

# THE EFFECT OF FAMILY OWNERSHIP AND BOARD CHARACTERISTICS ON EARNINGS MANAGEMENT: EVIDENCE FROM JORDAN

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## ABSTRACT

*This study examines the effect of family ownership and board characteristics on Earnings Management (EM) in Jordan. This study combines the explanation provided in Agency Theory (Type II) and Socio-Emotional Wealth Theory (SEW) in order to understand how family firms are motivated for EM practices. This study also investigates the effect of board size, CEO duality and board education on EM practices. Using Modified Jones Model (1991), a sample of 43 Jordanian industrial firms listed in Amman Stock Exchange (ASE) with a total of (258) firm-year observations for the period from 2011-2016 reveals a significant positive association between family ownership and EM but no evidence is found to support that board size, CEO duality and board education have an impact on EM decisions.*

**Keywords:** Earnings Management, Family Ownership, Board Characteristics, Socio-Emotional Wealth Theory, Modified Jones Model, Jordan.

## INTRODUCTION

The recent decade has shown solicitude among researchers regarding Earnings Management (EM) (Fama, 1980; Wang, 2006; Chen et al., 2006; Ali et al., 2007; Abdul Hamid et al., 2014; Gonzalez and Garcia-Meca, 2014; Daghshni et al., 2016; Obigbemi et al., 2016). The factors that affect EM decision were forked and subjected to extensive investigations. This in turn enriched this topic as many identified factors had consensus results in literature. However, other factors generated a perplexing findings with little consensus which requires a more narrow focus on these factors. The impact of Family ownership on EM decisions represents an important example for the aforementioned problem, as recent evidences suggest that non-family firms are more prompted to be involved in EM practices compared to family firms (Wang, 2006; Ali et al., 2007; Tong, 2007; Prencipe et al., 2008; Jiraporn and Dadalt, 2009; Cascino et al., 2010; Li and Hung, 2013; Ferramosca & Ghio, 2018). However, some counter evidences suggest that under special circumstances, this difference may dissolve and family firms' incentive to EM may become similar if not exceeding those of non-family. An interesting explanation provided by Stockmans et al. (2010) and supported by Achleitner et al. (2014); Gomez-Mejia et al. (2014) and Paiva et al. (2016) suggested that when family firms are investigated, the Agency Theory (Type II) may provide partial explanation for family firms practicing EM. They suggested that the Socio-Emotional Wealth Theory (SEW) can enhance our understanding of the reasons why family firms are practicing EM. For example, family firms were found to be motivated for EM practice during financial crises (Vieira, 2016) and for debt covenant and leverage-related reasons (Prencipe et al., 2008: 2011) when these two factors have major effect on retaining trans-generational control of the family. Hence, SEW Theory combined with Agency Theory (Type II)

may justify previous differences found in literature when testing family firms and EM. This study expects that Jordan is a suitable case for testing EM in family firms as the country is now under heavy economic pressure and on the verge of recession. Therefore, the first objective of this study is to investigate the effect of family ownership on EM in Jordanian industrial sector.

The second objective of this study is to examine the effect of board characteristics (board size, CEO duality and board education) on EM. Previous studies showed various results when testing those factors (Azzoz and Khamees, 2016; Atwa, 2016; Xiong, 2016). Thus, this study expands its findings by considering the recent economic challenges and whether the board characteristics will affect EM decision in Jordanian firms.

This study focuses on these two issues by including industrial firms listed in Amman Stock Exchange (ASE) for the period from 2011-2016. The sample selection was based on the latest data issued by (ASE) prior to publication. The study sample consisted of 43 firms representing around 86% of Jordanian Industrial sector and total of (258) firm-year observations. This study adopts Modified Jones Model (1991) proposed by Dechow et al. (1995) to obtain a proxy for discretionary accruals. Findings were generated by using Stata version 12, suggested that Jordanian family firms are practicing EM. This study suggests that due to the economic struggle in Jordan, family firms are more motivated to practice EM. Moreover, this study shows that none of the board characteristics are correlated with EM which is consistent with previous finding (Azzoz and Khamees, 2016; Abed et al., 2012; Johari et al., 2009).

The remainder of this paper is structured as follows. Section 2 provides the literature review and develops hypotheses of the study. Section 3 presents the methodology of the study and describes the data. Section 4 discusses the results and section 5 summarizes and concludes this study and provides recommendations and suggestions for future researches.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Earnings Management

EM can be defined as a deliberate intervention in the financial reporting and the transactional structure to obtain some private gains that could mislead stockholders and affect contractual outcomes which rely on those reports (Schipper, 1989; Healy and Wahlen, 1999). EM can be achieved through cutting expenditures or carrying out special transactions to manipulate accruals that have not been translated into cash-flow (Prencipe et al., 2008), such as provisions for risks and charges, cost capitalization, impairment of assets, depreciation and amortization expenses (Nelson et al., 2003). In addition, EM can be achieved by taking advantages of the flexibility offered by regulations and accounting standards (Abuaddous et al., 2014).

