

**Earning Management, Institutional Ownership and Performance: Evidence from  
Amman stock exchange**

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**Abstract**

**المخلص:**

The study explores the effect of earning management and institutional ownership on the performance of Jordanian manufacturing companies listed on the Amman stock exchange (ASE). The study sample included (46) manufacturing companies Out of a total of (63) companies listed on (ASE) over the five years period (2013-2017). When using the first model used (ROA) the results found that EM has no significant effect on return on assets and the direction of the relationship is negative. Institutional investors do not affect return on assets and the direction of the relationship is positive. However, when the second model (ROE) used the results found that EM has no significant effect on return on equity, and the direction of the relationship is negative. Institutional investors have significant effect on return on equity and the direction of the relationship is positive. Regarding control variables the results showed that both controlling variables are significant in return on assets and return on equity.

**Key words:** Earning Management, Institutional Ownership, Performance, Jordanian Industrial Public Shareholding Companies.

هدفت هذه الدراسة إلى تحديد أثر كل من إدارة الأرباح والملكية المؤسسية على أداء الشركات الصناعية المساهمة العامة المدرجة في سوق عمان المالي، شملت عينة الدراسة (46) شركة لمدة (5) سنوات في الفترة من (2013-2017).

أظهرت النتائج عدم وجود أثر ذو دلالة إحصائية لإدارة الأرباح (EM) على العائد على الأصول وأن اتجاه العلاقة هو سلبي. كما وأظهرت النتائج عدم وجود أثر ذو دلالة إحصائية للملكية المؤسسية على العائد على الأصول وإن اتجاه العلاقة إيجابي. وعندما تم استخدام النموذج الثاني (ROE)، أظهرت النتائج عدم وجود أثر ذو دلالة إحصائية لإدارة الأرباح (EM) على العائد على حقوق الملكية وأن اتجاه العلاقة هو سلبي. بينما يوجد للملكية المؤسسية أثر ذو دلالة إحصائية على العائد على حقوق الملكية وأن اتجاه العلاقة إيجابي.

وفيما يتعلق بالمتغيرات الضابطة، أظهرت النتائج أن لها أثر ذو دلالة إحصائية على كل من العائد على الأصول والعائد على حقوق الملكية.

**الكلمات المفتاحية:** إدارة الأرباح، الملكية المؤسسية، الشركات الصناعية المساهمة العامة.

## 1. INTRODUCTION

The interaction between ownership structures and performance has been the subject of on-going debate in the many studies that have appeared in the field of corporate finance literature, dating from the seminal work of (Berle and Means, 1932). They argued that the non-owner managers of the new organizations try to maximize their interest at the expense of the owners and hence they predicted a negative effect on the organization profit. Berle and Means came to the conclusion that when managerial ownership is less and shareholders are dispersed, motivation of the management to maximizing shareholders value decreases and the organization assets are exploited for the benefit of the management (Alipour, 2013). The links between performance and ownership structure have been studied for at least 30 years. Embedded predominantly in the conceptual framework of the agency theory, these analyses added to the understanding of the complexity of governance model and their impact of organization strategy (Aluchna and Kaminski, 2017; Collin, *et al.*, 2013). Agency theory was proposed by (Jensen and Meckling, 1976). In principal-agent relationships, the goal of the principal is maximizing wealth and for that purpose the performance of the agent is monitored and evaluated (Alipour, 2013).

Different ownership structure affects the agency theory problem differently, so it is important to know the organization ownership structure to determine the nature of agency problem and costs associated with it and how performance might be affected by that issue, for example, managers of a family business have different objectives and goals than a managers of publicly held organization (Khamis, *et al.*, 2015).

Institutional ownership, by virtue of their large shareholding, is better informed than individuals and have high incentives to monitor organization performance, because they potentially benefit the most from monitoring and enjoy greater voting power that facilitate corrective action when necessary (Shleifer and Vishney, 1986; Jalil and Abdul Rahman, 2010). Therefore, the threats by institutional

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investors of “voting with their feet” serves as a significant role to monitor, discipline and influence corporate managers (Chung, *et al.*, 2002).

On the other hand, earning management has been increasingly receiving attention since the bankruptcy of large American companies because of accounting fraud. The adverse effect of earning management on capital market at USA reflect ethical failures, and points to the importance of reliability and transparency of accounting and financial information, the on-going debate about auditing and accounting standards have drawn particular attention to the role of corporate governance mechanisms in financial reporting. In fact, there is a consensus that managers use earning management opportunistically for their own private benefits rather than for the interest of shareholders. This gap in manager’s and shareholder’s incentives could induce managers to use flexibility of accounting standards to manage income. Accordingly, effectiveness in monitoring shareholders seems to constrain manager’s opportunistic behaviour. Shareholder control is partially a size function of individuals or collective shareholdings (Chung, *et al.*, 2002; (Lassoued, *et al.*, 2017). Whatever motivates managers to manipulate earnings it seems that earning management harms earning quality and misleads financial reporting users, and it has many victims including equity investors, suppliers, creditors, customer and regulators. Academic research has concluded that managers practice earning management to accomplish certain objectives such as meeting market expectation, avoiding debt covenant violations, avoiding loss, etc. (Habbash and Alghamdi, 2015).

