

The impact of family ownership concentration on the relationship between the characteristics of board of directors and earnings management

Mazen Mohamad Khaled Burghleh^a and Saleh K. Al-Okdeh^{b*}

^aApplied Science Private University, Jordan

CHRONICLE

ABSTRACT

Article history:

Received: September 30, 2019
Received in revised format: November 10 2019
Accepted: November 10, 2019
Available online:
November 11, 2019

Keywords:

Family Ownership Concentration
Board of Directors Characteristics
Earnings Management

This study aimed to investigate the impact of the characteristics of the board of directors represented by size of board of directors, financial experience, and board of directors' meetings on earnings management measured by Jones' modified model. The study also aimed to find out the impact of ownership concentration on the relationship between the board of directors' characteristics combined and the earnings management in Jordanian industrial companies listed on Amman Stock Exchange. In order to achieve the objectives of the study, a quantitative analytical method was applied. The study was applied to a sample of 41 industrial companies where their data were available during the period of study from 2013 to 2017. The findings indicated that the characteristics of the board of directors combined influenced on the earnings management in Jordanian industrial companies listed on Amman Stock Exchange. Moreover, the size of the board of directors and the financial experience had some effects on earnings management in Jordanian industrial companies listed on Amman Stock Exchange. However, the board of directors' meetings had no meaningful effect on earnings management in Jordanian industrial companies listed on Amman Stock Exchange. It was also found that family ownership concentration had an impact on the relationship between the characteristics of the board of directors combined and earnings management in Jordanian industrial companies listed on Amman Stock Exchange. The study concluded a number of recommendations, the most important of which is to encourage the competent bodies and the boards of directors in the public shareholding companies to pay more attention to the development of more legislation that focus on earnings quality by reducing earnings management practices. In addition, it is necessary to identify penalties for cases of manipulation and distortion in the financial statements which reduce the use of illegal techniques and attract investors.

© 2020 by the authors; licensee Growing Science, Canada

1. Introduction

The occurrence of business failures and the collapse of many giant companies such as the two American companies Enron and Worldcom led to the need for governance, attention to necessary mechanisms and the need to improve the quality, because of its effective role in tightening control over the management of companies to prevent them from abusing their authorities, urged them to protect the rights of shareholders and stakeholders, improving their performance and accounting practices, providing transparency in financial reports and avoiding opportunistic practices that are now known in accounting thought as earnings management. Corporate governance mechanisms practices are important factors for all parties benefiting from the

* Corresponding author. Tel.: +9626610011
E-mail address: s_okdeh@asu.edu.jo (S.K. Al-Okdeh)

company's performance and focus on maximizing shareholders' wealth through accountability and supervision the achievement of the company's objectives by the owners and taking care of their interests. Thus, there are three references that can be used to put the benefits of managers with the benefits of shareholders, reduce opportunistic practices and control the phenomenon of earnings management which are: Board of Directors, Audit Committee and Internal Audit (Hamad & Fadl, 2014). There are many reasons that led to the emergence of governance, the most important of these reasons is agency's theory, where the separation of ownership and management is one of the main factors for the emergence of agency's theory, and the large expansion of economic institutions in the light of globalization and increasing economic growth led to the emergence of agency's problem among the contracting parties in institution. Through this problem, there is an urgent need to find laws governing the relationship between the parties in institutions, restore confidence and credibility of the financial markets, and stimulate investments, which is an essential goal for countries to achieve, and in this context, there is an increasing interest to the concept of governance and its importance in reducing problems that may arise from separation of ownership and management. The most important principle of corporate governance is to separate ownership from management, as owners in the company do not have the authority to use or control the company's resources, but ownership concentration leads to the presence of a few owners involved in the management of companies, which leads to a conflict of interest between controlling and minority shareholders' interest. In fact, when major shareholders have seats on board of directors, this enables them to directly intervene in the company's operational activities, finance and management decisions, obtain and exploit private information for personal benefits, or influence managers' decisions by threatening to sell their shares. Some previous studies such as (Fan & Wong, 2002) found that high ownership concentration increases the degree of conflict of interest between major and small shareholders and that the greater the ownership concentration, the greater the degree of manipulation of earnings and serve major owners at the expense of small shareholders (Al-Anati, 2016).

