variance inflation factors (VIFs) for each variable ranged from 1.07 to 1.47, less than 10. In any model, multicollinearity is not a concern (Hair et al., 2012).

Table 3. Correlation matrix (Pearson Correlations)

	ROE	ROA	ROIC	EPS	WOM	PWOM	WOB	BOARD	SIZE	LEV
ROE	1									
ROA	0.892***	1								
ROIC	0.813***	0.885***	1							
EPS	0.512***	0.5012***	0.672***	1						
WOM	-0.055	-0.033	0.042	0.164	1					
PWOM	-0.077	-0.022	0.145	0.2730***	0.610***	1				
30%WOM	-0.010	0.074	0.164	0.178	0.270**	0.786***	1			
BOARD	0.041	-0.083	-0.219**	-0.386***	0.036	-0.241**	-0.238**	1		
SIZE	0.106	0.049	0.023	0.197*	0.499***	0.257**	0.127	0.105	1	
LEV	-0.244**	-0.286***	-0.490***	-0.363***	0.094	-0.169	-0.177*	0.248**	0.315***	1

*, **, and *** signify statistical significance at 1 percent, 5%, and 10%, respectively.

The regression analysis results are shown in Table 4. Consistent with Onyekwere et al. (2019), the results indicate that having at least one WOB does not improve a Malaysian bank’s financial performance. According to Liu et al. (2014), a female director’s presence is unlikely to affect financial performance until a certain threshold is achieved substantially. Thus, the findings do not support hypothesis 1 (H1). Nevertheless, PWOM has a significant and positive correlation with ROE and ROIC. Consistent with Dong et al. (2017), Baselga-Pascual and Vähämaa (2021) and Grover (2022), this finding concludes that the financial result is improved when there are more WOB. Hence, we accept hypothesis 2 (H2).

Similarly, the presence of at least 30% WOB (30%WOM) is also significantly and positively related to ROE and ROIC. Stakeholders might perceive the presence of more WOB as improving bank performance, gaining future cash flow, being less risky, and having a better reputation in the future as the banks will not be labelled or incur noncompliance penalties (Bilimoria, 2006; Terjesen et al., 2009). The verdict is in coherence with Brahma et al. (2021) and corroborates the critical mass theory by demonstrating that the existence of a women director does not affect performance until a 30% of women is reached. Hence, we accept the third hypothesis (H3). Our findings highlight the necessity of adopting various gender diversity indicators to discover the ideal amount of gender diversity and alternative financial success measures for the setting under consideration.

Table 4. Estimation of regression findings

	Model 1 (ROA)			Model 2 (ROE)		
	WOM REM	PWOM REM	30%WOM FEM	WOM REM	PWOM FEM	30%WOM FEM
Intercept	-2.152* (1.183)	-1.826 (1.115)	-1.879* (1.086)	-13.722 (14.349)	-14.006 (12.354)	-16.006 (11.982)
GENDER	-0.124 (0.136)	-0.003 (0.003)	0.084 (0.095)	-0.235 (1.643)	0.073** (0.041)	2.699** (1.053)
BOARD	0.142 (0.147)	0.117 (0.153)	0.169 (0.153)	-0.746 (1.780)	-0.296 (1.731)	-0.054 (1.692)
SIZE	0.125*** (0.048)	0.113** (0.045)	0.106** (0.042)	1.164** (0.581)	1.047** (0.496)	1.130** (0.469)
LEV	-3.606*** (1.068)	-3.731*** (1.106)	-3.397*** (1.089)	-42.901*** (12.935)	-37.256*** (12.409)	-37.063*** (12.016)
N	90	90	90	90	90	90