Prior studies like (Al-Sa’eed, 2018; Tomar and Bino, 2012; Abu-Serdaneh, *et al.*, 2010 Zeitun and Tian, 2007) investigated the relationship between ownership structure and performance, furthermore, (Nour, and Al-Awwawde, 2017) have examine to how extent Jordanian industrial companies practice earning management, and to find out the impact of earning management on the quality of earning. (Al Tal, 2015) investigate the impact of earning management on market value of Jordanian engineering and construction firm’s share. However, according to the best of my

knowledge, no research has addressed the effect of earning management and institutional ownership on the performance in Jordan.

This study provides empirical evidence from Amman stock exchange (ASE) to address the effect of earning management and institutional ownership on the performance of Jordanian manufacturing companies listed on the Amman stock exchange (ASE). The current study contributes to the literature in various ways. First, it adds more to the growing literature of earning management, institutional ownership, and performance. Second, investigating the effects of earning management and institutional ownership on the performance to justify the conflicting results in prior researches. Third, the results of the study provide insights for investors, or any interested party in order to reach a better investment decisions. In particular, this study addresses the following questions:

1. Does institutional ownership affect performance?
2. Does earning management affect performance?
3. If yes, how do they affect performance? Also; the study tries to provide empirical evidence on the following question:
4. Is there any impact of control variables on performance?

This study proceeds as follows: The following Section briefly reviews related literature and develops the study hypotheses. Section 3 discusses research model and methodology. Section 4 presents the descriptive analysis, followed by analysing and testing the hypotheses, and Section 5 contains a summary and conclusion.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### ***2.1 Earning Management and Performance***

Accounting information is widely useful to all firm's stakeholders, especially investors, lenders, government, and financial analysts who depend on such information when making their decisions. Accounting earnings are of major concern of shareholders as they reflect organization's performance. This may motivate managers in these organizations to influence earning, and thereby organization

performance (Hessayri and Saihi, 2015). In addition, the rapid growth of businesses and the fierce competition may also have put some pressure on the management to practise earning management in order to remain competitive and to survive. To make things worse, manager's remuneration is usually linked to their financial performance (Habbash and Alghamdi, 2015). Earning management arises "when managers use judgment in financial reporting and structuring transactions to alter financial reports to either mislead some stakeholder about the underlying economic performance of the company, or influence contractual outcomes that depend on reported accounting numbers." (Healy and Wahlen, 1999). Earning management can be defined as the use of discretionary accruals to intentionally manage reported results (Chung, *et al.*, 2009). Discretionary accounting is key topics and represents one of many proxies of earning management (Dechow, *et al.*, 2010). The use of accrual accounting is allowed by worldwide accounting standards, including the International Financial Reporting Standards. The main function according to (FASB) in statement of Financial Accounting Concepts No.6 is to "attempt to record the financial results on an entity transactions and other events and circumstances that have cash consequences for the entity in period in which those transactions, events, and consequences occur rather than only in the period in which cash is received or paid by entity" (Jara-Bertin and Sepulveda, 2016).

Although there is some consensus around earning management concept, the effort limited by difficulty to measure managers motivations and their decision making process, because accounting discretion cannot be directly observed. In this vein (Healy, 1985; DeAngelo, 1986) provided a breakthrough in this field through the estimation of the non-discretionary accruals in total accrual adjustment which was calculated as the difference between accounting results and the operation cash flow. This calculation provided a reference point from which discretionary accruals can be estimated, serving as proxies for the earning management measurement. (Jones, 1991) developed another model established a linear relationship between non-discretionary accruals and the changes in revenues and fixed assets and by

