

The Impact of Ownership Concentration on Real and Accrual-Based Earnings Management: Evidence from Jordan

¹Rami Najeeb Mohammad Alzu'bi, ²Nathasa Mazna Binti Ramli

¹PhD student, Accounting department, Universiti Sains Islam Malaysia (USIM)

²Professor, Accounting department, Universiti Sains Islam Malaysia (USIM)

ABSTRACT:- *This paper examines the impact of ownership concentration on real and accrual-based earnings management in industrial companies listed on the Amman Stock Exchange (ASE). The sample is 34 industrial companies listed on the ASE in 2015-2019. The impact of concentrated ownership on real and accrual-based earnings management is examined using regression analysis. The results indicate that managerial, institutional, and foreign ownership have a statistically significant positive impact on accrual-based earnings management at the 5% level. On the other hand, family and government ownership do not significantly affect accrual-based earnings management. Government and institutional ownership have a statistically significant negative impact on real based earnings management at the 5% level, while family ownership has a statistically significant positive impact on real earnings management at the 5% level. Finally, managerial and foreign ownership do not have a statistically significant impact on real earnings management.*

Keywords: *real earnings management; accrual earnings management; concentrated ownership*

I. INTRODUCTION

The accounting figures in the financial reports are of great value to shareholders and investors and are considered as the most important measures of the company's performance (Bao and Lewellyn, 2017). These numbers influence shareholder and investor decisions as they can be used to forecast future stock prices and earnings. Good accounting information also increases business opportunities and managers' incentives. Therefore, managers may resort to earnings management to mislead financial reporting users (Maswadeh, 2018).

Earnings management is the manipulation of and interference in financial statements by the management. Management intervention may be the result of personal objectives and motives associated with the ratio of managerial ownership (Maswadeh, 2018). Butar-Butar and Indarto (2018) define earnings management as the "practice of distorting the real financial management of the company".

The agency theory expects companies with a high ownership concentration to have lower agency costs, as this form of ownership may contribute to the management's capability of achieving the interests of the owners. But ownership concentration may lead to a conflict of interests between majority and minority shareholders. Based on these theoretical arguments, it is assumed that ownership concentration has an ambiguous effect on earnings management.

Some studies, such as Farouk and Bashir (2017) and Kouaib and Jarbouï (2014), have found that ownership concentration could reduce earnings management, while Shleifer and Vishny (1997) find that it has a positive association with earnings management. Isenmila and Afensimi (2012) and Lassoued et al. (2015) discover a positive relationship between ownership concentration and earnings management. However, some gaps remain. This study intends to fill these gaps by investigating the impact of corporate governance on earnings management.

Thus, this study examines the effect of concentrated ownership on real and accrual earnings management in industrial companies listed on the Amman Stock Exchange (ASE). Jordan is selected because of the availability of data and because it is a part of the Middle East and North Africa. The research problem can be expressed with the following question: Does concentrated ownership affect real and accrual-based earnings management of industrial companies listed on the ASE?

1. Literature review and hypotheses development

The agency theory suggests that family ownership can alleviate agency problems as family members are long-term investors and often part of senior management. They are therefore able to exert control over management and be actively and directly involved in business decisions. Additionally, they provide better oversight over managers, leading to lower monitoring costs (Gaaya et al., 2017).

The opposing perspective hypothesizes that family ownership can increase agency conflicts because of their strong influence that allows them to compel the company to meet their demands, appoint management, and

confiscate the rights of other shareholders (Kotlar et al., 2020). Paiva et al. (2016) find that in developing countries, the agency problem is exacerbated by the weak presence of corporate governance mechanisms, hence the expropriation of minority shareholders' rights.

H1a: Family ownership has no impact on real earnings management in industrial companies listed on the ASE.

H1b: Family ownership has no impact on accrual-based earnings management in industrial companies listed on the ASE.

On the other hand, large institutional shareholders have an additional incentive to monitor company disclosures due to their influence in the company. Institutional ownership is seen as a control and monitoring tool that can monitor managerial procedures. The combined experience and resources of multiple institutional investors may reduce agency costs by increasing monitoring procedures and realizing equity between different parties. Institutional investors will oppose any decisions that do not serve the interest of the company (Brickley et al. 1988; Jensen and Meckling, 1976; Aluchna and Kaminski, 2017).