Adj. R2	12.33%	12.70%	8.72%	10.23%	4.79%	6.55%
F-Test	3.65***	3.08***	3.60***	5.83***	6.26***	7.26***
Hausman test	4.69	6.16	22.68***	7.01	89.91***	18.37***
	Model 3 (ROIC)			Model 4 (EPS)		
	WOM	PWOM	30% WOM	WOM	PWOM	30% WOM
	REM	REM	FEM	REM	FEM	FEM
Intercept	-4.494 (8.127)	-5.557 (7.405)	-7.303 (7.339)	-2.220 (1.449)	-2.367** (1.348)	-2.520* (1.327)
GENDER	1.045 (0.945)	0.053** (0.024)	1.379** (0.645)	0.075 (0.163)	0.002 (0.004)	-0.019 (0.108)
BOARD	-1.336 (1.030)	-0.793 (1.038)	-0.834 (1.036)	-0.625*** (0.175)	-0.606*** (0.179)	-0.632*** (0.179)
SIZE	0.689** (0.329)	0.663** (0.297)	0.765*** (0.287)	0.182*** (0.059)	0.186*** (0.054)	0.197*** (0.052)
LEV	-43.536*** (7.411)	-40.209*** (7.438)	-41.237 *** (7.360)	-5.260*** (1.287)	-5.168*** (1.317)	-5.345*** (1.307)
N	90	90	90	90	90	90
Adj. R2	27.43%	24.13%	26.08%	43.04%	34.04%	33.90%
F-Test	3.71***	4.31***	4.27***	13.05***	43.86***	11.09***
Hausman test	127.36***	38.05***	102.18***	2.60	4.68	3.34

Robust standard errors in parenthesis. * Denotes statistical significance levels of 1%, ** denotes statistical significance levels of 5%, and *** signifies statistical significance levels of 10%.

Table 4 demonstrates that SIZE has positive and statistically significant coefficients across all calculations, indicating that bank size favors their financial performance. In contrast, LEV has negative statistically significant coefficients across all estimations. This finding is expected as banks with high debt typically perform worse than banks with better leverage. The BOARD variable shows mixed results as the only significant findings are on the EPS for all regressions on GENDER.

5. Conclusions

This study examines WOB's influence on Malaysia-listed banks' performance from 2013 to 2021. Our findings indicate that the presence of WOM positively influences financial success, validating the economic grounds for gender diversity in boardrooms. However, this effect is not exhibited linearly when only one woman is present, lending credence to the critical mass argument. There is at least one female board member, and women make up 30% of the board; WOB improves ROE and ROIC, A bank that meets the MCCG 2017 guidelines provides the market with a good signal about its present and future financial stability and risk profile. The presence of at least 30 per cent of WOB can be perceived as adherence to social values and legal compliance by the banks and hence will improve the bank's reputation.

This study provides three significant additions to the literature. First, it offers economic justification regarding the mandated gender diversity in an organisation and motivates businesses to meet gender diversity requirements. Second, it contributes to the little research on the implications of WOB on financial performance in Malaysian banks. Third, it provides practical information on how female participation affects Malaysian banks' financial performance under the amended MCCG 2017 requirement of having at least 30% of women on Malaysian boards.

This study also has implications for current practices. This study recommends that banks concentrate on recruiting the appropriate proportion of female directors and maximising the advantages of a gender-balanced board. Greater diversity may help firms achieve more excellent stability, which generally improves financial performance. Equal gender representation on corporate boards is also advantageous to banks to attain the “5th Sustainable Development Goals (SDGs) - Gender Equality and Empowerment of Women and Girls”. This study also provides a policy response to support corporate governance codes establishing targets and quotas for WOB. However, whether or whether enforcement steps should be implemented in the case of noncompliance remains an essential issue for further research.

Despite its merits, there are certain limitations to this study. First, this study is merely a preliminary investigation of Malaysian banks with a concentration on those listed on Bursa Malaysia; hence, the sample size is somewhat limited. A second limitation is that the time studied ends in 2021, making it unable to fully understand the implications of attaining the 30% threshold because the new MCCG on gender diversity was first issued in 2017. Lastly, as this study only used secondary data, it has not looked into how different personality traits of women may influence the correlation between WOB and financial performance. Future researchers might investigate the influence of thinking behaviours of WOB, masculinity or feminism of WOB, professionalism, scepticism of WOB, education, and experience on financial performance. In addition, future studies may consider the presence of female directors on other committees or women’s involvement in top management positions. The association of gender diversity and its influence on sustainability or earnings management are two dimensions that need more future studies.

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