Board of Directors is the agent entrusted with the interests of the rights of company and shareholders, and it has a wide powers in the management of the company and the development of strategic policies to achieve a competitive advantage, improve the financial performance of the company, and take into account the rights of shareholders, customers and the surrounding environment of the company. It is also entrusted with a committee to monitor the performance of managers and internal committees, to ensure the integrity of the accounting and financial reports, to ensure the compliance of company managers with the laws and regulations, and to make efforts to achieve good corporate governance to maximize earnings and to avoid bankruptcy or failure (Tarif, 2017). Based on the previous studies, and since the industrial sector is one of the main pillars of Jordanian economy, due to its multiple and prominent contributions to the economic and social development process, as one of the most important factors of development in the countries, it has powerful forces of influencing economic systems (Jordan Chamber of Industry, 2018). This study aims to find the relationship between a set of board of directors' characteristics and earnings management and the impact of family ownership concentration on the relationship between them in Jordanian industrial companies listed on Amman Stock Exchange. The study contains four main sections; the first section addresses the study introduction, the second section presents the previous studies related to the subject of family ownership concentration, characteristics of the board of directors and earnings management, the third section is dealt with the study methodology, statistical analysis tests and results, finally, the last section includes the conclusions and recommendations found by this study.

1.1 Family Ownership Concentration

Ownership concentration can be defined as: an effective control tool provided by certain categories of shareholders on the performance of managers in order to reduce the agency costs, where ownership concentration of a small number of shareholders contributes to develop more stringent procedures in monitoring management practices as well as optimal selection of managers who represent the interests of shareholders (Hamdan et al., 2016). Also, family ownership means the proportion of ordinary shares held by family members in the company from the total value of shares, where it is noted that family companies are common organizations in both developed and emerging economies. Family companies represent nearly 90% of US-based companies, and more than two-thirds of companies are controlled by families in East Asia, also the family in Europe controls about 44% of companies. Family companies are the most widely used form of ownership concentration, and these have been found largely in companies. Small and medium-sized, and effectively contribute to the economies of many developed countries (Bhattacharya & Ravikumar, 2001). In addition to the importance of ownership concentration in reducing agency costs, some studies such as Sanda et al. (2005), Pivovarsky (2003), and Joh (2002) examined the role of ownership concentration in corporate value. Some recent studies suggest that family companies are more valuable and have better performance than non-family companies (Anderson & Narus, 2003).

1.2 Board of Directors Characteristics

Corporate governance activists and practitioners consider the board of directors as the best tool to monitor management practice and behavior, and protect the company's invested capital from misuse by management, through its powers to appoint, exempt, and reward senior management. Board of directors actively participate in the development of the company's strategy and in providing incentives to management, monitors its behavior and corrects its performance, which maximizes the market value of the company and therefore board of directors help to sustain the company and achieve its efficiency and thus protect the financial market as a whole (Siam, 2014). Board of Directors mean a body composed of a number of elected or appointed members who shall jointly supervise the activities of the company. The Company shall be managed by board of directors of not fewer than five people and not more than thirteen people as determined by the company's system. Governance principles

require that they are elected according to a vote of the Company General Assembly by secret ballot, with at least one third of Board of directors' members are independent members (Abu Al-Haj, 2013). There are many characteristics of board of directors, the most important of which are number of board of directors, financial expertise, and meetings of board of directors.

1.3 Earnings Management

Earnings management represents management's attempt to influence or manipulate declared earnings through the use of certain accounting methods such as recognition of non-recurring items (appearing once), deferring or expediting recognition of certain expenses or revenues, or using other methods designed to influence short-term earnings (Noor and Al-Awawdeh, 2017). As a result of the emergence of earnings management, most of disclosure models of earnings management practices were based on change in accounting methods or estimates or change in the timing of the application of mandatory or optional accounting principles. Based on the above, earnings management has become management practices intended by management to make a strategic change in the company's economic performance according to its vision and mission, either through accounting policies or operational operations of the company (Hamad & Fadl, 2014).

2. Literature Review

In accordance with the importance of the characteristics that should be enjoyed by Board of Directors and their impact on the company's performance and the decisions taken by the management which include limiting earnings management, the accounting studies have focused heavily on the impact of these characteristics in accounting process and earnings management, where studies discussed several characteristics of board of directors that have an effective impact on the performance and value of the company, including: the composition and number of board of directors, the scientific qualification of board of directors' members, the separation of the role of executive director from the role of chairman, and meetings of board of directors (Kim and Lim, 2012). The study of Mamsah (2018) aimed at investigating the impact of ownership structure on the financial performance of companies listed on Palestine Stock Exchange during the period (2013-2017). The results revealed that there is a positive impact of ownership concentration on the financial performance of companies listed on Palestine Stock Exchange as measured by return on assets, return on equity and market value to book value, while there is an adverse impact of institutional ownership variable on financial performance. Also, the study of Shpeer (2017) aimed to find out the impact of using governance mechanisms in reducing agency costs, and the model was supported by a set of control variables (company size, company profitability), where the financial statements of the 49 companies listed on Palestine Stock Exchange were collected during the period (2011-2015). The study found the following results: There is no statistically significant impact between (company size, proportion of ownership of managers) and agency costs, there is a statistically significant adverse impact between (separation of duties, administrative rewards, and company size) and agency costs, and there is a statistically significant impact between (leverage, company profitability) and agency costs. Moreover, the study of Tarif (2017) aimed to examine the impact of Board of Directors characteristics on the financial performance of Jordanian industrial and service companies listed on Amman Stock Exchange, through an applied study on companies. In order to achieve the objectives of the study, the researcher studied all the industrial and service companies listed on Amman Stock Exchange during the period (2013-2015) which were about 120 companies, and then tested the impact of the characteristics of Board of Directors on financial performance using multiple regressions. The study concluded that there is an impact of board of directors characteristics on the financial performance, and that there is a negative impact of meeting of board of directors and company size on the financial performance of the sample companies. Furthermore, the study of Abdi (2017) aimed to find the impact of ownership structure in achieving the effectiveness of corporate governance, by applying this topic to a case in Algeria, then examining the impact of ownership structure through ownership concentration variable and the nature of shareholders on the effectiveness of both Board of Directors and the rights of shareholders and disclosing the financial structure of these institutions. In light of the different approaches chosen, the field study comes as an attempt to highlight the reality of these mechanisms under the ownership structure that controls Algerian shareholding institutions, with the aim of showing the extent to which the reality of these mechanisms matches the legal framework that governs them on the one hand and the practice of good governance on the other hand. The results of the study showed a strong and unanimous awareness of the importance of reforming the mechanisms of corporate governance in different ways, in line with the structure of ownership that controls Algerian shareholding institutions.