controlling for the organization conditions introduced variability in discretionary accruals adjustments. The Jones model was modified by (Dechow, et al., 1995) by adjusting for changes in account receivables (Reyna, 2018). Several empirical studies have tried to highlight in evidence the relationship between earning management and performance. In this vein, (Mostafa, 2017) aims to examine whether opportunistic earning management has a negative impact on the value relevance of earning for a sample of firms listed in Egyptian stock exchange (ESE). The results showed that discretionary accruals are significantly and positive for organizations with low operating performance, the results also showed that low operating performance organizations increase the earning management practices by increasing their reported earning opportunistically to mask their poor performance. (Kimouche and Boussenna, 2016) conduct an exploratory study in Algerian listed companies that reported their financial statements at "Stock Exchange Organization and Surveillance" during the period from 2005-2012, the results indicated that the Algerian companies have used the discretionary accruals to manage their earnings. In Taiwan, (Chen, *et al.*, 2016) examines whether earning management associated with capital reduction can explain long term share price underperformance, the result indicate that stock performance decreases with increasing aggression of accruals, also the study imply that managers engage in earning management practices through reducing capital to boost stock prices without improving firms solvency. (Jara-Bertin and Sepulveda, 2016) introduce an earning management dimension to compute pre-manipulated accounting performance for a sample of Chilean firms to determine whether family controlled firms do better than non-family controlled firms, the study found that the pre-manipulated accounting performance of family controlled firms is superior to that of non-family controlled firms. The study suggests that earning management behaviour is not sufficient to explain the better performance of family controlled firms. (Yorke, et al., 2016), study the effects of earnings management and corporate tax avoidance on firm's value and performance using a sample of non-financial companies listed in Ghana stock exchange from 2003-2012. The study

suggests a pervasiveness of earning management practices among sampled companies. The results suggest that despite the positive influence of tax avoidance on firm's value and performance the effect is not significant to offset the negative impact of earning management on firm's value and performance. (Habbash and Alghamdi, 2015) investigate the motivations of earning management in less-developed economy using Saudi listed companies. The results show that the four main incentives for Saudi managers to practice earning management are "to increase the amount of remuneration", "to report a reasonable profit and avoid loss", "to obtain a bank loan", and "to increase share price". (Akram, *et al.*, 2015) study the impact of earning management on the organizational performance. The sample of study consists of 20 listed companies listed in Karachi stock exchange and 20 of Bombay stock exchange for the period of 2009-2013. The study indicates that there is a significant negative relationship between earning management and performance in Pakistan, while there is an insignificant relationship between earning management and performance in India. (Gill, *et al.*, 2013) conduct a study to test whether earning management that affects or perhaps benefits management of Indian firms has an effect on performance. A sample of 250 companies was selected from top 500 companies listed in Bombay stock exchange for a period from 2009-2012. The results indicate that the more intense the practice of earning management, the greater its adverse effect on corporate (ROA) in the following years. Also, the study found that the market realizes that the companies act with selfish motives and responds by decreasing corporate market value and share price. (Tabassum, *et al.*, 2013) examine the impact of real earning management on financial performance using a sample of Pakistani manufacturing firms from 2004-2011. The study found that there is a strongly negative relationship between earning management and financial performance. In the Jordanian context, (Nour, and Al-Awwawde, 2017) examine to how extent Jordanian industrial companies practice earning management, and to find out the impact of earning management on the quality of earnings. Using a sample of 20 companies listed on Amman stock exchange for a period from 2005-2012), the

study conclude that Jordanian industrial companies practice earning management to reduce earning, and earning management has a significant negative effect on earning quality. The results also showed low earning quality of Jordanian industrial companies. Another study conducted by (Al Tal, 2015) to investigate the impact of earning management on market value of Jordanian engineering and construction firm's share. The study sample consist of 8 companies listed on Amman stock exchange for a period from 2011-2013). The results revealed that there is no significant relationship between earning management and market value of these companies. Considering the literature, this study makes the following hypothesis regarding the relationship between earning management and performance:

***H01: there is no any impact of earning management on the performance of Jordanian manufacturing companies listed on the Amman stock exchange.***

### ***2.2 Institutional Ownership and Performance***

Prior studies that examined the relationship between institutional ownership and performance have yielded mixed findings. For a few decades, considerable efforts have been devoted to trying to explain differing ownership structure in different countries and its effect on performance (Yasser and Al Mamun, 2015). Economics and finance theory proposes that ownership structure is an important and influential factor in the organization performance, and various ownership types may have a different impact on the performance (Shawtari, 2018).

Institutional ownership is organizations and companies that choose investments with more returns and profitability, for these investors like to increase their wealth by investing on good projects (Alipour, 2013). There are three hypotheses regarding the relationship between institutional ownership and corporate performance (Pound, 1988).

1. The efficient monitoring hypothesis.
2. The conflict of interest hypothesis.
3. The strategic alignment hypothesis.



According to the efficient monitoring hypothesis, institutional investors have the necessary tools for efficient monitoring of the board of directors and reducing the costs and thus there is a positive relationship between institutional ownership and performance (Alipour, 2013). The conflict of interest hypothesis and the strategic alignment hypothesis both predict a negative relationship between institutional ownership and performance (Barnhart and Rosenmstein, 1998). In addition, some researchers came to the conclusion that there is no relationship between institutional ownership and performance (Cronqvist and Nilsson, 2003). Therefore, the effect of institutional ownership on performance is an empirical question.