The impact of institutional ownership on earnings management remains an important topic of discussion. Aluchna and Kaminski (2017) suggest that institutional investors have a significant interest in maintaining the company's performance and long-term sustainability. They also have greater knowledge and experience in reading, analyzing, and interpreting financial reports, on top of more familiarity with administrative behavior. All these characteristics can mitigate opportunistic earnings management. According to Sadjarto et al. (2019), institutional ownership is negatively associated with earnings management practices.

H2a: Institutional ownership has no impact on real earnings management in industrial companies listed on the ASE.

H2b: Institutional ownership has no impact on accrual-based earnings management in industrial companies listed on the ASE.

Government owners with a large shareholding has the motivation to control the behavior of managers, resulting in lower agency costs and increased profitability. Government ownership also increases the managers' concern to realize the owners' interests. The managers may choose the most appropriate accounting methods to serve the interests of the shareholders and contribute to the growth of firm performance (Liu, 2018; Jensen and Meckling, 1976).

There is a positive relationship between government ownership and earnings management. The higher the percentage of government ownership, the greater its motivation to manage earnings. Ji et al. (2015), Lai and Tam (2017), and Lassoued et al. (2017) find a positive relationship between government ownership and earnings management.

H3a: Government ownership has no impact on real earnings management in industrial companies listed on the ASE.

H3b: Government ownership has no impact on accrual-based earnings management in industrial companies listed on the ASE.

According to La Porta et al. (1999), there is risk that foreign investors lack information, are disadvantaged by political changes, and lack adequate legal protection. These create concerns among foreign investors about the future of their investments. Foreign investors seek to invest in companies with good governance because they have more experience and qualifications compared to local investors (Lieberman and Kirkness, 1998). Foreign ownership is similar to institutional ownership in that it is an effective corporate governance mechanism. Foreign ownership also contributes to lower agency costs by restricting earnings management practices. It also has a role in enhancing the value of the company (Dahlquist Robertsson, 2001). Frydman et al. (1999) suggest that foreign owners have financial and managerial experience and skills, as well as good understanding of corporate governance. These characteristics are positively reflected in management behavior in the form of lower earnings management. Several studies, e.g., Osemene et al. (2018), Alzoubi (2016), and Shayan-nia (2017) also find that foreign ownership is negatively related to earnings management. Yasser et al. (2017), however, reveal that foreign ownership is positively associated with earnings management.

H4a: Foreign ownership has no impact on real earnings management in industrial companies listed on the ASE.

H4b: Foreign ownership has no impact on accrual-based earnings management in industrial companies listed on the ASE.

Finally, managerial ownership has a significant role in improving the value of the company and reducing the gap and conflict between managers and shareholders, as it motivates managers to work as shareholders. A high degree of managerial ownership gives the managers more power and opportunity to interfere in business decisions and strategies (O'Callaghan et al., 2018).

The separation of ownership and management increases agency costs because managers may focus on their own interests rather than those of the shareholders (Alves, 2021). This opportunistic behavior will increase the wealth of managers at the expense of owners (Nuanpradit, 2019). As a result, owners must expend substantial costs to monitor managers and ensure the alignment of both parties' interests. The agency theory assumes that a lower degree of managerial ownership gives more incentive to managers to realize their self-interests. The theory also suggests that managerial shareholding can lead to the convergence of interests between managers and shareholders (Jensen Meckling, 1976).

Managerial ownership can reduce the opportunistic behavior of managers, and thus it is expected to reduce earnings management. Several studies (e.g., Liu, 2018; Alzoubi, 2016; Alves, 2012) have found a negative relationship between managerial ownership and earnings management. On the other hand, managerial ownership may lead to poor firm performance because managers are inclined to make self-serving decisions (Zhuang, 2017). Other studies (e.g., Farouk and Bashir, 2017; Kamran Shah, 2014) find a positive relationship between managerial ownership and earnings management.

Organizations in Jordan have high ownership concentration, which is expected to reduce agency problems and, accordingly, earnings management. Therefore, the following hypotheses were formulated:

H5a: Managerial ownership has no impact on real earnings management in industrial companies listed on the ASE.