Another study was conducted by AlSultan (2017) which aims to investigate earnings management practices in Saudi Arabia. The study was applied to a sample of 85 non-financial companies for the period 2004-2014. This study finds that the big four audit firms have a role in limiting earnings management only in low income activities. Moreover, this study finds that the firms audited by Deloitte are not different from those of the big four in terms of earnings management. The results of the role of the four audit firms in the public financial bidding companies show that the four audit firms have no obstacle in involving earnings management in the years before the public financial bidding. This study finds that public financial bidding companies audited by Deloitte have not involved in earnings management. The aim of the study of Nour and Al-Awawdeh (2017) examined the extent of the practice of Jordanian companies to earnings management and the impact of earnings management practice on declared accounting earnings quality. The study depended on a sample of 20 Jordanian industrial companies listed on Amman Stock Exchange during the period 2005-2012. The results of the study showed a decrease in earnings quality of Jordanian industrial companies in general and revealed the practice of Jordanian industrial companies of earnings management

aimed at reducing earnings. Also, the results showed a statistically significant negative impact of earnings management practices and methods on earnings quality, while indebtedness had a positive and statistically significant impact on earnings quality. Hamdan et al. (2016) conducted a study which aimed at focusing on the ownership structure of companies listed on Bahrain Bourse and its role on reducing agency costs, where ownership structure was divided into four main components: ownership concentration, board of directors' ownership, institutional ownership, and foreign ownership. Based on the longitudinal data of 31 companies for a time series of 13 years from 2002 to 2014), and using the static effects model, it was found that the components of the ownership structure played a negative role in agency costs of companies listed on Bahrain Bourse, except for the ownership of the Board of Directors, which played a positive and ineffective role in reducing agency costs.

The objective of the study of Khulaysa (2016) was to find the impact of the governance role of Board of Directors on the financial performance of companies using the field study applied on ten companies with Algerian shares for the period 2011-2013. The study concluded that there was no impact of Board of Directors Characteristics on the financial performance of the study sample companies, which proves that the financial performance of these companies was affected by other factors more than these characteristics. The study of Siam (2014) also aimed to find whether there is a relationship between the elements of corporate governance, which consists of Board of Directors, Internal Audit Committee and earnings quality. To achieve the objectives of the study, this study tested the data of all 12 industrial companies listed on Palestine Stock Exchange during the period 2008-2013. The study found that there was a statistically significant relationship between the independence of board of directors and earnings quality, in addition to a direct correlation of statistical significance between the activity of internal audit committee and earnings quality, while there was no impact between the other elements of corporate governance represented by Board of Directors Ownership of the company's shares and the experience of Internal Audit Committee. The study of Hamad and Al-Fadl (2014) aimed to test a number of internal mechanisms of corporate governance in reducing earnings management practices and if this role is affected by both management ownership and the price to book value per share in the 91 joint stock companies listed on Iraqi Stock Exchange. The most important result of the study was the important role of Board of Directors in controlling earnings management practices. In fact, they found the smaller the board of directors and the larger the number of its external members, the smaller the earnings management practices and vice versa.

3 Methodology and Outcomes

3.1 Data

This study used a quantitative analytical method based on a test study of the real financial statements recorded in the financial statements and annual reports issued on the industrial public shareholding companies included in the study sample to find data related to Family Ownership Concentration and its impact on the relationship between characteristics of the board of directors and earnings management during the period from 2013 to 2017, in order to test the study hypotheses.

3.2 Measures of Variables

3.2.1 Characteristics of the Board of Directors

First: Number of Board of Directors: It was measured by the Number of the Board of Directors members.