The motives for EM are usually triggered by the following reasons: Firstly, violating covenants based on profitability may lead to cancellation or renegotiation of debt. Thus, showing a healthy business through manipulating accounting numbers and ratio provides an opportunity for EM (DeFond & Jiambalvo, 1994; Jaggi & Lee, 2002; Prencipe et al., 2008; Abbadi et al., 2016; Makhaiel & Sherer, 2017). Secondly, maximizing managers' compensation is another direct motive for EM when it is related to profit results. Managers are motivated to be involved in earnings reduction when their target's limit is over or under expectation and vice versa when earnings are in between the limits (Healy, 1985). Finally, the firms' motive to avoid earnings' fluctuation (positive or negative) in reporting, can be referred to the belief that stock market appreciates a seamless flow of earnings and avoids signs of earnings declines (Dechow and Skinner, 2000; Lassoued et al., 2017; Makhaiel & Sherer, 2017). Therefore, income

smoothing can be practiced by managers to stabilize performance over the years (Wu et al., 2015; Vieira, 2016).

## Family Firms

Family businesses represent one of the oldest and most crucial forms of businesses (Chrisman et al., 2005). In Jordan, family firms form more than (40%) of the overall firms listed in Amman Stock Exchange (ASE) and it is an essential part of the country's economic growth and workforce employment (Bataineh, 2016). Hence, the significant impact of this economic structure in Jordanian market triggered the needs for studies that aim to understand the impact of such structures. Alzoubi (2016) increased the need to find a more harmonized definition for these firms on one hand, and to further investigate their role in the intended economic reformation plan on the other hand. In this essence, this study focuses on two types of events that may indicate an EM in Jordan market. Firstly, the role of family firms in EM which will be covered in this section. Secondly, the role of board structure in EM which will be covered in later sections.

Chrisman et al. (2005) reviewed prior studies and found that family firms definition is usually based on their operational nature and fragmented with each focusing on some combination of the components of a family's involvement in the business (the components-of-involvement approach). However, they argued that these definitions may suffer in terms of theoretical justification about why and how the defined components are matters. To overcome this issue, other study relied on the essence approach which relied on a theoretical base such as; family's influence over the strategic direction, family to keep control, family firm behavior, and the unique, inseparable, synergistic resources and capabilities arising from family involvement. Recently, these two approaches have started to converge due to the adoption of other theories such as agency theory, resource-based view theory and more recently the socio-emotional wealth theory.

This harmony between these approaches was noted in the new studies which showed a consensus in many aspects of family firms' characteristics. However, some differentiation was also detected and was well explained by Martin-Reyna and Duran-Encalada (2012) who argued that family firms' practices are subject to change depending on the legal and cultural nature that varies across countries. However, this differentiation tends to be smaller in developed countries when compared to developing countries. For example, a study from Germany by Achleitner et al. (2014) stated two fundamental criteria for distinguishing family firms. Firstly, a 25% or above of the firms' shares should be owned by the family. Secondly, the family should be committed to the firm for a long period and withholding 50% voting rights or above. In Portugal's context, Vieira (2016) distinguished family firms based on the ownership per capital, the control percentage and the number of family members holding managerial positions. Prencipe et al. (2011) concluded that Italian family firms are conditioned by the following two main criteria. The first is to have at least 50% of direct or indirect ownership of the equity capital. The second is that the control of strategic decisions is practiced by the family regardless of their capital share. The USA's family firms structure was described by Anderson and Reeb (2003) who identified them by the fractional equity ownership of the founding family and (or) the presence of family members on the board of directors to identify family firms.

On the other hand, when observing other studies from developing countries the method of classification is also sharing many aspects but it also tends to be more specific. For example, Martin-Reyna and Duran-Encalada (2012) identified Mexican family firms based on the high ownership per capital and/or firms with direct or indirect control of large number of corporations. Latif et al. (2014) argued that Pakistanis' family firms should meet three criteria.

First, the founder is the CEO or successor is related by blood or marriage. Second, there are at least two family members in the management. Third, family directors have ownership of minimum 20% in the firm. In Taiwan, Li and Hung (2013) relied on similar criteria to Achleitner et al. (2014) but reduced the percentage of shares owned by the family from 25% to 10% or above. Teh et al. (2017) argued that the equity ownership of controlling family, involvement of controlling family in board of directors, direct and indirect ownership of the controlling family are the main characteristics of determining Malaysian family firms.