H5b: Managerial ownership has no impact on accrual-based earnings management in industrial companies listed on the ASE.

II. Data

The population of the study is all non-financial companies listed on the Amman Stock Exchange (ASE), which were 43 services companies and 38 industrial companies. The sample consists of all listed industrial companies in 2015-2019 with available data. The final sample is 38 firms. The manufacturing sector is chosen because of its importance for the Jordanian economy, as it contributes to about 25% of the national GDP. Data for the research variables are collected from the annual reports of the sample during 2015-2019. Four companies are excluded because of the lack of data in their reports.

The dependent variables in this study are real and accrual-based earning management. Real earnings management is measured using Roychowdhury's (2006) model. According to Roychowdhury, there are at least three methods of real earnings management: sales manipulation, reduction of discretionary expenditures, and overproduction. These are explained below.

1.1. Sales manipulation

Sales manipulation is the attempt by the management to increase sales temporarily before the end of the fiscal year using certain measures that can affect the process and volume of sales (Chin, 2008). Gunny (2010) observes that managers try to increase sales for the fiscal year to meet the targeted profits by offering discounts and more lenient credit terms. By offering price discounts, managers can induce demand and thus sales at the end of the fiscal year. Naturally, the organization will not be able to provide similar discounts in the subsequent year. It will return to the old price, which causes its sales to reduce in the coming year. Zaineldeen (2012) states that managers may accelerate current profits at the expense of future gains. More lenient credit conditions is given by means of providing more credit facilities, such as reducing interest rates on future sales or offering discounts for an urgent sales process, to boost sales during a given period (Roychowdhury, 2006). Sales manipulation is measured using Roy Chowdhury's (2006) model:

$$\frac{CFO_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sit}{A_{it-1}} + \alpha_3 \frac{\Delta Sit}{A_{it-1}} + e \quad (1)$$

where:

CFO_{it}: Cash flows from the operations of company (i) in period (t)

Sit: Net sales of company (i) in period (t)

▲Sit: Change in sales between the current year and the previous year of company (i) in period (t)

A_{it-1}: Total assets of company (i) in period (t-1)

e: Random error.

1.2. Reduction of discretionary expenses

Reducing expenditures is an effective way to increase profits. Since R&D costs usually represent a large percentage of estimated expenditures, the organization usually inflates profits by cutting them. Additionally, managers may also cut the training, travel, advertising and promotion, and administrative expenses because their effects are only achieved in the long term. Through these measures, managers could create or inflate profits. However, they force the organization to postpone new projects. Thus, budget cuts sacrifice the economic value of the organization in the long term for the sake of short-term profits (Roychowdhury, 2004). Estimated expenditures are measured using the following model (Roychowdhury, 2006):

$$\frac{EXP_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sit}{A_{it-1}} + e \tag{2}$$

where:

EXP_{it}: Total voluntary expenses for the operations of company (i) in period (t)

Sit: Net sales of company (i) in period (t)

A_{it-1}: Total assets of company (i) in period (t-1)

e: Random error.

1.3. Overproduction

Overproduction increases the number of units produced to reduce the overall cost of production. The focus of this method is the cost of production, defined as the costs of goods sold plus inventory changes in a given period (Roychowdhury, 2004). As managers increase production to meet the expected demand, the fixed production costs are distributed over a larger number of units, reducing the fixed costs per unit. Because this reduction is not matched by an increase in unit marginal costs, the total unit costs decrease, resulting in a reduction in the cost of production in the organization's reports (Roychowdhury, 2004). In the long term, there is an increase in marginal costs per unit, but this increase does not exceed the decrease in fixed costs per unit, so the total costs will decrease, which leads to a reduction in production costs. But by increasing production, the organization has a higher inventory count, and so it must bear a higher cost of storage (Chin, 2008). The cost of the extra production is measured using Roychowdhury's (2004) model:

$$\frac{PROD_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sit}{A_{it-1}} + \alpha_3 \frac{\Delta Sit}{A_{it-1}} + \alpha_4 \frac{\Delta Sit-1}{A_{it-1}} + e \tag{3}$$

where:

PROD_{it}: Production cost of company (i) in period (t)

Sit: Net sales of company (i) in period (t)

▲Sit: Change in sales between the current year and the previous year of company (i) in period (t)

A_{it-1}: Total assets of company (i) in period (t-1)

e: Random error.