Second: Financial Expertise: It was measured by Number of the Board of Directors members holding scientific certificates in accounting, finance and economics to the total Number of the Board of Directors members.

Third: Meetings of Board of Directors: It was measured by the number of meetings of board members during the year.

3.2.2 Earnings Management

Earnings management was measured by using the modified Jones model (Dechow et al., 1995), or what is known as the optional accruals method, and the optional accruals are calculated by the following steps:

First: Determination of total accruals:

$$TACC_{i,t} = NI_{i,t} - OCF_{i,t}$$

whereas:

$TACC_{i,t}$ = Total accruals of company i , in year t .

$NI_{i,t}$ = net income of company i , in year t .

$OCF_{i,t}$ = Operating cash flow of company i , in year t .

Second: Estimation of the slope ($\beta_1, \beta_2, \beta_3$) in the following regression model:

$$\frac{TACC_{i,t}}{A_{i,t-1}} = \alpha + \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\nabla REV_{i,t} - \nabla REC_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + e_{i,t}$$

where:

$A_{i,t-1}$ = Total assets of company i , in year t .

$\Delta REV_{i,t}$ = Change in the revenues of company i , between the years t and $t-1$.

$\Delta REC_{i,t}$ = Change in accountants under collection of company i , between the years t and $t-1$.

$PPE_{i,t}$ = Size of property, equipment and estate of company i , in year t .

$e_{i,t}$ = random error.

Third: Estimation of non-optional accruals using $(\beta_1, \beta_2, \beta_3)$ expected which were extracted from the previous equation as follows:

$$NACC_{i,t} = \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 (\nabla REV_{i,t} - \nabla REC_{i,t}) + \beta_3 (PPE_{i,t})$$

$NACC_{i,t}$ = Normal accruals of company i , in year t .

Fourth: After the estimation of total accruals and the non-optional accruals, the optional accruals are calculated by:

$$ANACC_{i,t} = TACC_{i,t} - NACC_{i,t}$$

where:

$ANACC_{i,t}$ = optional accruals of company i , in year t .

$NACC_{i,t}$ = non-optional accruals of company i , in year t .

$TACC_{i,t}$ = total accruals of company i , in year t .

Fifth: The value of the optional accruals is divided by the total assets, and then the absolute value is taken as follows:

$$\text{Earnings management} = \frac{ANACC_i}{A_{i,t-1}}$$

The increase in the value of optional accruals indicates a decrease in earnings management through increased creative accounting practices by the company, and the decrease in the value of optional accruals indicates the increase in earnings management through reducing creative accounting practices by the company.

The arithmetical mean of the optional accruals for the sample companies was calculated, and then the arithmetical mean of the optional accruals for each year was calculated for the sample companies in order to classify these companies, where the decision rule is as follows (Dechow et al., 1995):

- If the value of the optional accruals in the year for a company exceeds the value of the optional accruals average for the sample; this indicates its practices of earnings management and vice versa.

Ownership Concentration

Ownership Concentration as a mediating variable was measured in this study by calculating the ratio of the number of shareholders who own more than 5% of the company's shares to the total shareholders of the company.

Company Size

This variable was chosen in order to take into account in the study model the differences between the sample companies with regard to their asset size, as increasing the size of the company is an incentive to practice earnings management, especially when returns generated by the assets of the company decrease (Noor and Awawdeh, 2017). Company size in this study was measured by calculating the natural logarithm of total assets.

3.3 Empirical Findings and Discussions

The data collected were analyzed in order to obtain the results of the study for the study sample companies, by conducting a descriptive analysis of the study data to describe the study sample using the descriptive statistical metrics. The study data were verified and validated for statistical analysis through Multicollinearity Test, as well as testing of study hypotheses based on Multiple Regression model and Structured Equation Model.

3.4 Descriptive Statistics

After the financial statements of the quantitative variables (Number of Board of Directors, Financial Expertise, and Meetings of Board of Directors) were collected as independent variables, Family Ownership Concentration as a mediating variable, and company size measured by asset size as a control variable from the financial reports of the study sample companies, the descriptive analysis was conducted as follows:

Table 1

Descriptive analysis of quantitative variables

Measurements / variables	Minimum	Maximum	Mean	Std. Deviation
Number of Board of Directors	4	13	7.771	2.125
Financial Expertise	0.00	1.00	0.536	0.213
Meetings of the Board of Directors	3	13	6.831	1.594
Ownership Concentration	.007	.987	0.599	0.237
Size	2243023	184365841	32304031	30478087

