

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Al Absy, Mujeeb Saif Mohsen

Article

Impactful female directors and earnings management: The moderating effect of ownership concentration

Administrative Sciences

Provided in Cooperation with: MDPI – Multidisciplinary Digital Publishing Institute, Basel

Suggested Citation: Al Absy, Mujeeb Saif Mohsen (2023) : Impactful female directors and earnings management: The moderating effect of ownership concentration, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 13, Iss. 5, pp. 1-15, https://doi.org/10.3390/admsci13050129

This Version is available at: https://hdl.handle.net/10419/275594

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.



https://creativecommons.org/licenses/by/4.0/

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.









Article Impactful Female Directors and Earnings Management: The Moderating Effect of Ownership Concentration

Mujeeb Saif Mohsen Al-Absy

Accounting and Financial Science Department, College of Administrative and Financial Science, Gulf University, Sanad 26489, Kingdom of Bahrain; dr.mujeeb.saif@gulfuniverstiy.edu.bh

Abstract: The aim of this study was to examine the moderating effect of ownership concentration (OC) on the relationship between impactful female directors and earnings management (EM). The study concentrated on firms with the lowest positive earnings, measured by return on assets. The results showed that OC positively moderated the association between impactful female directors and accrual earnings management (AEM). With the moderating effect of OC, impactful female directors became positively associated with AEM. In terms of real earnings management (REM), the results showed that OC weakened the significant negative relationship between impactful female directors and REM that was found in the direct regression. With the moderating effect of OC, impactful female directors became insignificantly associated with REM. The study is extremely beneficial to policymakers, stakeholders, researchers, and society. It provides empirical findings that could help all parties to re-evaluate the role of the board of directors, specifically impactful female directors, in mitigating EM. The results highlight the impact of the majority shareholders, introduced by agency theory II, an issue that requires more solutions from regulators.

Keywords: board of directors; gender equality; ownership concentration; earnings management

1. Introduction

Investors' confidence in their capacity to make wise selections is affected by the dependability and transparency of financial reports. All users benefit from an honest financial statement that accurately depicts the firm's performance. Management must provide stakeholders with a trustworthy and accurate financial report that helps them in making wise and meaningful decisions. Essentially, each business's main goal is to increase the capital of its shareholders (Gharaibeh and Qader 2017). However, in some cases, managers can manipulate earnings by looking out for their own interests ahead of those of shareholders, as confirmed by agency theory.

Global financial scandals have had a significant impact on international economies and led to the failure of large firms (Al-Absy 2020, 2022a, 2022b). As a result, regulators, investors, and the financial community have become more aware of the necessity to pay closer attention to companies' financial statements (Abdullah and Ismail 2016; Mnif and Cherif 2020). One of the issues that has recently come to the fore is earnings management (EM); many scholars feel that EM procedures are often the primary cause of global financial scandals (Abdullah and Ismail 2016; Al-Absy et al. 2017, 2020a). According to earlier research, EM and fraud have a significant and positive association (Rahman et al. 2016; Sulaiman et al. 2014).

As a result, since the demise of some well-known worldwide companies, corporate governance (CG) has received a great deal of attention, with governments taking action to increase its efficacy (Al-Absy et al. 2020b). The presence of female directors is one of the most significant aspects of CG. Due to the increased significance placed on women's engagement on boards in recent years, there are now more female directors on boards across all nations. However, how gender influences decision-making in the senior management team is still unknown (Kumar and Ravi 2022).



Citation: Al-Absy, Mujeeb Saif Mohsen. 2023. Impactful Female Directors and Earnings Management: The Moderating Effect of Ownership Concentration. *Administrative Sciences* 13: 129. https://doi.org/10.3390/ admsci13050129

Received: 7 February 2023 Revised: 30 April 2023 Accepted: 4 May 2023 Published: 10 May 2023



Copyright: © 2023 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). In recent years, the understanding of the importance of board gender diversity has grown (Damak 2018), and it continues to receive significant scholarly attention (Wan Ismail et al. 2022). While it is one of the most researched issues in board governance studies (Weck et al. 2022), there is not much evidence on how having women on the board affects EM (Abdullah and Ismail 2012; Gavious et al. 2012; Mnif and Cherif 2020). Further, existing results are varied (Kyaw et al. 2015), meaning that the issue is still open to question (Abdullah and Ismail 2016; Gull et al. 2018; Lakhal et al. 2015; Mnif and Cherif 2020). Moreover, the majority of the research has been conducted in developed nations (Abdullah and Ismail 2016); additional research is required (Gull et al. 2018).

Therefore, the current study makes a variety of contributions to the body of knowledge. Previous studies have investigated the moderating effect of family ownership on the relationship between female directors and EM in Malaysian firms, e.g., Abdullah and Ismail (2016) and Ismail and Abdullah (2013). However, the current study investigated the moderating effect of ownership concentration (OC) on that relationship. Furthermore, it extends the work of Al-Absy (2022b), which introduced a new concept of gender diversity called impactful women directors and investigated the direct relationship between impactful female directors and EM. According to Weck et al. (2022), there is significant evidence that female directors demonstrate lower work involvement because they are given a lesser standing within the board. Hence, the current study investigates the moderating effect of OC on the relationship between impactful female directors and the level of EM.

The current study expects that OC could affect that relationship. Previous studies, e.g., Kumar and Ravi (2022), have confirmed that the relationship between gender diversity and EM is moderated by other factors, such as the power given to female directors. Further, OC is a significant contextual factor that may have an impact on the degree of information asymmetry, which in turn may alter investment preferences (Ali et al. 2021).

The study aids policymakers in developing countries, where women's contributions appear to be less significant in raising the integrity of financial reports in general, as well as in EM mitigation, to reassess the effect of board gender equality. Further, the study will guide policymakers in evaluating female directors' roles in CG. Hence, the empirical evidence will help policymakers to make decisions in order to strengthen the role of women on the board and its committees, given the existence of high levels of OC.

2. Literature Review

2.1. Women Directors and Earnings Management

Over the past years, there has been a huge increase in the body of literature studying how gender affects business ethics and risk-taking behavior (Kumar and Ravi 2022). Women on boards are valued more than men (Srinidhi et al. 2011) and are capable of committing more time to oversight (Adams and Ferreira 2009). The appointment of female directors to the board is a positive development since it will improve the effectiveness of the board in managing strategic decisions (Al-Najjar and Salama 2022). Companies with significant gender diversity on their boards perform well in terms of corporate sustainability (Kamarudin et al. 2022). Further, gender-diverse boards are more likely to be autonomous (Bøhren and Staubo 2016). The accuracy of analysts' forecasts is greater for companies with more gender diversity on the board (Wan Ismail et al. 2023).

According to agency theory, board gender diversity is one mechanism that helps to resolve the conflict of interest between management and shareholders. Furthermore, based on the resource dependence hypothesis, board composition is a tactical tool that aids in bringing in outside resources, which will increase the company's growth. Therefore, the expectations and pressures of the environment have an impact on the board's makeup (Boyd 1990). Over the last ten years, society has increased the pressure on boards to appoint female directors (Lückerath-Rovers 2009), as research shows that female directors on corporate boards play an important role in the success of the organization.

The studies of Abdullah et al. (2016) and Adams and Ferreira (2009) found that female directors are significantly associated with higher firm performance. Similarly, Carter

et al. (2003) found that female directors are significantly associated with higher firm value. Srinidhi et al. (2011) found that female directors are significantly associated with higher earnings quality. On the other hand, other studies have found the opposite effect of female directors on firm performance. According to certain research, including Abdullah (2014) and Abdullah et al. (2016), which used Tobin's Q as a proxy, having women on the board is significantly linked to lower business performance.