Accrual-based earnings management is measured using Kothari et al.'s (2005) model:

$$TACC_{ijt}/(A_{ijt-1}) = \alpha + \beta_1 1/(A_{ijt-1}) + \beta_2 (\Delta REV_{ijt} - \Delta REC_{ijt})/(A_{ijt-1}) + \beta_3 PPE_{ijt}/(A_{ijt-1}) + \beta_4 (ROA_{ijt-1}) + \epsilon_{ijt} \tag{3}$$

where:

TACC_{ijt}: Total accruals of company (i) in sector (j) during period (t).

A_{ijt-1}: Total assets of company (i) in sector (j) at the beginning of period (t).

▲REV_{ijt}: Change in revenue of company (i) in sector (j) between two years (t-1) and (t).

▲REC_{ijt}: Change in accounts receivable of company (i) between two years (t-1) and (t).

PPE_{ijt}: Total property, plant, and equipment value of company (i) in sector (j) during year (t).

ROA_{ijt-1}: The rate of return on assets of company (i) in sector (j) during period (t-1).

ε_{ijt}: Estimated random error expressing the value of discretionary (abnormal) accruals of company (i) in sector (j) during year (t).

Non-discretionary (normal) accruals can be expressed with the following equation:

$$NDACC_{ijt}/(A_{ijt-1}) = \alpha + \beta_1 1/(A_{ijt-1}) + \beta_2 (\Delta REV_{ijt} - \Delta REC_{ijt})/(A_{ijt-1}) + \beta_3 PPE_{ijt}/(A_{ijt-1}) + \beta_4 (ROA_{ijt-1}) + \epsilon_{ijt} \tag{4}$$

where:

NDACC_{ijt}: Non-discretionary accruals of company (i) in sector (j) during period (t).

The independent variable of concentration ownership is divided into five categories: family ownership, institutional ownership, government ownership, foreign ownership, and managerial ownership. Each category is measured as the percentage of each ownership to the total ownership of the company. Finally, the control variables are firm leverage, firm size, and firm age (Farouk Bashir, 2017; Kouaib Jarboui, 2014; Shleifer Vishny, 1997; Isenmila Afensimi, 2012; Lassoued et al., 2015).

Two regression models are used to estimate the relationships between these variables and earnings management:

$$AEM_{it} = \alpha_0 + \beta_1 FAMILY_{it} + \beta_2 INSTITUTIONAL_{it} + \beta_3 GOVERNMENT_{it} + \beta_4 FOREIGN_{it} + \beta_5$$

$$MANAGERIAL_{it} + \beta_6 FSIZE_{it} + \mathcal{E} \tag{5}$$

$$REM_{it} = \alpha_0 + \beta_1 FAMILY_{it} + \beta_2 INSTITUTIONAL_{it} + \beta_3 GOVERNMENT_{it} + \beta_4 FOREIGN_{it} + \beta_5 MANAGERIAL_{it} + \beta_6 FSIZE_{it} + \mathcal{E} \tag{6}$$

where: AEM: accrual-based earnings management; REM: real earnings management; FAMILY: percentage of family ownership; INSTITUTIONAL: percentage of institutional ownership; GOVERNMENT: percentage of government ownership; FOREIGN: percentage of foreign ownership; MANAGERIAL: percentage of managerial ownership; and FSIZE: natural logarithm of total assets.

Table 1. Research variables.

Variable	Definition	Type	Measurement
AEM	Accrual-based Earnings Management	Dependent variable	Kothari et al., 2005
REM	Real earnings management	Dependent variable	Roychowdhury, 2006
FAMILY	Family ownership	Independent variable	Total shares owned by family divided by total shares of the company.
INSTITUTIONAL	Institutional ownership	Independent variable	Total shares owned by institutions divided by total shares of the company.
GOVERNMENT	Government ownership	Independent variable	Total shares owned by government divided by total shares of the company.
FOREIGN	Foreign ownership	Independent variable	Total shares owned by foreign divided by total shares of the company.
MANAGERIAL	Managerial ownership	Independent variable	Total shares owned by managers divided by total shares of the company.
FSIZE	Firm size	Control variable	Natural logarithm of total assets.