Table 1 shows the results of the descriptive analysis of the quantitative study variables. It is noted from the table that the arithmetic mean for number of the board of directors reached (7.771), which means that the average number of board of directors members in the study sample companies is approximately seven members, where the largest number of board of directors in the sample companies was (13) members, in National Cables & Wire Manufacturing Company in 2013, while the lowest number of board of directors was (4) members, in Comprehensive Multiple Project Company in 2017, where the value of the standard deviation of number of the board of directors reached (2.125), where this value indicates the extent of dispersion of the study sample from its arithmetic mean in terms of number of board of directors. The arithmetic mean of the financial expertise of board of directors reached (0.536) which indicates that 50% of number of board of directors holding scientific degrees in accounting, finance and economics, where the largest number of board of directors holding scientific degrees in the sample companies was (100%), in National Poultry Company in all years of study in addition to Akary For Industries And Real Estate Investments in 2014 and 2015, while the lowest number of board of directors holding scientific degrees was (0), in Arab Aluminum Manufacturing Company / Aral in the years (2013 to 2016). The table also shows the arithmetic mean of meetings of board of directors which reached (7) meetings, which indicates that the average meetings of board of directors in the study sample companies is seven meetings during the year, where the largest number of meetings held by board of directors in the sample companies was (13) meetings, in National Chlorine Company in 2017, United Iron and Steel Manufacturing Company in 2016, and Union Tobacco and Cigarette Industries Company in 2016, while the lowest number of meetings held by board of directors was (3), in National Poultry in 2017 and Jordan Industrial Resources Company in 2017.

It is noted from the table that the arithmetic mean of mediating variable which is Family Ownership Concentration (0.599), which means that (60%) of the sample companies are family companies, and the existence of Family Ownership Concentration may indicate that the legal system in the company does not provide adequate protection for the rest of investors because of the selection of accounting policies that may increase the opportunistic behavior of Board of Directors to maximize their interests, where the largest percentage of Family Ownership Concentration in the sample companies reached (0.987), where it was in National Poultry Company in 2015 and 2016, while the lowest percentage of Family Ownership Concentration in the sample companies reached (0.007), where it was in the industrial commercial and agricultural / production company in 2014, 2015 and 2016. As for company size as a control variable, it is noted that the average of asset size of the study sample companies reached (32304031) JD, where the highest asset size reached (184365841) JD, in Jordanian Cement Factories Company in 2017, while the lowest asset size reached (2243023) JD in National Steel Industry Company in 2013, indicating that there are large differences in the values of the assets of the sample companies, which justifies the high standard deviation value which is (30478087). After collecting the financial statements of the dependent variable represented by earnings management method depending on modified Jones model (Dechow et al., 1995), from the financial reports of the sample companies, the descriptive analysis was conducted as follows:

Table 2

Descriptive analysis of earnings management

	Minimum	Maximum	Mean	Std. Deviation
2013	0.0014	1.4507	0.2618	0.3111
2014	0.0125	1.3383	0.2473	0.2685
2015	0.0074	1.2173	0.2369	0.2751
2016	0.0051	1.2034	0.2385	0.2657
2017	0.0155	1.1273	0.2498	0.2485
All Years	0.0014	1.4507	0.2468	0.2720

*Number of companies practice earnings management: 14

*Number of companies do not practice earnings management: 27

Table 2 shows the results of the descriptive analysis of earnings management measured by the optional accruals, it is noted that the lowest level of earnings management was in (2013) where the optional accruals value reached (0.0014), while the highest level of earnings management was in (2013) where the optional accruals value reached (1.4507). It is also noted from the previous table that the average of the optional accruals for the years 2015 and 2016 did not exceed the average of the

optional accruals for all years which reached (0.2468), indicating that there is no earnings management in these years compared to the overall average, while the other years (2013, 2014 and 2017) were higher than overall average, where the standard deviation for the years as a whole reached (0.2720). It is also noted that the average of the optional accruals of 27 companies did not exceed the arithmetic mean of the optional accruals for all study sample companies during the years of study, while the average of the optional accruals of 14 companies exceeded the arithmetic mean during the years of study, in other words, this means that 34.2% of the sample companies practice earnings management over the years, and 65.8% of the sample companies do not practice earnings management over the years. Based on the results of the descriptive analysis of earnings management method, it was found that industrial companies listed on Amman Stock Exchange slightly use earnings management method.

3.5 Validation of data

Multicollinearity Test was used to test the validity of the study data as in Table 5 as follows:

Table 3

The validity of the study data for statistical analysis

Variables	Variable's	Multicollinearity	
		Tolerance	VIF
Independent	Number of Board of Directors (NBD)	0.848	1.179
	Financial Expertise (FE)	0.837	1.194
	Meetings of the Board of Directors (MBD)	0.879	1.137
Moderator	Ownership Concentration (OC)	0.931	1.074
Control	Log(Size)	0.813	1.230

Variance inflation factor (VIF) is used to determine interference between variables and the general rule of VIF. There is inflation according to this indicator when the value is greater than 10, thus, the regression coefficients are poorly determined due to increased inflation between independent variables (Schreiber & Jackson, 2017). According to Table 3, all values were less than 10 in association with the inflation coefficient. As for tolerance coefficient, it is another test that was used to detect the problem of survival of the variable within the study model that should be tested. It can be determined that there is a problem of self-correlation if the tolerance factor value is less than (0.10). As for Table 3, all values were greater than (0.10) in relation to the inflation coefficient. Based on the hypotheses of the two previous indicators, it is clear that all study variables exceeded these two indicators, which means that there is no problem of linear interference in the study model.