Agency theory proposed that institutional investors may reduce the agency conflict by monitoring managerial action, they not only have the motivation and duty to monitor organization, and they also have the expertise and resources to do so (Shin-Ping and Tsung-Hsien, 2009). The main reason offered to explain the phenomenon of performance associated with institutional ownership is the expectation that institutional ownership would decrease the principal-agent relationships problems, which would in turn lower the incentives and opportunities for managers to control earning while raising the effectiveness of the performance (Arouri, *et al.*, 2014). Institutional investors play a significant role in transfer of information to other shareholders of the organization and these investors decrease the need for external monitoring, also they have much influence on the decisions of the organization they have invested on, for they have bought a large portion of the shares of these organizations (Brickly, *et al.*, 1988). In this vein, (Khamis, *et al.*, 2015), studied 42 companies in Bahrain Stock Exchange from 2007-2011, and concluded that institutional ownership had positive and statistical significant effect on performance when using T'Q, while it had negative effect without statistically significance when using ROA. Also the study found that the ROA is more relevant to performance than T'Q.(Kao, et al, 2018), using a sample of Taiwanese listed firms from 1997 to 2015;they found that institutional ownership has direct impact on firm

performance and firm value.(Arouri, *et al.*, 2014) examine the effect of ownership structure and board composition on bank performance in Gulf Co-Operation Council (GCC) countries, the results showed that institutional ownership has a significant positive association with bank performance. A study conducted by (Zouari and Taktak, 2014) aimed to investigate empirically the relationship between ownership structure and Islamic bank performance, with special attention to the type of block investors (Institutional, Family, State and Foreign), the results indicated that the banks with foreign and institutional shareholders do not perform better.(Shleifer and Vishney, 1986) argued that institutional investors have greater incentive to monitor management. They have the resources and the ability to discipline managers and to keep them away from any opportunistic behaviour. In the Jordanian context (Al-Sa'eed, 2018) investigated the relationship between ownership structure and dividends on the performance of Jordanian manufacturing companies, the results of his study indicated that ownership structure effect the performance, he also found that (ROA) is representative indicator as proxies of the firm performance. (Zeitun and Tian, 2007) conduct a study to examine the impact of ownership structure on performance of a sample of 59 publicly listed companies in Jordan from 1989-2002, the study shows that ownership structure has significant effect on performance measured by (ROA).(Shin-Ping and Tsung-Hsien, 2009) examine the interrelation and determinant between ownership structure and performance using data of 569 Taiwanese listed companies from (1994-2003), the results show inverse relationship between insider ownership and performance, but institutional ownership has significant negative correlation with performance. (Al Farooque,*et al.*, 2010) test the relationship between ownership concentration and performance on a sample of 567 observations on firms listed on the Dhaka Stock exchange over seven years period, the results revealed that there is a significant positive relationship between ownership concentration and performance. Using Kuwaiti data, (Al-Saidi, 2013) examined the relationship between ownership concentration and ownership composition on the performance for a sample of 130 Kuwaiti firms listed on Kuwaiti stock exchange

(KSE) from 2009-2012, the results suggested that the ownership concentration among large holder and ownership composition (government, families, and institutional) shareholders do not significantly affect firm performance. The study of (Tomar and Bino, 2012) investigates the influence of corporate governance (ownership structure, board size, and board composition) on performance using a sample of 14 banks listed on Amman stock exchange (ASE) over the period 1997-2006. The results found that ownership structure has a strong impact on performance. Also, the results showed that the banks with institutional majority ownership have the highest performance. The study of (Abu-Serdaneh, *et al.*, 2010) examines the effect of ownership structure and other explanatory factors on performance for a five years panel of 56 Jordanian manufacturing companies, the results suggest that the profitability (measured by ROA) increases with high portion of equity owned by institutional investors. Considering the literature, this study makes the following hypothesis regarding the relationship between institutional ownership and performance:

***H02: there is no any impact of institutional ownership on the performance of Jordanian manufacturing companies listed on the Amman stock exchange.***

### **3. RESEARCH METHODOLOGY AND MODEL**

The study sample includes all Jordanian manufacturing companies listed on the Amman stockexchange (ASE). The analysis in this study is based on panel data over the period 2013-2017. We exclude financial sector companies because they have a different set of financial data and due to their distinctive working capital structure (Klein, 2002). However, the data from some companies were unavailable or insufficient in some years because of liquidation or merger; such companies were excluded from the sample set. The total number of Jordanian manufacturing companies listed on the Amman stockexchange (ASE) in 2017 is 63 companies. The total number of companies analysed is (46), representing (73.02%) of the original population and the total number of observations added up to (230) after excluding the outliers to avoid the impact of the extreme values. Data was obtained from

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Amman Stock Exchange (ASE) database and annual reports issued by Jordanian manufacturing public shareholding companies.