III. Results

1.4. Descriptive statistics

Table 2 presents the descriptive statistics (maximum, minimum, mean, and standard deviation) of the independent and dependent variables, using data from 170 firm-year observations of industrial companies listed on the ASE in 2015-2019. This study uses Roychowdhury’s (2006) model to measure real earnings management and Kothari et al.’s (2005) model to measure accrual-based earnings management.

Table 2. Descriptive statistics.

Variable	Minimum	Maximum	Mean	Std. Deviation
Accrual-based earnings management	-0.34	0.22	0.0001	0.08100
Real earnings management	0.09	2.59	.6452	0.37435
Family ownership	0.00	47.93	34.55	8.26
Managerial ownership	0.00	98.72	44.36	16.28
Government ownership	0.00	54.15	28.04	9.42
Institutional ownership	0.00	43.58	31.51	6.26
Foreign ownership	0.00	98.80	16.65	8.47
Firm size	8.00	10.69	9.3455	0.4820

The results in Table 1 show a low level of accrual-based earnings management ($M = 0.0001$, $max = 0.22$, $min = -0.34$), consistent with Alzoubi (2016) and Ballesta and Meca (2007). On the other hand, there is a high level of real earnings management ($M = 0.6452$, $max = 2.59$, $min = 0.09$), consistent with Idris (2012).

There is a moderate level of family ownership ($M = .3455$, $max = .4793$, $min = 0.000$), consistent with Alzoubi (2016). Managerial ownership is high ($M = 0.4436$, $max = 0.987$, $min = 0.000$), with Haddad (2019). There is a moderate level of government ownership ($M = 0.2804$, $max = 0.5415$, $min = 0.000$), consistent with Kurdi (2017). Institutional ownership ($M = 0.3151$, $max = 0.433$, $min = 0.000$) and foreign ownership ($M = 0.1665$, $max = 0.988$, $min = 0.000$) are moderate, consistent with Haddad (2019). The firm size variable is transformed into natural logarithm to resolve standard deviation and normality problems. The result is consistent with Idris (2012).

To test for multicollinearity, a correlation matrix between the explanatory variables is used (Table 3).

Table 3. Correlation matrix.

	Family Ownership	Managerial Ownership	Government Ownership	Institutional Ownership	Foreign Ownership	Firm Size
Family ownership	1					
Managerial ownership	0.37	1				
Government ownership	0.46	0.34	1			
Institutional ownership	-0.18	0.54	-0.03	1		
Foreign ownership	0.50	0.31	0.20	-0.05	1	
Firm size	-0.01	0.50	-0.05	0.23	0.13	1

The results indicate that no correlation is larger than 70%, which means the absence of multicollinearity. Variance inflation factor is also used to test for multicollinearity (Table 4).

Table 4. Variance Inflation Factor and tolerances.

Variables	VIF	Tolerance
Family ownership	1.162	0.861
Managerial ownership	1.261	0.793
Government ownership	1.035	0.967
Institutional ownership	1.332	0.751
Foreign ownership	1.130	0.885
Firm size	1.403	0.713

All VIF values are lower than 10, and all tolerance values are higher than 10%, which means that there is no problem of collinearity.

1.5. Accrual-based and real earnings management

To test the effect of concentrated ownership on real and accrual-based earnings management, the OLS model is used to estimate discretionary accruals using Kothari et al.'s (2005) model and to estimate REM using Roychowdhury's (2006) model. The OLS model is the most appropriate model to test the research hypotheses. The results are as follows.

1.5.1. Accrual-based earnings management

To estimate accrual-based earnings management, Kothari et al.'s (2005) model is used. Table 5 shows the results of the estimation.

Table 5. Accrual-based earnings management model (Kothari's model).

	B	T	Sig
(Constant)	-0.094	-0.960	0.346
1/Ai,t-1	0.349	0.477	0.607
(ΔREVi,t - ΔRECi,t) / Ai,t-1	0.003	3.262	0.003
PPEi,t / Ai,t-1	-0.017	-0.491	0.598
ROAi,t-1	0.005	6.288	0.000
R²	0.2467		
F	13.104		
Sig	0.000		
D-W	2.047		

The R^2 is 24.67%, which means that there is low accrual-based earnings management in Jordanian listed industrial companies. This regression equation is used to estimate accrual-based earnings management. The results of regressing accrual-based earnings management on concentrated ownership are shown in Table 6. The results are consistent with Idris (2012).