3.6 Empirical Results and Discussion

H₀₁: There is no impact of Board of Directors Characteristics combined on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

The study model is designed to examine the impact of Board of Directors Characteristics combined and measured by: Number of Board of Directors, Financial Expertise, and Meetings of Board of Directors on earnings management in Jordanian public shareholding industrial companies, in the presence of the company size as a control variable, as follows:

$$EM = \beta_0 + \beta_1 \times NBD + \beta_2 \times FE + \beta_3 \times MBD + \beta_4 \times \text{Log}(\text{Size}) + \varepsilon$$

Table 4 below shows the results of the multiple regression test of the study model:

Table 4

Multiple regression test results for the study model

Variable	β	Coefficient	Std. Error	T-Statistic	Prob.
Constant	-0.092	-----	0.326	-0.283	0.777
NBD	-0.031	-0.31	0.008	-3.894	0
FE	-0.164	-0.158	0.082	-1.999	0.047
MBD	0.001	0.006	0.011	0.081	0.935
Log(Size)	0.137	0.252	0.048	2.856	0.007

R = 0.63 R-Squared = 0.396 Adjusted R-Square = 0.381 S.E. of regression = 0.213 F-statistics = 4.999 (0.001)

Source: From the researcher's work based on the results of statistical analysis.

Table 4 shows the results of the test for the first study model through multiple regression of the independent study variables represented by the Board of Directors Characteristics combined (Number of Board of Directors, Financial Expertise, and Meetings of Board of Directors) and its impact on the dependent variable (earnings management in industrial companies), it is also noted from the table that the value of F calculated reached (4.999), at a significant level (0.05), indicating that the first proposed model of the study is suitable. The results of regression analysis showed that the value (Sig. F-statistic) which reached (0.000), is less than the significance of the test which is (5%), which means that there is an impact of Board of Directors Characteristics combined on earnings management in Jordanian industrial companies listed on Amman Stock Exchange. The regression analysis results showed that the adjusted R-square value reached (0.381) which means that only about

38.1% of the fluctuations in earnings management of Jordanian industrial companies can be explained by changes in Board of Directors Characteristics.

H01-1: There is no impact of number of board of directors on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

It is noted from Table 4 that the value of the significant significance level (Sig.T) has decreased from (5%) to (0.000), which indicates that there is an impact of number of board of directors on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

According to the coefficient value which reached (-0.310), it indicates that there is a negative impact of number of board of directors on earnings management by reducing the optional accruals, which indicates that number of board of directors is the most influential Board of Directors Characteristics on earnings management in Jordanian industrial companies included in this study.

H01-2: There is no impact of Financial Expertise on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

It is noted from Table 4 that the value of the significant significance level (Sig.T) has decreased from (5%) to (0.047), which indicates that there is an impact of Financial Expertise on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

According to the coefficient value which reached (-0.158), which indicates that there is a negative impact of Financial Expertise on earnings management by reducing the optional accruals in industrial companies, which means that Financial Expertise comes second in terms of impact on earnings management among Board of Directors Characteristics included in this study.

H01-3: There is no impact of Meetings of Board of Directors on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

It is noted from Table 4 that the Coefficient value reached (0.006), which indicates that there is a positive impact of the numbers of Meetings of Board of Directors on earnings management, but it is not statistically significant because the value of significant level (Sig. T) increased from (5%) to (0.935), and therefore there is no impact of Meetings of Board of Directors on earnings management in Jordanian industrial companies listed on Amman Stock Exchange.

H02: There is no impact of Family Ownership Concentration on the Relationship between Board of Directors Characteristics combined and Earnings Management in Jordanian industrial companies listed on Amman Stock Exchange.

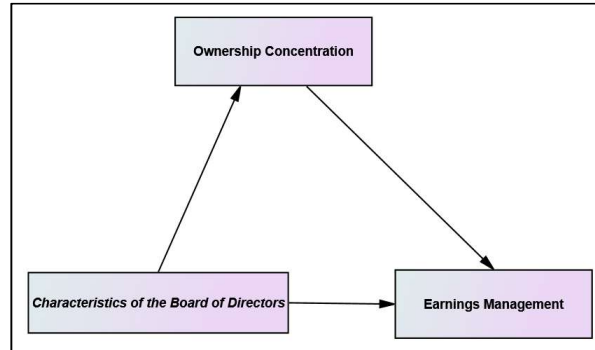


Fig. 1. The second study model

To test the second null hypothesis, the path analysis was conducted using Structural Equation Modeling, depending on Amos 22 program, in order to investigate the direct and indirect impact of Board of Directors Characteristics on earnings management in Jordanian industrial companies listed on Amman Stock Exchange in the existence of Family Ownership Concentration as a mediating variable.