### **3.1 The Study Variables**

The study aims to examine the effect of earning management and institutional ownership on the performance of Jordanian manufacturing companies. Thus, earning management and institutional ownership are reflected as independent variables, while the performance is the dependent variable. The selection of variables (Dependent and Independent) is primarily guided by the results of the prior studies and availability of data.

#### **3.1.1 Dependent Variables**

##### **Performance**

In this study company's performance is considered as the dependent variable. The proxies being used for company's performance were return on assets (ROA) as well as return on equity (ROE), which are commonly used in literature (Kao, et al, 2018; Al-Sa'eed, 2018; Akram, *et al.*, 2015; Tabassum, *et al.*, 2013; Tomar and Bino, 2012; Abu-Serdaneh, *et al.*, 2010; Zeitun and Tian, 2007). Return on assets (ROA) measures the overall effectiveness of management in generating profits with its available assets. The higher the firm's (ROA), the better. (Gitman, 2003). Return on Assets (ROA) is calculated as follows:

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income} + \text{Interest Expense} \times (1 - \text{Tax Rate})}{\text{Assets}}$$

Return on Equity (ROE) measures the return earned on the common Stockholder's investments in the company. The higher this return, the better off is the owners. (Gitman, 2003). Return on Equity (ROE) is calculated as follows:

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Stockholder's Equity}}$$

### 3.1.2 Independent Variables

#### Earning Management

This study uses the cross-sectional modified Jones' model (Jones, 1991; Dechow, et al., 1995) as a proxy for discretionary accruals. The cross-sectional modified Jones' model is estimated separately each year for all companies in the same industry. (Dechow, et al., 1995; Jean, 2004) argued that the modified Jones' model is the most powerful model for estimating discretionary accruals among the existing models. Discretionary accruals can be measured as follows:

1. Total Accruals are defined as the differences between net income before extraordinary items and cash flow from operating activities, as stated below in equation (1):

$$TACit = NIit - OCFit(1)$$

2. The industry- specific coefficients for each company and fiscal year combination are estimated, as stated below in equation (2):

$$TAC\ it / TA\ it-1 = \alpha_1 (1/TA\ it-1) + \alpha_2 (\Delta REV\ it - \Delta REC\ it) / TA\ it-1 + \alpha_3 PPE\ it / TA\ it-1 + \varepsilon\ it\ (2)$$

3. Non-discretionary accruals are estimated for each company and fiscal year combination, as stated below in equation (3):

$$NDAC\ it = \hat{\alpha}_1 (1/ TA\ it-1) + \hat{\alpha}_2 (\Delta REV\ it - \Delta REC\ it) / TA\ it-1 + \hat{\alpha}_3 (PPE\ it / TA\ it-1)\ (3)$$

4. The difference between the company total accruals(TAC) and the non-discretionary accruals(NDAC) is considered as discretionary accruals(DAC), as stated below in equation (4):

$$DAC\ it = TAC\ it - NDAC\ it\ (4)$$

**Where:**

**TAC it:** total accruals for company *i* in year *t*.

**NIit:** net income before extraordinary items for company *i* in year *t*.

**OCFit:** cash flow from operating activities for company *i* in year *t*.

**TA it-1:** total assets for company *i* at the beginning of year *t*.

**ΔREV it:** change in revenue for company *i* in year *t*.

*ΔREC<sub>it</sub>*: change in receivables for company *i* in year *t*.

*PPE<sub>it</sub>*: gross property, plant and equipment for company *i* in year *t*.

*DAC<sub>it</sub>*: discretionary accruals for company *i* in year *t*.

*NDAC<sub>it</sub>*: non-discretionary accruals for company *i* in year *t*.

*α<sub>1</sub>, α<sub>2</sub>, α<sub>3</sub>*: regression coefficients.

*ε<sub>it</sub>*: residuals or error term.

The current study used the absolute value of discretionary accruals as a measure of earning management; this is in line with prior studies which indicated that the quality of findings does not impose any sign or direction on earning management behaviour (Chen, *et al.*, 2007; Wang, 2006).

### **Institutional Ownership**

This variable related to a portion of equity owned by institutional investors, it is measured as the proportion of shares owned by institutional shareholders to the total of company shares (Kao, *et al.*, 2018).