Table 6. Concentrated ownership and accrual-based earnings management model.

	B	T	Sig
(Constant)	-0.008	-0.982	0.335
Family ownership	0.114	1.456	0.165
Managerial ownership	0.001	2.429	0.012
Government ownership	0.084	0.684	0.486
Institutional ownership	0.071	2.328	0.015
Foreign ownership	-0.001	2.181	0.020
Firm size	-0.027	-0.727	0.468
R²	0.49239		
F	14.745		
Sig	0		
D-W	2.09		

As shown in Table 6, the R^2 of the model is 49.24%, which means that the concentrated ownership variables explain 49.24% of the variance in accrual-based earnings management. Moreover, the model is significant ($F = 14.745$, $p = 0.000$), indicating that the model significantly explains the changes in accrual-based earnings management.

The results also indicate that managerial ownership has a significant positive impact on accrual-based earnings management ($t = 2.429$, $p = .012$). Institutional ownership has a significant positive impact on accrual-based earnings management ($t = 2.328$, $p = .015$), and foreign ownership has a significant positive impact on accrual-based earnings management ($t = 2.181$, $p = .020$). These results are not as expected, implying that managerial, institutional, and foreign ownership could increase accrual-based earnings management practices. Finally, family ownership ($t = 1.456$, $p = .165$) and government ownership ($t = 0.684$, $p = .486$). The results suggest that family and government ownership are not significant determinants of accrual-based earnings management practices. Finally, firm size does not affect accrual-based earnings management ($t = -0.727$, $p = .468$), suggesting that firm size does not significantly influence accrual-based earnings management practices.

1.5.2. Real earnings management

Roychowdhury's (2006) model is used to estimate real earnings management. Table 7 shows the results of the model.

Table 7. Real earnings management model (Roychowdhury's model).

	Sales manipulation			Reduction of discretionary expenses			Overproduction		
	B	T	Sig	B	T	Sig	B	T	Sig
(Constant)	0.370	3.489	0.001	-0.120	-1.485	0.157	-0.345	-2.518	0.019
1/Ai,t-1	-2.419	-3.024	0.005	1.330	2.197	0.039	2.327	2.273	0.033

SALES_{i,t}/Ai_{t-1}	0.223	2.312	0.031	0.053	4.048	0.000	0.820	14.082	0.000
ΔSALES_{i,t}/ Ai_{t-1}	-0.003	-2.338	0.029	-	-	-	0.004	1.597	0.129
ΔSALES_{i,t-1}/ Ai_{t-1}	-	-	-	-	-	-	0.096	1.586	0.132
R²	0.121			0.136			92.8		
F	7.397			12.699			484.286		
Sig	0			0			0		
D-W	1.846			1.868			1.953		

The adjusted R^2 of sales manipulation and discretionary expenses are respectively 12.1% and 13.6%. Although they are higher than the figures reported by Kang and Kim (2012) (4% and 2% respectively), they are lower than those reported by Roychowdhury (2006) (45% and 38% respectively). On the other hand, the adjusted R^2 of overproduction is 92.8%, which is also similar to that of Roychowdhury (2006) (89%) and Kang and Kim (2012) (90%). The results of the regression analysis are shown in Table 8. The results are consistent with Idris (2012).

Table 8. Concentrated ownership and real earnings management model.

	B	T	Sig
(Constant)	0.740	21.080	0.000
Family ownership	0.566	2.727	0.006
Managerial ownership	0.001	0.363	0.679
Government ownership	-0.236	-2.595	0.008
Institutional ownership	-1.459	-3.699	0.001
Foreign ownership	0.000	0.132	0.832
Firm size	0.041	2.330	0.021
R²	0.613		
F	17.338		
Sig	0		
D-W	2.047		

As shown in Table 8, the R^2 of the model is 61.3%. This shows that the concentrated ownership variables explain 61.3% of the variance in real earnings management. Moreover, the model is significant ($F = 17.338, p = 0.000$), indicating that it significantly explains the changes in real earnings management.