The results of previous studies examining the influence of women on the board on EM are mixed. Some research has found a significant negative association between women on the board and EM in developed countries (Gavious et al. 2012; Gull et al. 2018; Kyaw et al. 2015; Lakhal et al. 2015); the same association has also been demonstrated in Malaysia (Ku Ismail and Abdullah 2013). This result is in line with the ideas of agency and resource-dependence theories. However, the results of other studies have contradicted the agency and resource reliance ideas, finding a substantial positive correlation between having women on the board and EM both in developed nations (Arun et al. 2015) and in Malaysia (Buniamin et al. 2012). Other studies, conducted in Malaysia (Abdullah and Ismail 2012, 2016) and other developing nations (Moradi et al. 2012), have discovered no connection between having women on the board and EM. According to Yusoff et al. (2013), these conflicting outcomes may be caused by the low representation of women on corporate boards in developing nations such as Malaysia, which weakens their voices (Abdullah and Ismail 2012).

Regarding the structure of the audit committee (AC), it is asserted that the representation of female directors on the AC may strengthen the AC's monitoring function in EM mitigation and, hence, improve the financial reporting quality. For example, some studies conducted in developed countries have found a significant negative relationship between women on the AC and EM, with the same results also found in some studies in the Malaysian context, consistent with agency and resource-dependence theories (Gavious et al. 2012; Ku Ismail and Abdullah 2013; Salleh et al. 2012; Thiruvadi and Huang 2011; Zalata et al. 2018). However, other studies conducted in developed countries and in Malaysia (Abdullah and Ismail 2012, 2016; Salleh and Haat 2013; Sun et al. 2011) did not uncover a relationship between women on the AC and EM.

2.2. Ownership Concentration and Earnings Management

The type I agency problem (principal–agent) shifts to a type II agency problem (minority–majority shareholders) due to concentrated/controlling ownership. When concentrated/controlling ownership power is not moderated by independent directors, the agency problem is heightened (Anderson and Reeb 2004) as the majority of shareholders equally control and manage these firms (Leung et al. 2014). Thus, management with a family influence make decisions for their own interests (Lane et al. 2006). This is especially so when board directors have incentives to be friendly to managers or majority shareholders (Staubo 2010).

As a result, controlling owners who want to avoid pressure or criticism from noncontrolling shareholders or other external monitoring systems have the incentive to use EM (Bao and Lewellyn 2017; Chi et al. 2015; Razzaque et al. 2016), especially where there is an increase in the information asymmetry problem, where information is held only by managers or controlling shareholders (Jensen and Meckling 1976).

Ownership structure plays an essential role in structuring CG mechanisms in all countries. OC has a dual impact on agency issues; it can either lessen or increase them. Although it worsens the principal–principal agency problem, it lessens the principal–agent agency problem (Ali et al. 2021). For instance, a high concentration of ownership could be an effective driver and monitoring tool for management activities and for reducing the agency problem (Darko et al. 2016). Previous studies have found a significantly negative relationship between concentrated ownership and EM (Alves 2012; Geraldes-Alves 2011).

However, other scholars have argued that concentrated ownership could dominate managers' decisions, by leveraging corporate resources to owners' advantage at the expense

of minority shareholders. Some previous studies have found a significantly positive relationship between concentrated ownership and EM (Abdullah and Nasir 2004; Al-Rassas and Kamardin 2015, 2016; Choi et al. 2004; Gavious et al. 2012; Gulzar 2011). Meanwhile, other studies have found no relationship (Abdul-Rahman and Ali 2006; Amer and Abdelkarim 2010; Chekili 2012; Mohammad et al. 2016).

Previous research has found mixed results on the influence of women on the board on constraining EM. In developed countries, the relationship seems to be negative and significant, while in developing countries, the relationship seems to be insignificant. It appears that the relationship between women on the board and EM is moderated by the type of ownership, where the firms' shares tend to be diffusely held in developed countries while they are often held tightly by families in Asian countries (Claessens and Fan 2002).

Many countries throughout the world have passed gender quota legislation that requires the nomination of female directors in order to promote corporate governance in the boardroom (Wan Ismail et al. 2022). In Malaysia, where this study was conducted, the code of corporate governance mandates large companies to have at least 30% female directors. In alignment with the agency and resource-dependence theories, several studies have found that women on the AC play an important role in enhancing the monitoring role of the AC toward mitigating the practice of EM. However, some studies conflict with the above theories. Majority owners often dominate the decisions of the firm as they play an active role in CG (Hasan et al. 2014; Shleifer and Vishny 1997). Female directors are more likely to be appointed due to family affiliations than for any other reasons (Abdullah 2014; Ku Ismail and Abdullah 2013). This reflects that family affiliation has a strong influence on the appointment of female directors.

Ku Ismail and Abdullah (2013) found that family ownership positively moderates the relationship between female directors on the AC and the level of EM practice. However, a subsequent extended study by Abdullah and Ismail (2016) contradicted this finding. By following the previous studies and in line with the type II agency problem, the current study expects that OC will positively moderate the effect of impactful female directors on constraining the level of EM. Hence, the following hypotheses were formulated:

H₁: Ownership concentration positively moderates the relationship between impactful female directors and accrual earnings management (AEM).

H₂: Ownership concentration positively moderates the relationship between impactful female directors and real earnings management (REM).

3. Research Design

3.1. Sample Selection

This study's population consisted of all public firms that were listed, and financial data were available on the Bursa Malaysia Main Market for three years (2013, 2014, and 2015). However, following the previous studies of Roychowdhury (2006) and Yuliana et al. (2015), the study covered only the firms with the lowest positive earnings measured by ROA. It is argued that EM may be more prevalent in firms with near-zero earnings because managers wish to avoid minor losses (pre-managed earnings) by converting them into small gains (Roychowdhury 2006; Ugrin et al. 2017; Yuliana et al. 2015). First, 54 firms (closed-end funds, special purpose acquisition companies, real estate investment trusts, and firms in the financial services industry) were dropped from this study, along with any firms for which there were no available ROA data (79 firms). After excluding the firms with negative earnings in one or more of the years, the average ROA over three years (2013 to 2015) was calculated for the remaining 675 firms. In the end, the study selected the 300 firms with the lowest positive earnings after the averages were sorted in ascending order (Al-Absy et al. 2018, 2019a, 2019b, 2021; Al-Absy 2020). A further 12 firms were eliminated due to incomplete data and because they were in industries with less than six observations as the required number of EM calculations (Subramanyam 1996). As a result, the final sample included 288 firms over three years (864 company observations).

