

## Board independence, earnings management and the moderating effect of family ownership in Jordan

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**Abstract.** *This research examines the moderating effect of family ownership over the relationship between board independence and earnings management. Using information of industrial companies indexed on Amman Stock Exchange, this research provides evidence of negative relationship between board independence and earnings management, proposing that higher percentage of board independence is related with more effective monitoring to reduce earnings management. Moreover, the results document that the relationship between board independence and earnings management becomes weak when there is an interaction with family ownership control. These outcomes indicate that an increase in the percentage of independent directors to mitigate earnings management is less likely to be influential in the case of family controlled firms. The results of this research could be valuable to regulators in their efforts to restrict the incidence of earnings management and improve the quality of monitoring mechanisms, especially in an environment where the capital market is still evolving and the legal protection and law enforcement are weak.*

**Keywords:** family control, board independence, earnings management, Jordan.

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### Introduction

Accounting scandals such as Enron and WorldCom have drawn public attention towards managers' opportunistic utilization of earnings management (hereafter, EM). Arnold and Lange (2004) assert that the accounting scandal at Enron have occurred because managers manipulated Enron's accounts to make the most of their interests at the cost of the company stakeholders. These harmful effects have guided a major body of research on EM to use the opportunistic hypothesis of the agency theory as a framework (Alexander, 2010). In order to protect stakeholders' interests from the harmful consequences of EM, the process of financial reporting of publically traded companies includes several deterrence mechanisms that should enhance the quality of financial reports (Rezaee, 2005). As part of these monitoring mechanisms, past investigations affirm that boards of directors assume a vital observing part to control the quality levels of financial reporting processes (Waweru and Riro, 2013). The literature demonstrates that diverse attributes may influence the adequacy of boards monitoring and in this manner decrease the act of EM (Abdul Rahman and Ali, 2006). Fernandez et al., (1998) contend that one of the most real attributes of the board of

directors that influence the observing capacities of the board is its independence. The existence of independent directors enhances the effectiveness of boards in monitoring managements and exercising control in the interest of shareholders (Rajpal, 2012). In US and UK contexts, previous research document that board with independent directors might constrain EM practices (Peasnell et al., 2000; Dechow and Dichev, 2002). Along these lines, higher levels of board independence (hereafter, BDIND) are expected to decrease the extent of EM (Davidson et al., 2005).

Another strand of research proposes that the structure of firm's ownership significantly influence the quality of earnings. That is, scrutiny exercised by boards of directors is more effective in dispersed-ownership firms compared with family-controlled firms. This is because the type of ownership strongly affects the private advantages of control and administrative motivating forces for financial reporting (Abdul Rahman and Ali, 2006).

The findings of this research are expected to add to current research in several ways. First, the Jordanian context, where family ownership (hereafter, FOWC) is prevalent, differs from those of the UK and the US, and hence, conclusions drawn from studies conducted in these contexts may be inapplicable when compared to the effectiveness of corporate governance (hereafter, CG) mechanisms in mitigating EM or alleviating agency conflicts in Jordan. Furthermore, this research makes contributions to the literature through investigating and examining the monitoring effectiveness of independent corporate boards in reducing EM practices which is influenced by the FOWC control in the Jordanian setting (Abdullatif et al., 2015).

The rest of the research is structured as follows. The second section provides thorough literatures review and the motivation for the research hypothesis. Section three describes the research methodological approach and sample selection. The fourth section contains the results discussion. The research summary and conclusions are demonstrated in the fifth section.

## **Previous literature**

### **Corporate BDIND and EM**

According to Kelton and Yang (2008), the capacity of the board to execute its monitoring role relies upon its independence from management and thus independent boards have a greater capacity to limit managerial opportunistic behavior and reduce managements' ability to withhold information.

The majority of research examining the association between BDIND and EM generally supports the importance of BDIND in monitoring EM practices. In the US context, Klein (2002) reports a negative relationship between EM and the percentage of independent directors. Xie et al. (2003) also find a negative relationship between BDIND and abnormal accruals. Using UK data, Peasnell et al. (2005) document an adverse relationship between the percentage of outsiders on the board and income-increasing abnormal accruals. Moreover, Niu (2006) provides evidence supportive of the negative association between levels of BDIND and EM in Canada. Similar findings are also documented in non-Anglo-Saxon countries, such as in Greece by Dimitropoulos and Asteriou (2010), in Iran by Roodposhti and Cnashmi (2011), in Italy by Di Donato and Fiori (2012), in India by Rajpal (2012) and in Taiwan by Lee (2013).