The results also indicate that family ownership has a significant positive impact on real earnings management ($t = 2.727, p = .006$). This result is not as predicted, and it implies that family ownership could have a significant influence on real earnings management practices. On the other hand, government ownership has a significant negative impact on real earnings management ($t = -2.595, p = .008$). Institutional ownership also has a significant negative impact on real earnings management ($t = -3.699, p = .001$). These results are as predicted, suggesting that government and institutional ownership could decrease real earnings management practices. Managerial ownership ($t = 0.363, p = .679$) and foreign ownership ($t = 0.132, p = .832$) have no significant effect on real earnings management. These results are not as expected, indicating that managerial and foreign ownership could not have a significant influence on real earnings management practices. Finally, firm size has a positive significant effect on real earnings management ($t = 2.330, p = .021$). This result is as predicted and implies that firm size could have a significant influence on real earnings management practices.

IV. CONCLUSION

The main objective of the study is to examine the effect of ownership concentration on real and accrual-based earnings management in industrial companies listed on the ASE. The current research applies two models (accrual-based earnings management and real earnings management).

The results of the first model (accrual-based earnings management) show that managerial, institutional, and foreign ownership have a statistically significant positive impact on accrual-based earnings management. But family and government ownership do not have a statistically significant impact on accrual-based earnings management. For the second model (real earnings management), the results show that government and institutional ownership have a statistically significant negative impact on real earnings management. Moreover, family ownership has a statistically significant positive impact on real earnings management. On the other hand, managerial and foreign ownership do not have a statistically significant impact on real earnings management. The findings of the study may be useful for Jordanian regulatory bodies to enhance the effectiveness of corporate governance mechanisms. Furthermore, it may bring the attentions of practitioners (investors, bankers,

etc.) in the manufacturing companies to give more consideration on the role of the board of directors in the quality of financial reports. A high-quality financial report can assist investors and bankers to make their investment and financing decisions. The results are also useful for the regulators in any improvement process of the corporate governance in Jordan.

The limitation of this research is that it includes only three characteristics of the board of directors. Future research may extend this work by including more board characteristics or other corporate governance characteristics. Future research could also include more control variables, such as performance and audit quality.