### **3.1.3 Control Variables**

To examine the effect of earning management and institutional ownership on the performance, it is assumed that the company's performance is not only affected by earning management and institutional ownership but also it depends on a number of explanatory variables. Therefore, the estimated study regression model controlled a number of control variables that may affect the company's performance. The control variables were chosen in accordance with prior literature, such as, (Al-Sa'eed, 2018; Akram, *et al.*, 2015; Tabassum, *et al.*, 2013; Al-Saidi, 2013; Tomar and Bino, 2012; Abu-Serdaneh, *et al.*, 2010). The following provide a brief discussion for control variables:

**Debt Ratio:** determines the firm's long-term debt-paying ability. The (DR) indicates the percentage of assets financed by creditors. The lower this ratio the better the firm's position (Gibson, 1995). (Jensen and Meckling, 1976) identified debt ratio as a strong mechanism for solving the agency problem due to its ability to prevent

managers from investing in value-destroying investments. Debt Ratio (DR) is calculated as follows:

$$\text{Debt Ratio (DR)} = \text{Total Debt} / \text{Total Assets}$$

**Firm Size:** this variable was used widely in prior studies, as one of explanatory variables for the fact that large companies may exhibit higher performance because of their ability to turn out to be more efficient as they are likely to exploit economics of scale, the ability to employ more professional managers, ability to diversify their activities and attracting a large number of customers (Abu-Serdaneh, *et al.*, 2010). Firm size is measured by the natural logarithm of end of year total assets of the company. Then, this study makes the following hypothesis regarding the relationship between control variables and performance:

**H03: there is no any impact of control variables on the performance of Jordanian manufacturing companies listed on the Amman stock exchange.**

### 3.2 The Study Regression Model

The study aims to examine the effect of earning management and institutional ownership on the performance of Jordanian manufacturing companies. Thus, earning management and institutional ownership are reflected as independent variables, while the performance is the dependent variable. The following general model is estimated:

$$PERF = f(EM, INSTOWN, SIZE, DR + \varepsilon) \quad (1)$$

**Where:** *PERF*: is the company performance, *EM*: earning management, *INSTOWN*: institutional ownership, *SIZE*: is company size, *DR*: debt ratio, and  $\varepsilon$ : residuals or error term. As a result to use two different measures for company performance (return on assets, and return on equity), the general model in equation (1) above is implemented by dividing the general model into two detailed models as follows:

$$ROA_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 INSTOWN_{it} + \beta_3 SIZE_{it} + \beta_4 DR_{it} + \varepsilon_{it} \quad (2)$$

$$ROE_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 INSTOWN_{it} + \beta_3 SIZE_{it} + \beta_4 DR_{it} + \varepsilon_{it} \quad (3)$$

Where: *ROA* it: return on assets, *ROE* it: return on equity, *EM* it: earning management, *INSTOWN* it: institutional ownership, *SIZE* it: company size, *DR* it: debt ratio,  $\beta_0$ : is the constant,  $\beta_1$ - $\beta_4$ : the slope of the independent and control variables *it*: residuals or error term.

#### 4. EMPIRICAL ANALYSIS

##### 4.1 Descriptive statistics

Descriptive statistics are used to calculate minimum, maximum, mean value, standard deviation, skewness and Kurtosis of the variables:

**Table (1) Descriptive statistics for the study variables**

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
EM	230	0.000	0.526	0.10134	0.194015	1.285	0.763
INSTOWN		0.000	0.450	0.18604	0.106852	0.300	-.0617
Ln SIZE		13.50	21.31	16.9667	1.53488	0.675	1.071
DR		0.400	97.370	32.04323	22.497318	0.806	-.024
ROA		-0.18	0.19	0.0125	0.06246	-0.384	0.788
ROE		-0.49	0.32	0.0158	0.10491	-0.789	2.700
EM: Earning management, INSTOWN: Institutional Ownership, LnSize: log of total assets, DR: debt ratio, ROA: return on assets, ROE: return on equity							

As shown in table (1), it can be seen that the mean value of EM have a mean value of 10.134% with a minimum of 0.000 to maximum of 0.526, which provided an evidence that the Jordanian manufacturing companies manage their reported earnings. Institutional Ownership variable showed that, on average Jordanian manufacturing companies have high levels of Institutional investors, mean value of 18.604%. The natural logarithm of total assets of Jordanian manufacturing companies varies from 13.5 to 21.31 with an average of 16.9667. Also, the mean value of debt ratio is 32.04323 which indicate that the Jordanian manufacturing companies finance its (32.07%) assets with debts, minimum value of debt ratio is (0.400) to a maximum of (97.370). Furthermore, the mean value of ROA is 1.25%, with a minimum of -18% to a maximum of 19%. While the mean value of ROE was 1.58% with a minimum of -49% to a maximum of 32%. The mean of both performance measures indicate a low performance of Jordanian manufacturing



companies indicates of a poor performance, also there is large variation of ROA and ROE among these companies.