Table 5

The results of the path analysis test using structural equations modeling

Variables	Impact	Impact coefficients value	Impact path value	Sig	R ²
Board of Directors Characteristics → Family Ownership Concentration	Direct	0.146	2.104	0.035	0.021
Board of Directors Characteristics → Earnings Management	Direct	-0.173	-2.516	0.012	0.06
Family Ownership Concentration → Earnings Management	Direct	0.201	2.929	0.003	
Board of Directors Characteristics → Earnings Management	Indirect	0.029	2.023	0.028	0.001

Source: From the researcher's work based on the results of statistical analysis

Table 5 shows the results of the direct and indirect path analysis of Board of Directors Characteristics on earnings management in industrial companies in the existence of Family Ownership Concentration as a mediating variable, where the analysis results

indicated that there is an impact of Family Ownership Concentration on the relationship between Board of Directors Characteristics combined and earnings management in Jordanian industrial companies listed on Amman Stock Exchange. The direct impact coefficient value of Board of Directors Characteristics on earnings management in industrial companies reached (-0.173), which indicates that Board of Directors Characteristics impact negatively on earnings management by reducing the optional accruals, where the impact path value reached (-2.516), at a significant level less than (5%), i.e., 0.012. Also, the direct impact coefficient value of Board of Directors Characteristics on Family Ownership Concentration in industrial companies reached (0.146), indicating that Board of Directors Characteristics impact positively on Family Ownership Concentration through the increase of the optional accruals, where the impact path value reached (2.104), at a significant level less than (5%), (i.e. 0.035), while the direct impact coefficient value of Family Ownership Concentration on earnings management reached (0.201), indicating that Family Ownership Concentration impacts positively on earnings management through the increase of the optional accruals, where the impact path value reached (2.929), at a significant level less than (5%), i.e. 0.003. The indirect impact of Board of Directors Characteristics on earnings management in the existence of Family Ownership Concentration as a mediating variable reached (0.029), which indicates that Family Ownership Concentration plays a mediating role in the relationship between Board of Directors Characteristics and earnings management in Jordanian industrial companies, where the impact path value reached (2.023), at a significant level less than (5%), where it reached (0.028), which means that there is an impact of Family Ownership Concentration on the relationship between Board of Directors Characteristics combined and earnings management in Jordanian industrial companies listed on Amman Stock Exchange, and that the change of the negative direct impact between Board of Directors Characteristics combined and earnings management into a positive impact through the inclusion of the mediating variable indicates that Family Ownership Concentration plays a fully and statistically significant mediating role.

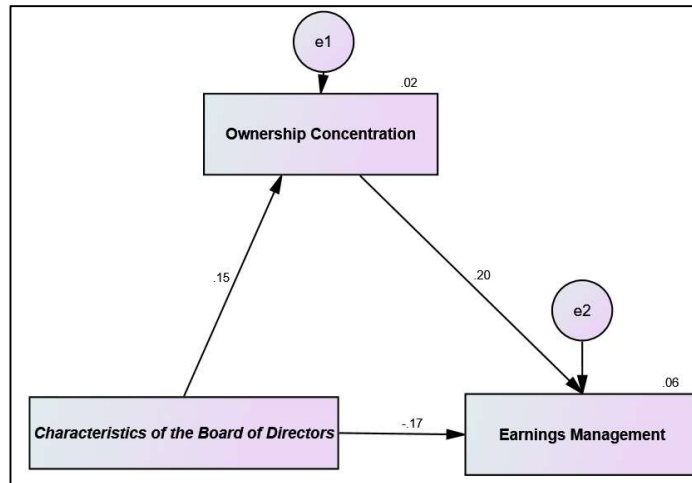


Fig. 2. Impact Coefficients of Family Ownership Concentration on the relationship between Board of Directors Characteristics combined and earnings management