REFERENCES

- [1]. Clark, T., Woodley, R., De Halas, D., 1962. Gas-Graphite Systems, in *"Nuclear Graphite"*. In: Nightingale, R. (Ed.). Academic Press, New York, pp. 387.
- [2]. Deal, B., Grove, A., 1965. General Relationship for the Thermal Oxidation of Silicon. *Journal of Applied Physics* 36, 37–70.
- [3]. Deep-Burn Project: Annual Report for 2009, Idaho National Laboratory, Sept. 2009.
- [4]. Fachinger, J., den Exter, M., Grambow, B., Holgerson, S., Landesmann, C., Titov, M., Podruzhina, T., 2004. Behavior of spent HTR fuel elements in aquatic phases of repository host rock formations, 2nd International Topical Meeting on High Temperature Reactor Technology. Beijing, China, paper #B08.
- [5]. Fachinger, J., 2006. Behavior of HTR Fuel Elements in Aquatic Phases of Repository Host Rock Formations. *Nuclear Engineering Design* 236, 54. (TNR; 8)
- [6]. Al-Haddad, L., Whittington, M., 2019. The Impact of Corporate Governance Mechanisms on Real and Accrual Earnings Management Practices: Evidence from Jordan. *Corporate Governance: The International Journal of Business in Society* 19, 1167–1186.
- [7]. Aluchna, M., Kaminski, B., 2017. Ownership Structure and Company Performance: A Panel Study from Poland. *Baltic Journal of Management* 12, 485–502.
- [8]. Alves, S., 2021. CEO Duality, Earnings Quality and Board Independence. *Journal of Financial Reporting and Accounting*. <https://doi.org/10.1108/JFRA-07-2020-0191>
- [9]. Bao, S. R., Lewellyn, K. B., 2017. Ownership Structure and Earnings Management in Emerging Markets: An Institutionalized Agency Perspective. *International Business Review* 26, 828–838.
- [10]. Brickley, J., Lease, R. C., Smith, C. W., 1988. Ownership Structure and Voting on Antitakeover Amendments. *Journal of Financial Economics* 20, 267–291.
- [11]. Butar-Butar, S., Indarto, S. L. I. L., 2018. Does Auditor Industry Expertise Improve Audit Quality in Complex Business Environments? *Jurnal Akuntansi dan Keuangan* 20, 1–12.
- [12]. Farouk, M. A., Bashir, N. M., 2017. Ownership Structure and Earnings Management of Listed Conglomerates in Nigeria. *Indian-Pacific Journal of Accounting and Finance* 1, 42–54.
- [13]. Gaaya, S., Lakhali, N., Lakhali, F., 2017. Does Family Ownership Reduce Corporate Tax Avoidance? The Moderating Effect of Audit Quality. *Managerial Auditing Journal* 32, 731–744.
- [14]. Idris, M. I., 2012. The Impact of Ownership Structure and External Audit on Accruals and Real Activities Earnings Management in Jordan. Doctoral dissertation, University of Gloucestershire.
- [15]. Isenmila, P. A., Afensimi, E., 2012. Earnings Management and Ownership Structure: Evidence from Nigeria. *Research Journal of Finance and Accounting* 3, 24–36.
- [16]. Jensen, M.C., Meckling, W.H., 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure. *Journal of Financial Economics* 3, 303–360.
- [17]. Kotlar, J., De Massis, A., Frattini, F., Kammerlander, N., 2020. Motivation Gaps and Implementation Traps: The Paradoxical and Time-varying Effects of Family Ownership on Firm Absorptive Capacity. *Journal of Product Innovation Management* 37, 2–25.
- [18]. Kouaib, A., Jarboui, A., 2014. External Audit Quality and Ownership Structure: Interaction and Impact on Earnings Management of Industrial and Commercial Tunisian Sectors. *Journal of Economics Finance and Administrative Science* 19, 78–89.
- [19]. Lassoued, N., Sassi, H., Attia, M. B. R., 2015. The Impact of State and Foreign Ownership on Banking Risk: Evidence from the MENA Countries. *Research in International Business and Finance* 36, 167–178.
- [20]. Liu, K., 2018. The Relation between Government Ownership and Firm Performance: Evidence from Cross-country Datasets. *International Journal of Business* 23, 183–197.
- [21]. Maswadeh, S., 2018. The Effect of the Ownership Structure on Earnings Management Practices. *Investment Management and Financial Innovations* 15, 48–60.
- [22]. Nuanpradit, S., 2019. Real Earnings Management in Thailand: CEO Duality and Serviced Early Years. *Asia-Pacific Journal of Business Administration* 11, 88–108.
- [23]. O'Callaghan, S., Ashton, J., Hodgkinson, L., 2018. Earnings Management and Managerial Ownership in Private Firms. *Journal of Applied Accounting Research* 19, 648–668.

- [24]. Paiva, I.S., Lourenço, I.C., Branco, M.C., 2016. Earnings Management in Family Firms: Current State of Knowledge and Opportunities for Future Research. *Review of Accounting and Finance* 15, 85–100.
- [25]. Sadjiarto, A., Setio, C., Budiarti, W. R., 2019. Ownership Structure and Earnings Management in Indonesian Listed Banks. *Journal of Economics and Business* 2. <https://dx.doi.org/10.2139/ssrn.3412288>
- [26]. Saleem Salem Alzoubi, E., 2016. Ownership Structure and Earnings Management: Evidence from Jordan. *International Journal of Accounting Information Management* 24, 135–161.
- [27]. Shleifer, A., Vishny, R. W., 1997. A Survey of Corporate Governance. *The Journal of Finance* 52, 737–783.
- [28]. Singh, M., Iii, W. N., 2003. Agency Costs, Ownership Structure and Corporate Governance Mechanisms. *Journal of Banking Finance* 27, 793–816.
- [29]. Zhuang, C. S., 2017. The Impact of State Ownership on Earning Quality: A Comparison Between Private-Owned Enterprises and State-Owned Enterprises in China. Doctoral dissertation, NYU Shanghai.

¹*Rami Najeeb Mohammad Alzu'bi,*

¹*PhD student, Accounting department, Universiti Sains Islam Malaysia (USIM)*