#### 4.2 Normality Test

Data should be normally distributed in order to run regression analysis successfully. To make sure that such a prerequisite for regression analysis is satisfactorily met, Skewness- kurtosis test was employed. According to (Gujarati, 2004;Hair et.al, 2010) data are said to be normal if standard kurtosis is within ( $\pm 3$ ) and standard skewness is within ( $\pm 1.96$ ). Table (1) shows that all dependent and independent variables follow the normal distribution. This is established by values of Skewness- kurtosis, were all these values are within the acceptable limits.

#### 4.3 Correlation analysis

The correlation analysis amongst all the study variables was conducting using bivariate Pearson correlation analysis as shown in table (2). The highest correlation coefficient was 0.770 (between ROA and ROE). Thus, it was not sufficient to impair the regression result since the correlation coefficient was less than 0.80 (Gujarati, 2004;Field,2009).

**Table (2) Pearson Correlations Matrix**

		EM	INSTOWN	Ln SIZE	DR	ROA	ROE
EM	Pearson Correlation Sig. (2-tailed)	1					
	N	230					
INSTOWN	Pearson Correlation Sig. (2-tailed)	0.232**	1				
	N	230	230				
Ln SIZE	Pearson Correlation Sig. (2-tailed)	0.356**	-0.056	1			
	N	230	230	230			
DR	Pearson Correlation Sig. (2-tailed)	-0.015	0.046	0.312**	1		
	N	230	230	230	230		
ROA	Pearson Correlation Sig. (2-tailed)	0.026	0.048	0.171**	-0.177**	1	
	N	230	230	230	230	230	230
ROE	Pearson Correlation Sig. (2-tailed)	0.098	0.106	0.184**	-0.74	0.770**	1
	N	230	230	230	230	230	230

\*\* Correlation is significant at the 0.01 level (2-tailed).

#### 4.4 The Multicollinearity test

Multicollinearity test between the independent variables used to ensure that there is no perfect linear relationship between two or more of the predictors. So the predictors should not correlate too highly (Field, 2009), one of the collinearity diagnostics methods is to use Variance Inflation Factor (VIF) and tolerance which indicates whether independent variable has a strong relationship with the other independent variable. The (VIF) value of a variable should not exceed (10). Table (3) shows that the (VIF) values are less than 10 and tolerance values are more than (0.1) which is mean there is no multicollinearity problem and it could be safely said that the study model is an appropriate one.

**Table (3) Multicollinearity between the independent variables**

Variables	Collinearity statistics	
	Tolerance	VIF
EM	0.787	1.271
INSTOWN	0.913	1.095
Ln SIZE	0.747	1.339
DR	0.873	1.145

#### 4.5 Regression Analyses

After making sure that all required conditions are satisfactory met, the study hypotheses were tested using multiple regression analysis in order to examine the impact of earning management, and institutional ownership on the performance. Table (4) shows the result of multiple regression models used to test the study hypotheses. It can be noted from the indication of Adjusted  $R^2$  and Sig. F that the first model (dependent variable: ROA) is more explanatory and powerful than the second model (dependent variable: ROE).

According to the first model (dependent variable: ROA), the results reveal that the Adjusted  $R^2$  is equal to (0.087). This indicates that the combination of the independent variables explain 8.7% of variation of the return on assets. Further, the result shows that the F- value equal (6.435) and it is significant at the significance

level ( $\alpha \leq 0.05$ ). This indicates that there is a significant effect between earning management and institutional ownership on return on assets. As seen from table (4), the results found that EM has no significant effect on return on assets and the direction of the relationship is negative. This result is consistent with the findings of (Khamis, *et al.*, 2015). In addition, this result contrast what was mentioned in the study of (Abu-Serdaneh, *et al.*, 2010)

**Table (4) Results of Multiple Regression Models**

	Model 1: ROA		Model 2: ROE	
<b>R</b>	0.320		0.264	
<b>R Square</b>	0.103		0.070	
<b>Adjusted R Square</b>	0.087		0.053	
<b>F</b>	6.435		4.210	
<b>Sig.</b>	0.000*		0.003*	
<b>Independent Variables</b>	<b>t</b>	<b>Sig.</b>	<b>t</b>	<b>Sig.</b>
<b>(Constant)</b>	-3.611	0.000*	-3.223	0.001*
<b>EM</b>	-1.541	0.125	-0.335	0.738
<b>INSTOWN</b>	1.558	0.121	1.982	0.049*
<b>Control Variables</b>				
<b>Ln SIZE</b>	4.136	0.000*	3.360	0.001*
<b>DR</b>	-4.105	0.000*	-2.305	0.022*
<b>Durbin-Watson</b>	1.280		1.239	