In general, current studies show stability in defining the essence factors of family firms, but tend to be more specific when defining family firms based on the components-of-involvement approach especially in developing countries. There are three potential explanations for this uniqueness. First, there is a weak functioning market in developing countries that demands a wider observation by researchers such as corporate governance functionality, audit committee, external audit and so on. Second, there is a fragile set of rules to protect investors and ineffective governance system to deal with events such as hostile takeovers, mergers and acquisition markets (Li and Hung, 2013). Third, the concept of family itself tends to be looser in developing countries, especially those who are classified as tribal societies such as Jordan.

### **Family Firms and EM**

It is well noted that prior studies on family firms and EM relied upon the agency theory (Wang, 2006; Ali et al., 2007; Jiraporn and DaDalt, 2009; Prencipe et al., 2011; Cascino et al., 2010) and other complementary theories such as stewardship theory (Prencipe et al., 2011; 2008; Li and Hung, 2013).

Paiva et al. (2016) reviewed prior literature and concluded that agency problem (Type II) provides better explanation for family firms EM than (Type I). They explained that under agency problem (Type II), the manager-owner in family firms has a bigger motive to confiscate minority interest compared to non-family firms. While agency problem (Type I) has more potential to appear in non-family firms due to divergence between management and owner interests. Paiva et al. (2016) also noted that in developing countries, agency problem (Type II) tends to be more aggressive due to the fragile structure of corporate governance which allows the founding family to privately gain from minority shareholder.

More recent studies have begun to focus on the Socio-Emotional Wealth Theory (SEW) to explain EM in family firm (Achleitner et al., 2014; Gomez-Mejia et al., 2014). SEW speculates that the owning family would accept below-target financial performance in order to conserve its SEW for next generation. Therefore, the SEW theory can provide a different view on why family businesses will practice EM rather than only focusing on agency theory. Consequently, family firms' motive for EM will vary than those of other ownership structures. For example, managers in family firms are less likely to engage in EM actions that consume real resources in the long run (Achleitner et al., 2014). Their risk policy is more targeted toward preserving control of the family firm in the long run despite their current financial performance. Thus, short-term financial performance may not be tempting for EM, as they focus toward increasing long-term wealth. This argument may explain the results of prior literature that income smoothing and earnings manipulation were notably higher in non-family businesses when compared to family firms (Wang, 2006; Ali et al., 2007; Tong, 2007; Prencipe et al., 2008; Jiraporn and Dadalt, 2009; Cascino et al., 2010; Li and Hung, 2013). Family firms are also very interested in positive image and reputation through corporate social responsibility and community citizenship (Berrone et al., 2010; Craig & Dibrell, 2006). Therefore, there is no wonder that EM was found to be less likely to occur in family firms compared to those of

different structures. However, it is worth noting that when this event is detected, other factors should be taken into consideration.

Family firms are heavily influenced by emotional events such as succession, divorce, illness and economic downturns (Gersick et al., 1997; Dunn, 1999; Shepherd et al., 2009). Hence, when family firms encounter a situation that increases the risk of losing their business, the emotional attachment to family heritage may result in more aggressive and/or risky decisions. In fact, EM behavior in family firms was noted in similar types of situations such as in Achleitner et al. (2014) who found that German family firms use EM activities strategically by avoiding those that inhibit the firms' long-term value and engage in those that help families retain trans-generational control. In addition, Principe et al. (2008: 2011) argued that Italian family firms are similarly motivated to engage in EM for debt covenant and leverage-related reasons, when compared to non-family firms. Vieira (2016) also noted that family firms are motivated for EM practice through discretionary accruals in crisis periods. Therefore, the motivation but not the act itself for EM may vary between family and non-family businesses.

Consistent with this conditional effect about the appearance of EM in family firms, the study suggests the following hypothesis:

*H1: There is an association between family ownership and earnings management in Jordanian industrial listed firms.*

## **Board Characteristics and EM**

The role of board structure in EM is another important aspect that is considered in the current study. Prior literature showed evidence that board size (Fama, 1980; Chen et al., 2006; Abdul Hamid et al., 2014; Gonzalez and Garcia-Meca, 2014; Daghsni et al., 2016; Obigbemi et al., 2016) CEO duality (Jensen, 1993; Weir et al., 2002; Azzoz and Khamees, 2016) and board education (Johari et al., 2009; Xiong, 2016) have all influenced EM practice in firms regardless of their type. Therefore, this study also aims to investigate the existence of such phenomena in Jordanian industrial sector on one hand and to investigate whether family firms in Jordan are subjected to similar factors in case of EM signs appear on the other hand. The following sections identify each factor and generate the hypothesis.