3.2. Earnings Management Measurement

Two measurements of EM were used in this study: (i) The Jones Model, introduced by Jones (1991), as a proxy for AEM, and (ii) abnormal levels of cash flow from operations (*ABCFO*), introduced by Roychowdhury (2006), as a proxy for REM. In order to calculate these proxies, OLS regression was used for three years to obtain the coefficient value of α_1 , α_2 , α_3 , and ε_{it} .

$$\frac{\mathrm{TA}_{\mathrm{it}}}{\mathrm{A}_{\mathrm{it}-1}} = \alpha_1 \left(\frac{1}{\mathrm{A}_{\mathrm{it}-1}}\right) + \alpha_2 \left(\frac{\Delta \mathrm{REV}_{\mathrm{it}}}{\mathrm{A}_{\mathrm{it}-1}}\right) + \alpha_3 \left(\frac{\mathrm{PPE}_{\mathrm{it}}}{\mathrm{A}_{\mathrm{it}-1}}\right) + \varepsilon_{\mathrm{it}} \tag{1}$$

TA is the total accruals, A_{it-1} is last year's total assets, ΔREV is the change in revenue, PPE is the gross property, plant, and equipment, and ε_{it} is an error term. These coefficient values were used in Equation (2) to calculate the nondiscretionary accruals (NDA).

$$NDA = \alpha_1 \left(\frac{1}{A_{it-1}}\right) + \alpha_2 \left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + \alpha_3 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it}$$
(2)

Next, Equation (3) was used to determine the level of discretionary accruals (DA). This value could either decrease income (negative values) or increase income (positive values). This study, however, looked only at values that had been managed. As a result, this study estimated AEM using absolute values of DA (Abdullah and Ismail 2016; Mohammad et al. 2016).

$$DA = \frac{TA_{it}}{A_{it-1}} - NDA$$
(3)

Regarding *ABCFO*, OLS regression was used to obtain the coefficient values α_1 , β_1 , and β_2 . CFO_{it} reflects the amount of cash flow from operations, while A_{it-1} is the value of last year's total assets. S_t is the value of sales and Δ S_{it} is the change in sales.

$$\frac{\text{CFO}_{\text{it}}}{A_{\text{it}-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{\text{it}-1}}\right) + \beta_1 \left(\frac{S_{\text{it}}}{A_{\text{it}-1}}\right) + \beta_2 \left(\frac{\Delta S_{\text{it}}}{A_{\text{it}-1}}\right) + \varepsilon_{\text{it,}}$$
(4)

The coefficients of α_1 , β_1 , and β_2 were used in the following equation to obtain the normal levels of operational cash flow (*NCFO*).

$$NCFO = \alpha_0 + \alpha_1 \left(\frac{1}{A_{it-1}}\right) + \beta_1 \left(\frac{S_{it}}{A_{it-1}}\right) + \beta_2 \left(\frac{\Delta S_{it}}{A_{it-1}}\right) + \varepsilon_{it},$$
(5)

Then, by deducting *NCFO* from the actual cash flow from activities, *ABCFO* was determined as follows:

$$ABCFO = \frac{CFO_{it}}{A_{it-1}} - NCFO$$
(6)

The absolute value of *ABCFO* was employed in this study to represent the amount of REM (Al-Absy 2022b; Kwon et al. 2017; Liu and Wang 2017).

3.3. Empirical Model

The aim of this study was to examine the moderating effect of OC on the relationship between impactful female directors and EM, AEM, and REM. Before examining Hypothesis 1 (relating to AEM), the following direct regression was run:

$$AEM = \beta_0 + \beta_1 IFD + \beta_2 BIND + \beta_3 BSIZE + \beta_4 BMEET + \beta_5 ACIND + \beta_6 ACSIZE + \beta_7 ACMEET + \beta_8 ACAE + \beta_9 OC + \beta_{10} BIG4 + \beta_{11} FSIZE + \beta_{12} LEV + \beta_{13} ROA + \beta_{14} NCFO + \varepsilon$$
(Model 1)

Then, the following regression was run to examine the moderating effect of OC on the relationship between impactful female directors and EM using AEM:

$$AEM = \beta_0 + \beta_1 IFD + \beta_2 OC + \beta_3 IFD * OC + \beta_4 BIND + \beta_5 BSIZE + \beta_6 BMEET + \beta_7 ACIND + \beta_8 ACSIZE + \beta_9 ACMEET + \beta_{10} ACAE + \beta_{11} BIG4 + \beta_{12} FSIZE + \beta_{13} LEV + \beta_{14} ROA + \beta_{15} NCFO + \varepsilon$$
(Model 2)

To examine Hypothesis 2 (relating to REM), the study first ran the following direct regression:

$$REM = \beta_0 + \beta_1 IFD + \beta_2 BIND + \beta_3 BSIZE + \beta_4 BMEET + \beta_5 ACIND + \beta_6 ACSIZE + \beta_7 ACMEET + \beta_8 ACAE + \beta_9 OC + \beta_{10} BIG4 + \beta_{11} FSIZE + \beta_{12} LEV + \beta_{13} ROA + \beta_{14} NCFO + \varepsilon$$
(Model 3)

Then, the following regression was run to examine the moderating effect of OC on the relationship between impactful female directors and EM using REM:

 $REM = \beta_0 + \beta_1 IFD + \beta_2 OC + \beta_3 IFD * OC + \beta_4 BIND + \beta_5 BSIZE + \beta_6 BMEET + \beta_7 ACIND + \beta_8 ACSIZE + \beta_9 ACMEET + \beta_{10} ACAE + \beta_{11} BIG4 + \beta_{12} FSIZE + \beta_{13} LEV + \beta_{14} ROA + \beta_{15} NCFO + \varepsilon$ (Model 4)

The study used two measurements of impactful female directors (IFD) with each of the above models run separately for each measurement. The first was IFD1:1. If the board contained at least one female director who also sat on the AC, it was scored 1; if not, it was scored 0. The second was IFD2:1, scored as 1 if the board had at least two female directors, at least one of whom was a member of the AC, or 0 if not.

This study included several control variables in order to reduce the likelihood of endogeneity and error in generating the models, as suggested by Prencipe and Bar-Yosef (2011). Importantly, the study included several variables relevant to CG and others related to company-specific features, all of which were incorporated into the regressions to control the relationship. Table 1 displays the measurement explanation for all variables.

Table 1. Variables' operationalization.

Acronym	Measurement and Resource
AEM	DA (Absolute value) using Jones Model.
ABCFO	Abnormal levels of cash flow from operations (Absolute value), presented by Roychowdhury (2006).
IFD1:1	"1" if the board has at least one female director who also serves in AC, and "0" if not
IFD2:1	"1" if the board has at least two female directors and one of them is serving in AC, and "0" if not
OC	% Of shares owned by the top five shareholders.
BSIZE	Number of board directors.
BIND	% Of independent directors on the board.
BMEET	Number of board meetings held per year.
ACSIZE	Number of AC's directors.
ACIND	% Of independent directors in AC
ACMEET	Number of AC meetings held per year.
ACAE	% Of AC's accounting expertise
BIG4	"1" if the annual report has been audited by a Big4 firm, 0 otherwise.
LEV	Total debt/total assets.
FSIZE	Total assets' natural log value.
NCFO	"1" if cash flow from operations is negative, and "0", if otherwise
ROA	Net income/total assets.

4. Results and Discussion

4.1. Descriptive Statistics

Table 2 displays the descriptive statistical information of the variables. The Jones Model and the *ABCFO* had mean absolute values of 0.048 and 0.050, respectively. Further, 94 (10.88%) of the observations had at least two female directors, at least one of whom sat on the AC, while 220 (25.46%) of the observations had at least one female director on the board who also served on the AC. In terms of OC, the top five shareholders possessed, on average, 54.60 percent of the shares.