\* Statistically significant at the significance level ( $\alpha \leq 0.05$ )

Institutional investors do not affect return on assets and the direction of the relationship is positive. This result does not support the efficient monitoring hypothesis which stated that institutional investors have the necessary tools for efficient monitoring of the board of directors and reducing the costs and thus there is a positive relationship between institutional ownership and performance (Shleifer and Vishney, 1986; Alipour, 2013). Also, the conflict of interest hypothesis and the strategic alignment hypothesis both predict a negative relationship between institutional ownership and performance (Barnhart and Rosenstein, 1998). In addition, this result is consistent with the findings of (Al-Saidi, 2013; Tomar and Bino, 2012; Cronqvist and Nilsson, 2003).

On the other hand, the second model (dependent variable: ROE), the results reveal that the Adjusted  $R^2$  is equal to (0.053). This indicates that the combination of the independent variables explain 5.3% of variation of the return on equity. Further, the result shows that the F- value equal (4.210) and it is significant at the significance level ( $\alpha \leq 0.05$ ). This indicates that there is a significant effect between earning management and institutional ownership on return on equity. As seen from table (4), the results found that EM has no significant effect on return on equity, and the direction of the relationship is negative. This result is consistent with the findings of (Akram, *et al.*, 2015) which found that there is an insignificant relationship between earning management and return on equity in Indian companies.

Institutional investors have significant effect on return on equity and the direction of the relationship is positive. This result is consistent with the findings of (Al-Sa'eed, 2018). In addition, this result contrasts what was mentioned in the study of (Tomar and Bino, 2012) which found that there is a positive but not significant relationship between ownership structure and return on equity.

Both controlling variables are significant in return on assets and return on equity. The company size measured by the natural logarithm of end of year total assets of the company has a positive impact on the company performance; larger companies tend to perform better than small companies. This result is consistent with the study of (Abu-Serdaneh, *et al.*, 2010). In addition, this result contrasts what was mentioned in the study of (Tomar and Bino, 2012). Leverage measured by debt ratio has a negative impact on the company performance; more debt requires further borrowing costs (more cost of capital) and therefore low performance. This result is consistent with the study of (Abu-Serdaneh, *et al.*, 2010).

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## 5. CONCLUSION

This study aimed to provide empirical evidence from Amman stock exchange to address the impact of earning management and institutional ownership on the performance of Jordanian manufacturing companies listed on the Amman stock exchange (ASE). The total number of Jordanian manufacturing companies listed on the Amman stock exchange (ASE) in 2017 is 63 companies. The total number of companies analysed is (46), representing (73.02%) of the original population and the total number of observations added up to (230) after excluding the outliers to avoid the impact of the extreme values. Data was obtained from Amman Stock Exchange (ASE) database and annual reports issued by Jordanian manufacturing public shareholding companies.

The study built two different regression models to study the effect of earning management and institutional ownership on the performance. The first model used (ROA) and the second model used (ROE) as an indicator of performance. Two performance indicators are used as dependent variables to capture features of each measure and possibility of changing results. The study reveals different results by using different performance measures. When using the first model used (ROA) the results found that EM has no significant effect on return on assets and the direction of the relationship is negative. Institutional investors do not affect return on assets and the direction of the relationship is positive. However, when the second model (ROE) used the results found that EM has no significant effect on return on equity, and the direction of the relationship is negative. Institutional investors have significant effect on return on equity and the direction of the relationship is positive.

Regarding control variables the results showed that both controlling variables are significant in return on assets and return on equity. The company size measured by the natural logarithm of end of year total assets of the company has a positive impact on the company performance; larger companies tend to perform better than small companies. Leverage measured by debt ratio has a negative impact on the company performance; more debt requires further borrowing costs (more cost

of capital) and therefore low performance. The current study contributes to the literature in various ways. First, it adds more to the growing literature of earning management, institutional ownership, and performance. Second, investigating the effects of earning management and institutional ownership on the performance to justify the conflicting results in prior researches. Third, the results of the study provide insights for investors, or any interested party in order to reach a better investment decisions.

This study has several limitations. First, the research was carried out in Jordan. Therefore the findings are more likely to have limited application to other countries. Second, this study is done in industrial sector due to time and other resource constraints, so it is recommended for future researchers to do study in other sectors, and consider other factors which researcher did not deal with them in this study.

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