### **Board Size**

Literature relating to the board size and its relation to EM showed an existing three views. The first is the widely agreed explanation that the larger the size of the board the less likely the EM (Fama, 1980; Chen et al., 2006; Abdul Hamid et al., 2014; Gonzalez and Garcia-Meca, 2014; Daghsni et al., 2016; Obigbemi et al., 2016). In fact, even across countries analysis conducted by Abdul Hamid et al. (2014) showed a consensus that developing and developed countries shared this similar view. Daghsni et al. (2016) argued that large board is more able to control and mitigate EM. In addition, large board size will have more diverse view about the organization which improves monitoring. Chen et al. (2006) also argued that larger Board will result in a fewer manipulative practices in companies. However, other studies argued that the board size should not be very large to limit practicing decisions nor too small to allow for EM (Fama, 1980). The second view reached the opposite conclusion that more members in the board lead to increase the chances for EM. One interested explanation is that when low separation between ownership and control exists, the large size of board decreases monitoring ability and establishes a higher level of remuneration and manipulates the results of companies for the benefits of the board (Fernandez et al., 1997; Core et al., 1999; Thomsen, 2008; Gonzalez and

Garcia-Meca, 2014). The third and final view showed no relation between board size and EM (Sukeecheep et al., 2013; Jamaludina et al., 2015; Azzoz and Khamees, 2016). Azzoz and Khamees (2016) analyzed 73 Jordanian firms covering the period between 2007-2012 to investigate EM. Their results indicated no relation between board size and EM. In fact, they went to recommend that the board of directors should be reduced in order to enhance decision making process. These perplexing results regarding the role of board size in EM is intended to be answered in this study by suggesting the following hypothesis:

*H2: There is an association between board size and earnings management in Jordanian industrial listed firms.*

### **CEO Duality**

The role of chairman should be dissociated from the CEO role, by merging these two crucial positions in one is called duality. The chairman is responsible for an effective operational board where each member carries out his or her responsibility while the CEO ensures the effectiveness of the day-to-day operation activities of the firm. Although some studies expected that CEO duality could be beneficial through better understanding and knowledge over the firm (Weir et al., 2002) as well as, the explanation provided by the stewardship theory that CEO duality improves performance due to the compensation-performance relation, these explanations did not accumulate sufficient evidence in prior literature. In fact, prior studies argued that when these two positions are possessed by one person, the excessive power may enable for manipulating income (Abdul Hamid et al., 2014), hindering effective monitoring (Jensen, 1993), and violations of accounting standards (Dechow et al., 1995). Hence, many studies found a positive impact of CEO duality and EM (Abdul Hamid et al., 2014; Daghsni et al., 2016; Obigbemi et al., 2016).

In Jordanian context, two previous studies conducted by Azzoz and Khamees (2016) and Abed et al. (2012) did not capture a positive impact of CEO duality and EM. Leading them to conclude that CEO duality in Jordanian firms does not increase the intention for EM. In addition, Atwa (2016) found that CEO duality in Jordanian firms is negatively associated with EM. She explained that holders of both positions are motivated to avoid jeopardizing their position by prohibiting EM practice in their firms. Therefore, this study speculates the following:

*H3: There is an association between CEO duality and earnings management in Jordanian industrial listed firms.*

### **Board Education**

Board education is expected to affect the value of decision making in firms. Board which includes members with high education is believed to acquire better cognitive skills to handle the complexity of the firm (e.g. analyzing accounting information and recognizing patterns) as well as dealing with tasks related to innovation and information processing capability (Winters and Latham, 1996). Therefore, decisions regarding EM and creative accounting necessitate a professional judgment that is able to understand the risk-reward relation for such decision. On the other hand, when boards are equipped with better education, they are more able to detect and block EM behavior in their firms. Xiong (2016) found a negative relation between EM and board education, while such relation was undetected by Johari et al. (2009). Therefore, this study is intended to investigate the role of board education in EM practice by speculating the following:

*H4: There is an association between board education and earnings management in Jordanian industrial listed firms.*

## METHODOLOGY

### Sample Selection

The population consists of all industrial firms listed in Amman Stock Exchange (ASE) for the period from 2011 to 2016. Jordan's industrial sector plays a key role in its economy; it serves as a driving force for economic development and job creation. Thus, it is essential to consider earnings management characteristics in this sector to improve the transparency and credibility of earnings reported, and accordingly enhance investors' capacity to identify the fair value. The selection of the sample considers the most recent data available prior to publication. The total number of industrial firms listed at the year's end of 2016 is 50 firms. These firms fall under (10) sub-industrial sectors namely: Pharmaceutical and Medical Industries, Chemical Industries, Paper and Cardboard Industry, Printing and Packaging Industry, Food and Beverages Industry, Tobacco and Cigarettes Industry, Mining and Extraction Industries, Engineering and Construction industries, Electrical Industries, Textiles, Leathers and Clothing industries. Due to the lack of annual reports and insufficient financial data, 7 firms were excluded from the analysis. Thus, the total number of firms included in the analysis is 43 which represent around 86% of Jordanian Industrial sector. The financial sector firms were also excluded from the analysis due to their distinctive working capital structures (Abed et al., 2012; Davidson et al., 2005; Klein, 2002). All the data related to board characteristics variables are collected from the annual reports of the sampled firms. Financial data are collected from Amman Stock Exchange (ASE) database.