A. Continuous Variables								
Variables	Mean	Min.	Max.	Skewness	Kurtosis			
AEM	0.048	0.001	0.216	1.57	5.40			
ABCFO	0.050	0.001	0.226	1.58	5.66			
OC	0.546	0.141	0.948	-0.08	2.32			
BIND	0.474	0.222	1	0.70	3.33			
BSIZE	7.418	4	17	0.98	4.84			
BMEET	5.459	3	10	1.46	4.66			
ACIND	0.900	0.667	1	-0.81	1.73			
ACSIZE	3.244	3	6	2.17	8.19			
ACMEET	5.039	3	10	1.84	7.79			
ACAE	0.429	0	1	1.11	4.10			
FSIZE (lnAsset)	13.485	10.098	18.579	0.80	3.50			
LEV (%)	20.775	0.000	68.560	0.42	2.48			
ROA (%)	4.412	0.010	15.160	0.66	3.57			
	B. C	ummy Variabl	es					
Variables	richles Yes (1)			No				
variables -	Freq.	%	Freq.	%				
IFD1:1	220	25.5	644	74.5				
IFD2:1	94	10.9	770	89.1				
NCFO	198	22.9	666	77.1				
BIG4	459	53.1	405	46.9				

Table 2. D	Descriptive	statistics.
------------	-------------	-------------

4.2. Diagnostic Tests

The study used several statistical assumptions. Extreme observations occurred in the data for AEM, *ABCFO*, and ACMEET. Hence, to remove the issue of outliers, the study winsorized the data of these variables, using the bottom and top 1%. Similarly, the study winsorized the data of BMEET, using the bottom and top 5%. Regarding the normality, a test of skewness and kurtosis was employed, which demonstrated no substantial violation in the dataset of individual variables as the value of kurtosis was between ± 10 and skewness was between ± 3 (see Table 2). Furthermore, Pearson's correlation was employed in the study to test multicollinearity. Based on Table 3, the correlation values among variables did not exceed ± 0.80 . This suggests there is no evidence of serious multicollinearity issues.

In terms of heteroscedasticity, the Breusch–Pagan/Cook–Weisberg test confirmed the existence of heteroscedasticity issues, meaning that the option "panels (heteroscedastic)" was inserted in the regression to address this issue (see, Podestà 2002; StataCorp 2015). In terms of the autocorrelation issue, the Durbin–Watson test was used and showed no issue of autocorrelation. As a result, the feasible generalized least squares (FGLS) regression was used.

4.3. Regression Results and Discussion

Table 4 shows the results of testing hypothesis 1 related to AEM. There was a significant negative association between impactful female directors and the level of AEM (see model 1 in column 1). This means that having at least one woman on the board who also served on the AC had a significant negative relationship with AEM. The result indicates that when women are appointed to the board and to the AC, the level of accrual earnings manipulation is significantly reduced. This result is consistent with agency and resource-dependence theories, which suggest that gender equality enhances the role of the board of directors in monitoring and supervising the managers. Further, it is in line with previous studies (Gavious et al. 2012; Gull et al. 2018; Kyaw et al. 2015; Lakhal et al. 2015), which found that female directors reduced the practice of AEM.

Variables	AEM	ABCFO	IFD1:1	IFD2:1	BIND	BSIZE	BMEET	ACI	ND
AEM	1								
ABCFO	0.771 ***	1							
IFD1:1	-0.059 *	-0.062 *	1						
IFD2:1	-0.056 *	-0.068 **	0.598 ***	1					
BIND	0.055	0.026	-0.053	-0.014	1				
BSIZE	-0.082 **	-0.048	0.075 **	0.116 ***	-0.322 ***	1			
BMEET	0.050	0.010	0.113 ***	0.066 **	0.066 **	0.200 ***	1		
ACIND	0.092 ***	0.072 **	-0.136 ***	-0.009	0.408 ***	0.098 ***	-0.080 **	1	
ACSIZE	-0.067 **	-0.058 *	0.076 **	0.082 **	0.201 ***	0.306 ***	0.271 ***	-0.07	'8 **
ACMEET	-0.003	-0.043	0.087 **	0.040	0.036	0.142 ***	0.586 ***	0.00)5
ACAE	0.042	0.061 *	0.020	0.026	-0.038	-0.026	-0.016	0.073	3 **
OC	-0.055	-0.019	0.112 ***	0.031	-0.089 ***	0.048	0.145 ***	-0.12	5 ***
BIG4	-0.075 **	-0.092 ***	0.144 ***	0.105 ***	0.037	0.122 ***	0.155 ***	-0.08	60 **
FSIZE	-0.113 ***	-0.121 ***	0.105 ***	0.132 ***	-0.017	0.363 ***	0.349 ***	-0.12	6 ***
LEV	0.054	-0.004	-0.130 ***	-0.013	-0.111 ***	0.141 ***	0.080 **	0.03	35
ROA	0.051	0.112 ***	-0.015	-0.028	-0.058 *	0.082 *	0.004	-0.05	57 *
NCFO	0.317 ***	0.358 ***	-0.028	-0.040	0.018	-0.055	0.041	0.123	***
Variables	ACSIZE	ACMEET	ACAE	OC	BIG4	LFSIZE	LEV	ROA	NCFO
AEM									
ABCFO									
IFD1:1									
IFD2:1									
BIND									
BSIZE									
BMEET									
ACIND									
ACSIZE	1								
ACMEET	0.136 ***	1							
ACAE	-0.146 ***	0.020	1						
OC	0.086 **	0.071 **	-0.010	1					
BIG4	0.203 ***	0.109 ***	0.035	0.093 ***	1				
FSIZE	0.273 ***	0.299 ***	-0.024	0.094 ***	0.468 ***	1			
LEV	-0.009	0.128 ***	0.000	-0.081 **	0.126 ***	0.343 ***	1		
ROA	-0.002	-0.049	0.011	0.002	0.021	0.045	-0.096 ***	1	
NCFO	-0.035	-0.012	0.030	-0.082 **	-0.122 ***	-0.112 ***	0.124 ***	-0.082 **	1

Table 3. Pearson correlation analysis.

Definitions of the acronym are presented in Table 1. *, **, and *** are significant at 10%, 5%, and 1% levels, respectively.

In terms of the moderating effect of OC, model 2 in column 1 shows that OC positively moderated the relationship between impactful female directors and AEM. With the moderating effect of OC, the relationship between impactful female directors and AEM became significantly positive, instead of the significant negative direct relationship. This means that a high percentage of shareholders with a significant share influences the role of female directors in mitigating the practice of AEM. This result is consistent with agency theory II, which expects a conflict of interest between majority and minority shareholders. Majority shareholders may have power or influence in the director recruitment process and may appoint female directors with whom they have a family or friendship relationship or who are loyal to them, instead of selecting the most qualified female directors.

Regarding the second measurement of impactful female directors (two or more female directors, at least one of whom also serves on the AC), the results showed a significant negative relationship between impactful female directors and AEM (see model 1 in column 2). Two or more female directors, at least one of whom was on the AC, could strengthen their power on the board and hence reduce AEM. In terms of the moderating effect of OC, model 2 in column 2 shows that OC weakened the relationship between impactful female directors and AEM. Within the moderation of OC, the relationship between impactful female

male directors and AEM became insignificantly positive instead of the significant negative relationship found in the direct regression.