4. Conclusion

This study aimed to examine the impact of Board of Directors Characteristics represented by (Number of Board of Directors, Financial Expertise, and Meetings of Board of Directors) on earnings management measured using the modified Jones model (Dechow et al., 1995), it is also aimed to examine the impact of Family Ownership Concentration on the relationship between Board of Directors Characteristics combined and earnings management in Jordanian industrial companies listed on Amman Stock Exchange. In order to achieve the objectives of the study, a quantitative analytical approach was adopted. The study was applied to a sample of 41 industrial companies provided the necessary data during the study period from 2013 to 2017. The study showed that characteristics of the board of directors influenced on earnings management in Jordanian industrial companies listed on Amman Stock Exchange, and the number of board of directors and financial expertise both influence on earnings management in Jordanian industrial companies listed on Amman Stock Exchange, while there is the meetings of board of directors had no effect on earnings management in Jordanian industrial companies listed on Amman Stock Exchange. The results have also indicated that family ownership concentration had some impacts on the relationship between the characteristics of the board of directors combined and earnings management in Jordanian industrial companies listed on Amman Stock Exchange. The reason for this is due to the important role of the characteristics of the board of directors in protecting and ensuring the rights of shareholders and all stakeholders related to the company's activities, through control and supervision over the performance of the company's management which is one of the mechanisms governing the performance of managers by controlling their performance to reduce undesirable behavior so that the company's strategies that aim to maximize profits can be developed. The ownership of shares by board members helps to reduce conflicts of interest between owners and managers, when the board of director members' ownership of the company's shares increases, this will improve the company's management and reduce earnings management phenomenon by reducing agency costs. The study recommended that the competent bodies and boards of directors of public shareholding companies should pay more attention to the development of more

legislation that deals with earnings quality by reducing earnings management practices, and ensuring deterrent penalties for manipulation and misrepresentation in the financial statements, limiting the use of illegal techniques and attracting investors. The government supervisory bodies and organizations should play a greater role to raise the level of application of the rules of governance, especially related to the characteristics of the board of directors such as the financial expertise of the board of directors members and number of board of directors in a manner consistent with the provisions and laws and adherence to them because of their impacts in reducing earnings management.

References

- Abdi, Naima (2017), The Effect of Ownership Structure on Achieving Effectiveness of Corporate Governance, Unpublished Master Thesis, University of Kasbi Merbah-Ouargla, Algeria.
- Abu Al-Haj, H. (2013). The effect of implementing corporate governance on increasing the competitiveness of Jordanian industrial companies listed on Amman Stock Exchange. Unpublished Master Thesis, Middle East University, Amman, Jordan.
- Al-Anati, R. (2016). The impact of ownership structure and corporate characteristics on earnings quality: An empirical study on Jordanian insurance sector. *Zarqa Journal for Research and Humanities*, 17(1), 1-16.
- Alsultan, A. (2017). Audit Quality, IPOs and Earnings Management: Evidence from Saudi Arabia, Unpublished PhD thesis, University of Portsmouth, Portsmouth, UK.
- Anderson, J. C., & Narus, J. A. (2003). Selectively pursuing more of your customer's business. *MIT Sloan Management Review*, 44(3), 42.
- Bhattacharya, U., & Ravikumar, B. (2001). Capital markets and the evolution of family businesses. *The Journal of Business*, 74(2), 187-219.
- Dechow, P., Sloan, R., & Sweeney, A. (1995). Detecting earnings management. *The Accounting Review*, 70(2), 193-225
- Fan, J. & Wong T. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics*, 33, 401-425.
- Hamad, M., & Fadil, M. (2014). Corporate governance and its role in limiting earnings management: An empirical study of the case of Iraq, Al-Qadisiya. *Journal for Administrative and Economic Sciences*, 17(3).
- Hamdan, A., Al-Sareea, A., & Alaswa, M. (2016). Ownership structure of companies listed in Bahrain bourse and its role in reducing agency costs. *Unpublished Master Thesis*, Al-Ahliyya University, Manama, Bahrain.
- Joh, S. (2002). Control, Ownership and Firm Performance: The Case of Korea. *Working Paper*, Corea Development Institute.
- Mamsah, B. (2018), The impact of ownership structure on the financial performance of listed companies in Palestine Stock Exchange. Unpublished Master Thesis, Islamic University, Gaza, Palestine.
- Nour, A.N., & Al-Awawdeh, H. (2017). Earnings management and its impact on the quality of accounting earnings: An empirical study on Jordanian industrial public shareholding companies. *Jordan Journal of Business Administration*, 13(2), 38-69.
- Pivovarsky, A. (2003). Ownership Concentration and Performance in Ukraine's Privatized Enterprises. *IMF Staff Papers*, 50 (1), 10-42.
- Sanda, A. U., Mikailu, A. S., & Garba, T. (2005). Corporate governance mechanisms and firm financial performance in Nigeria.
- Schreiber-Gregory, D., & Jackson, H. (2017), Multicollinearity: What is it, Why Should we Care, and how can it be Controlled, Working Paper, 1-12.
- Siam, M. (2014). The relationship between corporate governance and earnings quality: An applied study on Industrial Companies Listed in Palestine Stock Exchange. Unpublished Master Thesis, Islamic University, Gaza, Palestine.
- Tarif, A. (2017). Impact of board of directors characteristics on financial performance: An applied study on industrial and service companies listed in Amman Stock Exchange. Unpublished Master Thesis, University of Jordan, Amman, Jordan.



© 2020 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).