### Variables Measurement

#### Dependent variable: earnings management

Prior studies have developed a number of tests for EM. In the current study, accounting accruals approach is used to measure EM. Accruals include a wide range of EM techniques available to managers when preparing financial statements, such as accounting policy choices, and accounting estimates (Fields et al., 2001; Hsu and Koh, 2005). Accounting accruals are the difference between earnings and cash flows from operating activities.

Prior studies assumed that high level discretionary accruals indicate that firms practice EM. Therefore, prior attempts split accruals into discretionary and non-discretionary components. Discretionary accruals are extensively used to demonstrate that managers transfer their accounting earnings from one period to another. Non-discretionary accruals reflect non-manipulated accounting accruals items as they are out of managers' control.

This study uses the Modified Jones Model (1991) proposed by Dechow et al. (1995) to obtain a proxy for discretionary accruals which has been used in other studies such as Xie et al. (2003); Gonzalez and Garcia-Meca (2014); Abbadi et al. (2016); and Jara-Bertin and Sepulveda (2016). Consistent with Reynolds and Francis (2000) and Chen et al. (2011) we use absolute discretionary accruals (DACC) as it appears to best reflect the consequences of managerial earnings manipulation. Al Thuneibat et al. (2016); Abed et al. (2012); Dechow et al. (1995); and Guay et al. (1996) stated that Modified Jones Model is the best model to estimate discretionary accruals. Therefore, this study measured the discretionary accruals as illustrated below:

Equation 1: Total accruals as previously mentioned is the difference between earnings and cash flows from operating activities

$$TACC_{it} = NI_{it} - OCF_{it} \dots \dots \dots (1)$$

Equation 2: Equation below is estimated for each firm and fiscal year combination:

$$TACC_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 (\Delta REV_{it} - \Delta REC_{it})/A_{it-1} + \alpha_3 (PPE_{it}/A_{it-1}) + e \dots \dots (2)$$

Equation 3: Non-discretionary accruals are measured for each year and fiscal year combination using the equation as follows:

$$NDTACC_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 (\Delta REV_{it} - \Delta REC_{it}) + \alpha_3 PPE_{it} + e \dots \dots (3)$$

Equation 4: The Difference between total accruals and the non-discretionary components of accruals is considered as discretionary accruals (DACC) as stated in equation as follows:

$$DACC_{it} = TACC_{it} - NDTACC_{it} \dots \dots \dots (4)$$

Where:

$TACC_{it}$  = total accruals for firm i in year t

$NI_{it}$  = net income before extraordinary items for firm i in year t

$OCF_{it}$  = operating cash flows for firm i in year t.

$A_{it-1}$  = previous yr total assets for firm i

$\Delta REV_{it}$  = change in operating revenues for firm i in year t

$\Delta REC_{it}$  = change in net receivables for firm i in year t

$PPE_{it}$  = gross property, plant and equipment for firm i in year t.

$NDTACC_{it}$  = non-discretionary accruals for firm i in year t

$DACC_{it}$  = discretionary accruals for firm i in year t

$\alpha_1 - \alpha_3$  = regression parameters.

e = error term.

## Independent Variables

### Family ownership (FOW)

This study discussed family firms' characteristics and the way it defined in various studies based on the uniqueness setting for the country under scrutiny. Therefore, family firm in Jordan is defined as a firm where the family holds minimum of 20% of the firm's capital, or the presence of two or more members of the same family on the board at least one of them is a president or vice president of the board, or there are two or more family members in top management each owns 5% or more of the firm's capital. This variable is included as dummy variable, and coded as 1 if it's a family firm, 0 otherwise.

### Board size (BSIZE)

Board size includes number of directors serving on board of firm.

### CEO duality (DUAL)



CEO duality is defined as chairman and CEO role are being held by same individual. This variable is included as dummy variable, and coded as 1 if there is a duality, 0 otherwise.

### **Board education (BEDU)**

Board Education is defined as percentage of directors with degree to total number of directors on the board.

### **Control variables**

This study focuses on the effect of family's ownership and board characteristics on EM. Variables such as (Firm size, Firm profitability, Firm age, and Financial Leverage) shown to influence EM. Therefore, this study intends to control these variables for the purpose of testing the suggested hypotheses.