	Column 1		Column 2			
Variables	Model 1	Model 2	Model 1	Model 2		
IFD1:1	-0.00355 **	-0.0211 ***				
	(0.00165)	(0.00635)				
IFD1:1 \times OC		0.0303 ***				
		(0.0108)				
IFD2:1			-0.00517 ***	-0.0166 **		
			(0.00200)	(0.00692)		
IFD2:1 \times OC			, , , , , , , , , , , , , , , , , , ,	0.0194		
				(0.0121)		
OC	-0.00496	-0.0151 **	-0.00692	-0.00971 *		
	(0.00469)	(0.00629)	(0.00485)	(0.00569)		
BIND	0.00747	0.00794	0.00670	0.00878		
	(0.00880)	(0.00900)	(0.00873)	(0.00916)		
BSIZE	-0.000505	-0.000389	-0.000425	-0.000258		
	(0.000480)	(0.000485)	(0.000477)	(0.000492)		
BMEET	0.00322 ***	0.00327 ***	0.00327 ***	0.00309 ***		
	(0.000553)	(0.000563)	(0.000531)	(0.000568)		
ACIND	0.0132 **	0.0138 **	0.0161 ***	0.0138 **		
	(0.00603)	(0.00613)	(0.00591)	(0.00604)		
ACSIZE	-0.00358 **	-0.00464 ***	-0.00334 **	-0.00417 ***		
	(0.00149)	(0.00153)	(0.00146)	(0.00156)		
ACMEET	-0.00131 *	-0.00138 **	-0.00137 **	-0.00123 *		
	(0.000669)	(0.000689)	(0.000652)	(0.000690)		
ACEXP	0.0123 ***	0.0146 ***	0.0123 ***	0.0124 ***		
	(0.00288)	(0.00320)	(0.00293)	(0.00305)		
Big4	-0.00167	-0.000861	-0.00128	-0.000725		
0	(0.00162)	(0.00165)	(0.00162)	(0.00166)		
LFSIZE	-0.00204 ***	-0.00203 ***	-0.00214 ***	-0.00226 ***		
	(0.000430)	(0.000423)	(0.000402)	(0.000412)		
LEV	0.000157 ***	0.000147 **	0.000180 ***	0.000176 ***		
	(0.000058)	(0.0000579)	(0.0000523)	(0.000053)		
ROA	0.00175 ***	0.00172 ***	0.00176 ***	0.00169 ***		
	(0.000327)	(0.000331)	(0.000329)	(0.000337)		
NEGCFO	0.0274 ***	0.0276 ***	0.0275 ***	0.0276 ***		
	(0.00223)	(0.00232)	(0.00223)	(0.00236)		
Constant	0.0404 ***	0.0465 ***	0.0382 ***	0.0440 ***		
	(0.00853)	(0.00867)	(0.00849)	(0.00870)		
Wald chi2	421.69	388.82	478.31	372.14		
Sig	0.0000	0.0000	0.0000	0.0000		
R-squared	0.1308	0.1324	0.1307	0.1319		
Observations	864	864	864	864		
Number of ID	288	288	288	288		

Table 4. Regression result of the AEM using FGLS.

Variables were defined in Table 1. Standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 5 shows the results of testing hypothesis 2 relating to REM. There was a significant negative association between impactful female directors and the level of real earnings manipulation (see model 3 in column 1). This means that having at least one woman on the board who was also serving on the AC significantly reduced real earnings manipulation. In terms of the moderating effect of OC, model 4 in column 1 shows that OC weakened the role of impactful female directors in mitigating real earnings manipulation. With the moderation of OC, the relationship between impactful female directors and REM became insignificantly negative instead of the significant negative relationship found in the direct regression.

	Column 1		Column 2			
Variables	Model 3	Model 4	Model 3	Model 4		
IFD1:1	-0.00612 ***	-0.00394				
	(0.00151)	(0.00509)				
IFD1:1 \times OC		-0.00435				
		(0.00946)				
IFD2:1			-0.00640 ***	-0.00331		
			(0.00239)	(0.00697)		
IFD2:1 \times OC				-0.00696		
				(0.0123)		
OC	0.000714	0.00216	0.00293	0.00332		
	(0.00410)	(0.00530)	(0.00422)	(0.00455)		
BIND	-0.00115	-0.000956	0.00421	0.00390		
	(0.00861)	(0.00863)	(0.00872)	(0.00869)		
BSIZE	-0.000254	-0.000196	0.000230	0.000257		
	(0.000457)	(0.000473)	(0.000507)	(0.000504)		
BMEET	0.00156 ***	0.00155 ***	0.00104 *	0.00108 *		
	(0.000504)	(0.000511)	(0.000592)	(0.000585)		
ACIND	0.00646	0.00587	0.00682	0.00707		
	(0.00640)	(0.00656)	(0.00650)	(0.00647)		
ACSIZE	-0.00153	-0.00146	-0.00113	-0.00111		
	(0.00153)	(0.00153)	(0.00160)	(0.00161)		
ACMEET	-0.000270	-0.000289	-0.000339	-0.000347		
	(0.000630)	(0.000635)	(0.000686)	(0.000677)		
ACEXP	0.0156 ***	0.0153 ***	0.0159 ***	0.0156 ***		
	(0.00333)	(0.00345)	(0.00334)	(0.00340)		
Big4	-0.00120	-0.00118	-0.00119	-0.00115		
	(0.00154)	(0.00154)	(0.00154)	(0.00154)		
LFSIZE	-0.00148 ***	-0.00154 ***	-0.00173 ***	-0.00177 ***		
	(0.000474)	(0.000489)	(0.000488)	(0.000480)		
LEV	-0.000105 *	-0.000102 *	-0.000078	-0.0000799		
	(0.000054)	(0.0000553)	(0.0000553)	(0.0000554)		
ROA	0.00261 ***	0.00262 ***	0.00270 ***	0.00271 ***		
	(0.000281)	(0.000283)	(0.000288)	(0.000290)		
NEGCFO	0.0374 ***	0.0376 ***	0.0380 ***	0.0381 ***		
	(0.00193)	(0.00194)	(0.00195)	(0.00193)		
Constant	0.0364 ***	0.0364 ***	0.0320 ***	0.0319 ***		
	(0.00751)	(0.00750)	(0.00745)	(0.00743)		
Wald chi2	737.25	728.86	580.05	606.21		
Sig	0.0000	0.0000	0.0000	0.0000		
R-squared	0.1639	0.1639	0.1637	0.1640		
Observations	864	864	864	864		
Number of ID	288	288	288	288		

Table 5. Regression result of the REM using FGLS.

Variables were defined in Table 1. Standard errors in parentheses. *** p < 0.01, * p < 0.1.

Regarding the second measurement of impactful female directors (two or more female directors, with at least one of those on the AC), the results showed a significant negative relationship between impactful female directors and REM (see model 3 in column 2). Two or more female directors, with at least one of those on the AC, could strengthen their power on the board and hence reduce REM. In terms of the moderating effect of OC, model 4 in column 2 shows that OC weakened the relationship between impactful female directors and REM. With the moderation of OC, the relationship between impactful female directors and REM became insignificantly negative, instead of the significant negative relationship found in the direct regression.

5. Robustness Tests

It has been discovered that the business cycle, as well as disparities between industries, can have an impact on results (Baatwah et al. 2015). For this reason, all regressions were re-estimated utilizing a dummy variable to reflect the effects of the years and the industry. The findings displayed in Table 6 are similar to those shown in Table 4 related to AEM and Table 5 related to REM.

Table 6. Regression results of the AEM and REM using FGLS and including year and industry dummy variables.

	AEM				REM				
Variables	Column 1		Colu	Column 2		Column 1		Column 2	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	
IFD1:1	-0.00330 *	-0.0216^{***}			-0.00631 ***	-0.00602			
IFD1:1 \times OC	(0.00109)	0.0314 *** (0.0109)			(0.00101)	-0.000649 (0.0101)			
IFD2:1		(,	-0.00431 **	-0.0180 **		()	-0.00633 ***	-0.00432	
IFD2:1 \times OC			(0.00202)	0.0230 * (0.0119)			(0.00230)	-0.00473 (0.0124)	
OC	-0.00409	-0.0142 ** (0.00644)	-0.00553	-0.00840 (0.00575)	0.00154 (0.00422)	0.00164 (0.00542)	0.00291 (0.00431)	0.00289	
BIND	0.00557	0.00643	0.00640	0.00722	-0.00110	-0.00110	0.00286	0.00261	
BSIZE	-0.000286	-0.000216	-0.000226	-0.0000668	-0.000143	-0.000136	0.000218	0.000236	
BMEET	(0.000494) 0.00339 *** (0.000567)	(0.000496) 0.00348 *** (0.000563)	(0.000495) 0.00330 *** (0.000562)	(0.000505) 0.00329 *** (0.000581)	(0.000480) 0.00145 ** (0.000595)	(0.000490) 0.00145 ** (0.000600)	(0.000518) 0.00104 * (0.000623)	0.00109 *	
ACIND	0.0137 **	0.0147 **	0.0166 ***	0.0145 **	0.00495	0.00493	0.00602	0.00640	
ACSIZE	-0.00375 ***	-0.00465 *** (0.00146)	-0.00350 **	-0.00422 *** (0.00140)	-0.00146	-0.00145	-0.000991	-0.00102	
ACMEET	(0.00144) -0.00116 (0.000728)	-0.00140	-0.00143	(0.00149) -0.00121 (0.000753)	-0.000199	-0.000201	-0.000271	-0.000301	
ACEXP	0.0105 ***	0.0127 ***	0.0102 ***	0.0105 ***	0.0150 ***	0.0150 ***	0.0155 ***	0.0154 ***	
Big4	(0.00319) -0.000913	(0.00343) -0.0000289	(0.00325) -0.000556	(0.00334) 0.000132	(0.00343) -0.00131	(0.00355) -0.00133	(0.00347) -0.00162	(0.00352) -0.00169	
LFSIZE	(0.00171) -0.00232 ***	(0.00173) -0.00232 ***	(0.00174) -0.00248 ***	(0.00176) -0.00262 ***	(0.00163) -0.00145 ***	(0.00164) -0.00145^{***}	(0.00164) -0.00157 ***	(0.00164) -0.00156 ***	
LEV	(0.000479) 0.000148 **	(0.000484) 0.000144 **	(0.000489) 0.000182 ***	(0.000494) 0.000178 ***	(0.000513) -0.000107 *	(0.000525) -0.000107 *	(0.000522) -0.0000819	(0.000523) -0.0000822	
ROA	(0.0000589) 0.00163 ***	(0.0000587) 0.00156 ***	(0.0000552) 0.00171 *** (0.000227)	(0.0000553) 0.00158 *** (0.000241)	(0.000055) 0.00252 ***	(0.0000554) 0.00253 *** (0.000202)	(0.0000551) 0.00264 ***	(0.0000552) 0.00266 ***	
NEGCFO	0.0275 ***	0.0276 ***	(0.000337) 0.0275 ***	(0.000341) 0.0278 ***	0.0373 ***	(0.000303) 0.0373 ***	(0.000298) 0.0379 ***	0.0379 ***	
Constant	(0.00235) 0.0411 ***	(0.00241) 0.0470 ***	(0.00235) 0.0396 ***	(0.00244) 0.0456 ***	(0.00198) 0.0374 ***	(0.00199) 0.0372 ***	(0.00198) 0.0316 ***	(0.00198) 0.0310 ***	
Year dummy	(0.00881) Included	(0.00888) Included	(0.00891) Included	(0.00899) Included	(0.00792) Included	(0.00793) Included	(0.00774) Included	(0.00777) Included	
Industry dummy	Included	Included	Included	Included	Included	Included	Included	Included	
Wald chi2	419.80 0.0000	417.31	455.01	390.24 0.0000	563.76 0.0000	562.69 0.0000	539.45 0.0000	542.05 0.0000	
R-squared	0.1338	0.1355	0.1337	0.1350	0.1671	0.1671	0.1669	0.1672	
Number of ID	288	288	288	288	288	288	288	288	

Variables were defined in Table 1. Standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

6. Conclusions

To improve financial reporting and lower EM, the board of directors is essential. One of the most important CG tools is gender diversity, and many regulators have a policy requiring female board presence; corporations are required by law to have at least a specific proportion of women on their boards. The argument over how female directors affect corporate performance and financial reporting quality persists even though there are increasing numbers of female directors on boards globally. Hence, the aim of this study was to examine the moderating effect of OC on the relationship between impactful female directors and EM.

When we examined the direct relationship between impactful female directors and AEM, the result was a significant negative association, which means that impactful female directors significantly reduced the practice of AEM, as suggested by agency and resource-dependence theories. In terms of the moderating effect of OC, the results showed that OC positively moderated the relationship between impactful female directors and AEM; with the moderating effect of OC, impactful female directors became significantly positively associated with AEM. This means that having at least one woman on the board also serving on the AC could result in increasing the practice of AEM, which reflects a strong influence of OC on the role of female directors. These results are consistent with agency theory II.

In terms of REM, the direct relationship between impactful female directors and REM showed a significant negative effect; having at least one woman on the board also serving on the AC decreased the practice of REM. Regarding the moderating effect of OC, the result showed that OC weakened the significant negative relationship between impactful female directors and REM that was found in the direct regression. With the moderating effect of OC, impactful female directors became insignificantly negatively associated with REM. Although the factor of OC weakened the role of female directors in reducing the practice of REM, it had a lesser impact compared to the effect on AEM. The reason behind the different findings is that female directors have more awareness of the practice of REM.

Policymakers, stakeholders, scholars, and society will all benefit greatly from this research. It provides empirical findings that could assist all parties in re-evaluating the role of the board of directors, specifically impactful female directors, in minimizing EM. The findings highlight the influence of controlling shareholders introduced by agency theory II, which requires additional remedies from regulators.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank Gulf university for paying the publication fee.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Abdullah, Shamsul Nahar. 2014. The causes of gender diversity in Malaysian large firms. *Journal of Management & Governance* 18: 1137–59. [CrossRef]
- Abdullah, Shamsul Nahar, and Ku Nor Izah Ku Ismail. 2012. Do women directors constraint accrual management? Malaysian evidence. Paper presented at 3rd International Conference on Business and Economics, Cape Town, South Africa, November 1–3.
- Abdullah, Shamsul Nahar, and Ku Nor Izah Ku Ismail. 2016. Women directors, family ownership and earnings management in Malaysia. *Asian Review of Accounting* 24: 525–50. [CrossRef]
- Abdullah, Shamsul Nahar, and Norita Mohd Nasir. 2004. Accrual management and the independence of the boards of directors and audit committees. *International Journal of Economics, Management and Accounting* 12: 1–31.
- Abdullah, Shamsul N., Ku Nor Izah Ku Ismail, and Lilac Nachum. 2016. Does having women on boards create value? The impact of societal perceptions and corporate governance in emerging markets. *Strategic Management Journal* 37: 466–76. [CrossRef]
- Abdul-Rahman, Rashidah, and Fairuzana Haneem Mohamed Ali. 2006. Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal* 21: 783–804. [CrossRef]
- Adams, Renée B., and Daniel Ferreira. 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94: 291–309. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen. 2020. The board chairman's characteristics and financial stability of Malaysian-listed firms. *Cogent* Business & Management 7: 1823586. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen. 2022a. Board Chairman Characteristics and Real Earnings Management. Sustainability 14: 15025. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen. 2022b. Impactful women directors and earnings management. *Cogent Business & Management* 9: 2148873. [CrossRef]

- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, and Sitraselvi Chandren. 2017. Board Chairmen's Involvement in Audit Committees and Earnings Management Practices. pp. 1–26. Available online: https://ssrn.com/abstract=3063845 (accessed on 30 December 2022).
- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, and Sitraselvi Chandren. 2018. Board chairmen's involvement in the nomination and remuneration committees and earnings management. *Australasian Accounting, Business and Finance Journal* 12: 60–76. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, and Sitraselvi Chandren. 2019a. Audit committee chairman characteristics and earnings management: The influence of family chairman. *Asia-Pacific Journal of Business Administration* 11: 339–70. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, and Sitraselvi Chandren. 2019b. Corporate governance mechanisms, whistleblowing policy and real earnings management. *International Journal of Financial Research* 10: 265–82. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, and Sitraselvi Chandren. 2021. The association between real activities and accruals earnings management in Malaysian listed companies. *Contaduría y administración* 66: 264. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen, Ku Nor Izah Ku Ismail, Sitraselvi Chandren, and Shehabaddin Abdullah A Al-Dubai. 2020a. Involvement of board chairmen in audit committees and earnings management: Evidence from Malaysia. The Journal of Asian Finance, Economics and Business 7: 233–46. [CrossRef]
- Al-Absy, Mujeeb Saif Mohsen, Qais Almaamari, Tamer Alkadash, and Ammar Habtoor. 2020b. Gender diversity and financial stability: Evidence from malaysian listed firms. *The Journal of Asian Finance, Economics and Business* 7: 181–93. [CrossRef]
- Ali, Shoukat, Ramiz Ur Rehman, Bushra Sarwar, Ayesha Shoukat, and Muhammad Farooq. 2021. Board financial expertise and foreign institutional investment: The moderating role of ownership concentration. *Review of International Business and Strategy* 32: 325–45. [CrossRef]
- Al-Najjar, Basil, and Aly Salama. 2022. Mind the gap: Are female directors and executives more sensitive to the environment in high-tech us firms? *Technological Forecasting and Social Change* 184: 122024. [CrossRef]
- Al-Rassas, Ahmed Hussein, and Hasnah Kamardin. 2015. Internal and external audit attributes, audit committee characteristics, ownership concentration and earnings quality: Evidence from Malaysia. *Mediterranean Journal of Social Sciences* 6: 458–70. [CrossRef]
- Al-Rassas, Ahmed Hussein, and Hasnah Kamardin. 2016. Earnings quality and audit attributes in high concentrated ownership market. Corporate Governance: The International Journal of Business in Society 16: 377–99. [CrossRef]
- Alves, Sandra. 2012. Ownership structure and earnings management: Evidence from Portugal. *Australasian Accounting, Business and Finance Journal* 6: 57–74.
- Amer, Leila Hussein, and Naser Abdelkarim. 2010. Corporate Governance and Earnings Management: Empirical Evidence from Palestinian Listed Companies. pp. 1–21. Available online: https://scholar.google.com/citations?user=uczykIEAAAAJ&hl=en&oi=sra (accessed on 30 November 2022).
- Anderson, Ronald C., and David M. Reeb. 2004. Board composition: Balancing family influence in S&P 500 firms. *Administrative Science Quarterly* 49: 209–37. [CrossRef]
- Arun, Thankom Gopinath, Yousf Ebrahem Almahrog, and Zakaria Ali Aribi. 2015. Female directors and earnings management: Evidence from UK companies. *International Review of Financial Analysis* 39: 137–46. [CrossRef]
- Baatwah, Saeed Rabea, Zalailah Salleh, and Norsiah Ahmad. 2015. CEO characteristics and audit report timeliness: Do CEO tenure and financial expertise matter? *Managerial Auditing Journal* 30: 998–1022. [CrossRef]
- Bao, Shuji Rosey, and Krista B. Lewellyn. 2017. Ownership structure and earnings management in emerging markets—An institutionalized agency perspective. *International Business Review* 26: 826–38. [CrossRef]
- Bøhren, Øyvind, and Siv Staubo. 2016. Mandatory gender balance and board independence. *European Financial Management* 22: 3–30. [CrossRef]
- Boyd, Brian. 1990. Corporate linkages and organizational environment: A test of the resource dependence model. *Strategic Management Journal* 11: 419–30. [CrossRef]
- Buniamin, Sharifah, Nor Hasimah Johari, Noor Raida Abd Rahman, and Fatimah Hanim Abdul Rauf. 2012. Board diversity and discretionary accruals of the Top 100 Malaysia corporate governance (MCG) index company. *African Journal of Business Management* 6: 8496–503. [CrossRef]
- Carter, David A., Betty J. Simkins, and W. Gary Simpson. 2003. Corporate governance, board diversity, and firm value. *Financial Review* 38: 33–53. [CrossRef]
- Chekili, Sirine. 2012. Impact of some governance mechanisms on earnings management: An empirical validation within the Tunisian market. *Journal of Business Studies Quarterly* 3: 95.
- Chi, Ching Wen, Ken Hung, Hui Wen Cheng, and Pang Tien Lieu. 2015. Family firms and earnings management in Taiwan: Influence of corporate governance. *International Review of Economics & Finance* 36: 88–98. [CrossRef]
- Choi, Jong-Hag, Kyu-An Jeon, and Jong-Il Park. 2004. The role of audit committees in decreasing earnings management: Korean evidence. *International Journal of Accounting, Auditing and Performance Evaluation* 1: 37–60. [CrossRef]
- Claessens, Stijn, and Joseph P. H. Fan. 2002. Corporate governance in Asia: A survey. *International Review of Finance* 3: 71–103. [CrossRef]
- Damak, Sana Triki. 2018. Gender diverse board and earnings management: Evidence from French listed companies. *Sustainability* Accounting, Management and Policy Journal 9: 289–312. [CrossRef]