### **Firm size (FSIZE)**

Different opinions were found in previous literature regarding the effect of firm size on EM. Some studies suggested that firms' size negatively impacts EM (Kim et al., 2003; Goodwin-Stewart and Kent, 2006; Prior et al., 2008; Gonzalez & Garcia-Meca, 2014; Capalbo et al., 2014). Large firms usually have strong internal control systems and governance mechanisms, subject to heavy monitoring and auditing from large CPA firms, and consider their reputational risk when compared to small firms. Other studies contrasted the prior argument by suggesting that large firms manage their earnings more as compared to the small ones, because large firms face more pressure from investors and financial analysts to show positive or an increase in earnings (Burgstahler and Dichev, 1997; Barton and Simko, 2002; Ali et al., 2015)

### **Firm profitability (FPRO)**

Prior studies linked firm's profitability with EM practices (Klein, 2002; Bedard et al., 2004; Ali et al., 2007; Kalyta, 2009; Capalbo et al., 2014; Abbadi et al. 2016). Results suggested that firms with high level of profitability are less likely to engage in EM. In addition, Bartov et al. (2000) argued that the incentive to practice EM is greater among firms that are suffering from financial difficulties and poor performance.

### **Firm age (FAGE)**

Previous studies indicated that firm's age has a significant effect on EM. Firms that have been in the market for long times have fewer tendencies to perform EM practices. On the other hand, startup and beginner firms found to engage more in EM practice (Akhtaruddin 2005; Bassiouny, 2016). In addition, Stockmans et al. (2010) argued that primary owners are rigorously involved in EM compared to later generations.

### **Financial leverage (FLEVE)**

Firms with high financial leverage are subjected to excessive risk. Consequently, these companies have the incentive to engage in EM to prevent violation of debt covenants (Watts & Zimmerman, 1986; Dechow et al., 1995; Bartov et al., 2000; Balsam et al., 2003; Abbadi et al.

2016). In contrast, (Ardison et al., 2013) argued that leverage increases constrain the opportunistic behavior of managers because they are under scrutiny of Lenders.

### Empirical Model

In order to achieve the objective of the study of examining the effect of family's ownership and board characteristics on EM, the empirical form of the model is set out below:

$$|DACC_{it}| = \beta_0 + \beta_1 FOW_{it} + \beta_2 BSIZE_{it} + \beta_3 DUAL_{it} + \beta_4 BEDU_{it} + \beta_5 FSIZE_{it} + \beta_6 FPRO_{it} + \beta_7 FAGE_{it} + \beta_8 FLEVE_{it} + \epsilon_t$$

Where:

$\beta_0$ : intercept;  $\beta_1$ - $\beta_8$ : represent the coefficients of regression model.

|DACC<sub>it</sub>|: the absolute value of discretionary accruals for firms i in year t.

FOW<sub>it</sub>: family ownership for firm i in year t

BFSIZE<sub>it</sub>: the board size for firm i in year t.

DUAL<sub>it</sub>: CEO duality for firm i in year t.

BEDU<sub>it</sub>: the board education for firm i in year t.

FSIZE<sub>it</sub>: the size of firm i in year t.

FPRO<sub>it</sub>: the profitability of firm i in year t.

FAGE<sub>it</sub>: the age of firm i in year t.

FLEVE<sub>it</sub>: the financial leverage for firm i in year t.

## RESULTS AND DISCUSSION

### Descriptive Results

Table 1 exhibits the results of descriptive statistics for dependent variable (EM), the magnitude of absolute value of EM in the sample has a mean 0.082 with standard deviation of 0.0686 and ranges from 0.00034 to 0.7487. This provides evidence that Jordanian industrial firms manipulate their results by using the flexibility allowed by the regulations and accounting standards in order to reach specific benchmarks in the level of their reported earnings.

Variable	No. of observations	Mean	Std. Dev	Minimum	Maximum
DACC	258	0.082	0.0686	0.00034	0.7487

Table 2 shows the result of descriptive statistics for continuous independent variables and control variables used in analysis. Thus, with respect to the board characteristics variables it can be seen that on average the number of board size is 7.76 members. However, the number of board size ranges from 5 members to 13 members, and on average 95% of board directors do have a degree qualifications, which implies that Jordanian industrial firms follow the Jordanian corporate governance codes which recommends that board members should be ranged from 5 to 13 members and should be qualified and have adequate knowledge and experience. Furthermore; the average of firm size is JD 80,940,107 with a minimum of JD 394,795 and maximum of JD 1,223,269,000. Firm profitability is measured by ROA which varies from -195.2% to 38.3% with an average of 1%. The majority of Jordanian industrial firms have experience of 25.4 years on the market and there are firms that have survived and continued to do business for 65 years.

Finally the financial leverage of these firms varies from 0.0039 to 1 with an average of 0.347 which implies that the firms depend on other means to finance their operations.

Variable	Number of observations	Mean	Std. Dev	Minimum	Maximum
Board Size	258	7.76	2.12	5	13
Board Education	258	0.948	0.101	0.55	1
Firm Size	258	80,940,107	221,300,350	394,795	1,223,269,000
Firm Profitability	258	1	15.9	-195.2	38.3
Firm Age	258	25.40	15.95	3	65
Financial Leverage	258	0.347	0.197	0.0039	1

Regarding discrete independent variables, Table 3 shows that 63.8% of study sample are family controlled firms, suggesting that family enterprises are the dominant form of business organization in Jordanian industrial sector. Also the results show that only 14.7% of the study sample has not separated the role of chairman and CEO on the board.