- Darko, Josephine, Zakaria Ali Aribi, and Godfrey C Uzonwanne. 2016. Corporate governance: The impact of director and board structure, ownership structure and corporate control on the performance of listed companies on the Ghana stock exchange. *Corporate Governance* 16: 259–77. [CrossRef]
- Gavious, Ilanit, Einav Segev, and Rami Yosef. 2012. Female directors and earnings management in high-technology firms. *Pacific Accounting Review* 24: 4–32. [CrossRef]
- Geraldes-Alves, Sandra Maria. 2011. The effect of the board structure on earnings management: Evidence from Portugal. *Journal of Financial Reporting and Accounting* 9: 141–60. [CrossRef]
- Gharaibeh, Ahmad Mohammad Obeid, and Abdul Aziz Abdulla Abdul Qader. 2017. Factors influencing firm value as measured by the Tobin's Q: Empirical evidence from the Saudi Stock Exchange (TADAWUL). *International Journal of Applied Business and Economic Research* 15: 333–58.
- Gull, Ammar Ali, Mehdi Nekhili, Haithem Nagati, and Tawhid Chtioui. 2018. Beyond gender diversity: How specific attributes of female directors affect earnings management. *The British Accounting Review* 50: 255–74. [CrossRef]
- Gulzar, M. Awais. 2011. Corporate governance characteristics and earnings management: Empirical evidence from Chinese listed firms. *International Journal of Accounting and Financial Reporting* 1: 133–51. [CrossRef]
- Hasan, Md Shamimul, Rashidah Abdul Rahman, and Syed Zabid Hossain. 2014. Monitoring family performance: Family ownership and corporate governance structure in Bangladesh. *Procedia-Social and Behavioral Sciences* 145: 103–9. [CrossRef]
- Ismail, Ku Nor Izah Ku, and Shamsul Nahar Abdullah. 2013. Does women representation on boards and audit committees restrict earnings management? The impact of family ownership in Malaysian firms. Paper Presented at the First AARESOC International Conference on Business and Management, Izmir, Turkey, June 5–7; pp. 12–18.
- Jensen, Michael C., and William H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3: 305–60. [CrossRef]
- Jones, Jennifer J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193–228. [CrossRef]
- Kamarudin, Khairul Anuar, Akmalia M. Ariff, and Wan Adibah Wan Ismail. 2022. Product market competition, board gender diversity and corporate sustainability performance: International evidence. *Journal of Financial Reporting and Accounting* 20: 233–60. [CrossRef]
- Kumar, Sonal, and Rahul Ravi. 2022. Earnings management: Are men from Mars and women from Venus? *Managerial Finance*. [CrossRef]
- Kwon, Soo Young, Kyunga Na, and Jongil Park. 2017. The economic effects of IFRS adoption in Korea. *Asia-Pacific Journal of Accounting* & Economics 26: 321–61. [CrossRef]
- Kyaw, Khine, Mojisola Olugbode, and Barbara Petracci. 2015. Does gender diverse board mean less earnings management? *Finance Research Letters* 14: 135–41. [CrossRef]
- Lakhal, Faten, Amal Aguir, Nadia Lakhal, and Adnane Malek. 2015. Do women on boards and in Top management reduce earnings management? Evidence in France. *Journal of Applied Business Research* 31: 1107. [CrossRef]
- Lane, Suzanne, Joseph Astrachan, Andrew Keyt, and Kristi McMillan. 2006. Guidelines for family business boards of directors. *Family Business Review* 19: 147–67. [CrossRef]
- Leung, Sidney, Grant Richardson, and Bikki Jaggi. 2014. Corporate board and board committee independence, firm performance, and family ownership concentration: An analysis based on Hong Kong firms. *Journal of Contemporary Accounting & Economics* 10: 16–31. [CrossRef]
- Liu, Zhen-Jia, and Yi-Shu Wang. 2017. Effect of earnings management on economic value added: G20 and African countries study. South African Journal of Economic and Management Sciences 20: 1–9. [CrossRef]
- Lückerath-Rovers, Mijntje. 2009. Female Directors on Corporate Boards Provide Legitimacy to a Company: A Resource Dependency Perspective. *Management Online Review*. pp. 1–13. Available online: https://ssrn.com/abstract=1411693 (accessed on 15 December 2022).
- Mnif, Yosra, and Imen Cherif. 2020. Female board directorship and earnings management. *Pacific Accounting Review* 33: 114–41. [CrossRef]
- Mohammad, Wan Masliza Wan, Shaista Wasiuzzaman, and Nik Mohamad Zaki Nik Salleh. 2016. Board and audit committee effectiveness, ethnic diversification and earnings management: A study of the Malaysian manufacturing sector. *Corporate Governance: The International Journal of Business in Society* 16: 726–46. [CrossRef]
- Moradi, Mahdi, Mahdi Salehi, Seyed Javad Habibzadeh Bighi, and Masome Najari. 2012. A Study of relationship between board characteristics and earning management: Iranian scenario. *Universal Journal of Management and Social Sciences* 2: 12–29.
- Podestà, Federico. 2002. Recent Developments in Quantitative Comparative Methodology: The Case of Pooled Time Series Cross-Section Analysis. DSS Papers SOC 3-02. Washington, DC: McDonough School of Business, Georgetown University, pp. 5–44.
- Prencipe, Annalisa, and Sasson Bar-Yosef. 2011. Corporate governance and earnings management in family-controlled companies. Journal of Accounting, Auditing & Finance 26: 199–227. [CrossRef]
- Rahman, Rashidah Abdul, Saliza Sulaiman, Eiman Saleh Fadel, and Soheil Kazemian. 2016. Earnings management and fraudulent financial reporting: The Malaysian story. *Journal of Modern Accounting and Auditing* 12: 91–101. [CrossRef]
- Razzaque, Rushdi Md Rezaur, Muhammad Jahangir Ali, and Paul R. Mather. 2016. Real earnings management in family firms: Evidence from an emerging economy. *Pacific-Basin Finance Journal* 40: 237–50. [CrossRef]

- Roychowdhury, Sugata. 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics* 42: 335–70. [CrossRef]
- Salleh, Nik Mohamad Zaki Nik, and Mohd Hassan Che Haat. 2013. Audit committee diversity-Malaysian evidence after the revision of MCCG. *Malaysian Accounting Review* 12: 91–113.
- Salleh, Zalailah, Hafiza Aishah Hashim, and Nor Raihan Mohamad. 2012. Accrual quality: The presence of women directors on audit committee boards. *Corporate Ownership & Control* 10: 675–80. [CrossRef]
- Shleifer, Andrei, and Robert W. Vishny. 1997. A survey of corporate governance. The Journal of Finance 52: 737-83. [CrossRef]
- Srinidhi, Bin, Ferdinand A. Gul, and Judy Tsui. 2011. Female directors and earnings quality. *Contemporary Accounting Research* 28: 1610–44. [CrossRef]
- StataCorp. 2015. Stata Longitudinal-Data/Panel-Data Reference Manual: Release 14. College Station: StataCorp LP.
- Staubo, Siv. 2010. Do Female Directors Increase Board Independence? Oslo: Norwegian School of Management.
- Subramanyam, K. R. 1996. The pricing of discretionary accruals. Journal of Accounting and Economics 22: 249–81. [CrossRef]
- Sulaiman, Saliza, Bello Lawal Danbatta, and Rashidah Abdul Rahman. 2014. Figure massaging practices in Malaysian firms: Are they fraudulent? *Procedia-Social and Behavioral Sciences* 145: 29–39. [CrossRef]
- Sun, Jerry, Guoping Liu, and George Lan. 2011. Does female directorship on independent audit committees constrain earnings management? *Journal of Business Ethics* 99: 369–82. [CrossRef]
- Thiruvadi, Sheela, and Hua-Wei Huang. 2011. Audit committee gender differences and earnings management. *Gender in Management:* An International Journal 26: 483–98. [CrossRef]
- Ugrin, Joseph C., Terry W. Mason, and Anna Emley. 2017. Culture's consequence: The relationship between income-increasing earnings management and IAS/IFRS adoption across cultures. *Advances in Accounting* 37: 140–51. [CrossRef]
- Wan Ismail, Wan Adibah, Khairul Anuar Kamarudin, Akmalia Mohamad Ariff, and Wan Nordin Wan-Hussin. 2023. Women on board, strength of auditing and reporting standards and analysts' forecasts accuracy: International evidence. *Journal of Applied* Accounting Research 24: 380–402. [CrossRef]
- Wan Ismail, Wan Adibah, Khairul Anuar Kamarudin, Namrata Gupta, and Iman Harymawan. 2022. Gender Diversity in the Boardroom and Corporate Cash Holdings: The Moderating Effect of Investor Protection. *Risks* 10: 60. [CrossRef]
- Weck, Michelle K., Dennis B. Veltrop, Jana Oehmichen, and Floor Rink. 2022. Why and when female directors are less engaged in their board duties: An interface perspective. *Long Range Planning* 55: 102123. [CrossRef]
- Yuliana, Rita, Muslich Anshori, and M. Nizarul Alim. 2015. Real earnings management in the Indonesian sharia capital market. *Procedia-Social and Behavioral Sciences* 211: 866–73. [CrossRef]
- Yusoff, Wan, Wan Fauziah, and Ahmad Kaseri Ramin. 2013. Women on corporate boards: Malaysian perspectives. Paper presented at the 2nd International Conference on Technology Management, Business and Entrepreneurship, Kuala Lumpur, Malaysia, December 29–30.
- Zalata, Alaa Mansour, Venancio Tauringana, and Ishmael Tingbani. 2018. Audit committee financial expertise, gender, and earnings management: Does gender of the financial expert matter? *International Review of Financial Analysis* 55: 170–83. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.