Variable	Frequency	Percentage of Frequency
Family Ownership	258	0.638
CEO Duality	258	0.147

## Empirical Results and Discussion

This section describes and discusses the results of the test for the suggested four hypotheses. We begin with summarizing the results of the correlation matrix for the key variables shown in Table 4 and describing the results of the Multivariate analysis for the effect of the key variables on EM furnished in Table 5.

As shown in Table 4, the correlation matrix among the study variables where all found below 0.8. In addition, the results of VIF test shown in Table 5 indicate that the highest value was 1.27. Therefore, signs for multicollinearity problem were not detected, since the value of the VIF below 10 (Gujarati, 2004).

	DACC	Family Ownership	CEO Duality	Board size	Board education	Firm size	Firm profitability	Firm Age	Financial Leverage
DACC	1								
Family ownership	0.1080	1							
CEO Duality	0.0156	0.1237	1						
Board size	-0.0929	-0.2749	0.0433	1					
Board education	-0.0471	-0.1535	0.1131	-0.0295	1				
Firm size	-0.1260	-0.3648	-0.0995	0.3466	0.1473	1			
Firm profitability	-0.2367	-0.0198	0.1512	-0.0245	-0.0164	0.1414	1		
Firm Age	0.0127	-0.1949	-0.0053	0.0682	0.0819	0.4851	-0.0309	1	
Financial Leverage	0.1270	0.0682	-0.0921	-0.0586	0.1584	0.0403	-0.1240	0.1149	1

Table 5 shows the results of the estimation model investigating the impact of family ownership and board characteristics on the EM. The estimation adjusted R<sup>2</sup> is 0.49; this means that variables that affect the EM can explain 0.49 of its variation. The F-statistics is (F-test value=32.38; p-value=0.000) which indicates that the model is statistically fit.

Results indicate a statistically significant positive association between family ownership and EM at a conventional level ( $\beta=0.024$ ;  $p<0.05$ ). This suggests that family firms are more likely to manipulate earnings. Moreover, our results do not support that other board characteristics (Board size, CEO duality and Board education) can influence EM practices, the coefficients of the board characteristics are not significant at any conventional level.

Control variables show that the coefficient of the firm's profitability is negative and statistically significant ( $\beta=-0.11$ ;  $p<0.01$ ). Thus, when firms increase their profitability, the firm's managers are less likely to manipulate earnings. On the other hand, firm's financial leverage has significant positive impact on EM ( $\beta=0.047$ ;  $p<0.10$ ). However, other control variables, firm size and firm age show no impact on EM.

Coefficient estimate	Coefficient	T-statistics	P-value	VIF
Family ownership	0.024**	2.07	0.040	1.27
Board Size	0.0002	0.08	0.938	1.24
CEO Duality	0.008	0.57	0.571	1.11
Board education	0.076	1.51	0.133	1.15
Firm size	-0.0019	-0.57	0.572	1.24
Firm Profitability	-0.116***	-3.25	0.001	1.23
Firm Age	0.0002	0.63	0.529	1.07
Financial Leverage	0.0475*	1.68	0.094	1.14
Adjusted R <sup>2</sup>	0.49			
Model F-test	32.38***	P-value=0.000		
No. of observations	258			
DACC is the dependent variable; t-statistics in brackets. *** significant at 1%; ** significant at 5%; * significant at 10%.				

The first hypothesis speculates an association between family ownership and EM. In this sense, our results confirm a significant positive association that has been detected in similar studies (Achleitner et al., 2014; Vieira, 2016: 2018; Principe et al., 2011: 2008). The aforementioned section in this study concludes that family firms' strategy towards EM can be explained through two main theories, namely (Agency Theory Type II and Socio-emotional Wealth Theory) both theories predict under what circumstances family firms tend to practice EM, but both theories differ in term of the motivation for such act. Agency Theory (Type II) speculates that manager-owner in family firms has a bigger motive to confiscate minority interest compared to non-family firms. While SEW speculates that when family firms encounter a situation that increases the risk of losing their business, the emotional attachment to family heritage may result in more aggressive and/or risky decisions. This study leans on SEW explanation regarding family firms in Jordanian industrial sector for the following two reasons. First, we found that the industrial sector in general suffers in term of growth. Abbadi et al. (2016) found an average profitability of 2.35% for this sector; this study noted a decline in profit from 2.35% to 1% which shows a stressful time for these firms. Moreover, the instable political environment caused by the Arab spring directly impacted this sector through cutting the commercial routes and increasing its costs. This argument is supported by Vieira (2016) who noted that during crisis periods, the discretionary accruals of family firms are significantly

influenced. Second, this study found a significant positive association between financial leverage and EM which indicates that firms have the incentive to engage in EM to prevent violation of debt covenants. In fact, our results match those of Principe et al. (2011: 2008) who argued that family firms are similarly motivated to engage in EM for debt covenant and leverage-related reasons, when compared to non-family firms. These results also support the SEW explanation that family firms are motivated to avoid situations that may jeopardize their control over the firm through EM.

Unlike our expectation, this study has not captured any significant correlation between EM and board characteristics (Board size, CEO duality and Board education). The second hypothesis speculates an association between board size and EM. However, our findings reject this correlation at ( $\beta=.0002$ ;  $p<0.938$ ), indicating that board size in Jordanian industrial sector does not affect EM. Our results contradict the general claim that a negative association exists between board size and EM (Fama, 1980; Chen et al., 2006; Abdul Hamid et al., 2014; Gonzalez and Garcia-Meca, 2014; Daghsni et al., 2016; Obigbemi et al., 2016). However, some other studies agreed upon the lack of such relationship (Sukeecheep et al., 2013; Jamaludina et al., 2015; Azzoz and Khamees, 2016). In Jordanian context, we support Azzoz and Khamees (2016) findings that board size does not affect EM.

The third hypothesis suggests an association between CEO duality and EM. Such correlation was rejected at ( $\beta=0.008$ ;  $p<0.571$ ), indicating that CEO duality in Jordanian industrial sector does not affect EM. Our results contradict those of (Abdul Hamid et al., 2014; Daghsni et al., 2016; Obigbemi et al., 2016) who found a positive relation between CEO duality and EM. However, Azzoz and Khamees (2016) and Abed et al. (2012) supported our finding that CEO duality does not impact earnings EM decision in Jordan.

The fourth and final hypothesis proposes an association between board education and EM. Previous literatures indicated a negative association (Xiong, 2016) and no association (Johari et al. 2009). Our results match Johari et al. (2009) as we find no significant relation between board education and EM at ( $\beta=0.076$ ;  $p<0.133$ ). This indicates that board education does not play a significant role in EM decisions in Jordanian firms.

## **CONCLUSIONS, RECOMMENDATIONS, AND FUTURE STUDIES**

The first objective of this study is to investigate the effect of family ownership on EM in Jordanian industrial sector. The results document a significant positive association that has been detected in similar studies (Achleitner et al., 2014; Vieira, 2016: 2018; Principe et al., 2011, 2008). The study relied on the explanation provided in the agency theory type II and SEW. The results suggest that family firms in Jordan are practicing EM which is motivated by the notable economic challenges facing the country since the beginning of Arab Spring. Moreover, the observed association between EM and profitability reinforces the prediction that family firms in Jordan may resort to creative accounting to encounter profitability decrease in recent years. Such act may also indicate that family firms have concerns in retaining trans-generational control of the family business. In addition, the association found between EM and financial leverage also supports the view that family firms are very motivated to prevent violation of debt covenants through EM practice (Principe et al., 2008). Similar results have been found in this study which leads to the conclusion that Jordanian family firms may have a serious concern about their trans-generational ownership of the firm.

The second objective of this study is to examine the effect of board characteristics (board size, CEO duality and board education) on EM. Different to our expectation, this study does not capture a significant association between EM and board characteristics (board size, CEO duality

and board education). These results are similar to other Jordanian studies as Azzoz and Khamees (2016) who found that board size has no impact on EM and Abed et al. (2012) who found that CEO duality does not have an impact on EM decisions in Jordan. Finally, this study finds that board education does not impact EM decisions, which consisted with Johari et al. (2009) results.

Based on the study findings, several recommendations are suggested. First, we raise the concern that Jordanian family firms in the industrial sector are facing a challenging time due to the economic difficulty caused by the political instability in the region, as these firms shifted toward creative accounting treatment to enhance their performance. This implies that external and internal auditors have to consider the possibility of practicing EM by family firm's management. Second, a clear definition of family firms is still undetermined in Jordanian legislator despite the fact that family firms are considered as a building block of Jordanian economy. This also implies that Jordanian's regulatory bodies have to set a specific definition and classification of family business in accordance to Jordanian environment. Third, board characteristics do not appear to affect EM decisions in Jordan, which indicates that the Jordanian legislator have implemented a successful provisions to maintain an active market in Jordan. Therefore, there is no need for changing in terms of (board size, CEO duality and board education) regulations.

Future studies can improve the topic by comparing between family firms and non-family firms regarding EM in Jordan. Other studies can also widen our findings regarding family firms' reaction to economic crisis especially for the periods before and during Arab Spring. Finally, our understanding of SEW theory in accounting context is still in early stages, other impacts of this theory in family firms in terms of performance, corporate governance decisions and reputational risk are still open for more investigations.

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