In Jordanian context, Abed et al. (2012) find no effect of BDIND on abnormal accruals through the period 2006-2009. This result is particularly important because it contrasts the notion found in the literature. Abdullatif et al. (2015) might justify the findings of Abed et al. (2012) as they contend that the independence of directors

required in audit committees of Jordanian listed firms is limited due to the possible existence of direct relationships between non-executive and executive directors. Moreover, during the period of study, the Jordanian guidance of good CG had not been actually enforced (Shanikat and Abbadi, 2011). Hence, the exact voting power and shareholders information are not published for all listed companies in Jordan. More recently, Abbadi et al. (2016) include BDIND in an index to measure CG quality impact on abnormal accruals in Jordan. Their results show an adverse relationship between CG quality and EM suggesting that CG quality has improved over time. However, the use of an overall index for the quality of CG does not suffice to validate the effectiveness of BDIND in mitigating EM practices in Jordan.

Due to the lack of conclusive evidence on the subject matter, this research adds to the literature through the collection of information relative to the independence of boards' members, and testing the negative relationship between BDIND and EM in Jordanian firms which operate an institutional environment that differs from those of the UK and the US. Therefore, the following hypothesis is developed:

**H<sub>1</sub>:** The independence of the board of directors is negatively related with EM.

### **Impact of FOWC on the association between BDIND and EM**

Beyond being a CG mechanism, the type of ownership impact on the effectiveness of BDIND has been documented in previous research (e.g. Chobpichien et al., 2008). This has lead researchers to test the moderating effect of FOWC on the association between BDIND and EM in the contexts where ownership is concentrated rather than dispersed. Little research has been conducted to examine whether FOWC has an effect on the relationship between BDIND and EM. One of which is Jaggi et al. (2009) who find that the relationship between BDIND and EM is weak in firms controlled by family than in the case of non-family controlled firms in Hong Kong. Moreover, using data of Malaysian firms, Hashim (2011) finds that independent boards of directors are less likely to be effective at constraining EM in family-owned firms compared with non-family-owned firms.

It is worth mentioning that according to the measurement of business regulations reported by the World Bank website (accessed on 10/4/2017) for Hong Kong and Malaysia, the strength of minority investors protection scored 8 out of 10 for both countries. This summary suggests that the moderating effect found in Jaggi et al. (2009) and Hashim (2011) is due to the high liability imposed by the countries' regulations on family controlling members leading to a shared responsibility with independent directors. However, the score of the strength of minority investors' protection in Jordan as reported by the World Bank is 3.5 out of 10. Although the Jordan's score is much lower than those of Hong Kong and Malaysia, the current research perceives that the moderating impact of FOWC also applies to the framework of this study. This might be due to two possible reasons. First, family-controlled firms in Jordan are expected to be more concerned with their survival and reputation, and hence, make use of their control as a deterrence mechanism of opportunistic EM practices. Second, controlling family might want to channel the wealth of minority shareholders by appointing closely related directors, and as such, decreasing the effectiveness of BDIND in the protection of minority shareholders' interests. Apparently, none of the aforementioned reasons coincide with the one of Jaggi et al. (2009) and Hashim (2011).

This research attempts to analyze and examine the role of FOWC on the relationship between corporate BDIND and EM in Jordanian listed companies in which FOWC prevails and minority shareholders' legal protection is weak. Therefore, this research develops the following hypothesis:

**H<sub>2</sub>:** Family control influences the relationship between BDIND and EM.

## Research methodology

### Sample selection

The data set of this research consists of the industrial firms indexed on Amman Stock Exchange (hereafter ASE) for five consecutive years of reporting periods from 2009 to 2013 ([www.ase.com.jo](http://www.ase.com.jo)). This study was conducted on the industrial sector mainly because Al-Najjar (2010) indicates that the FOWC is concentrated at banks and industrial firms in Jordan. Unlike banks, which are rigorously regulated by the central bank of Jordan, understanding the role of CG mechanisms in mitigating EM practices are particularly important in the industrial sector to improve the transparency and reliability of reported earnings, which enhances the ability of investors in decision-making process.

Table 1 illustrates a summary of the population for this study. The total number of industrial listed firms in 2013 was 78 firms. 5 firms were excluded from the analysis due to insufficient financial and non-financial data. Industries inclusive of less than six were also excluded from the sample totaling 9 firms. The final population includes 64 firms for five years from 2009 to 2013 (320 firm-year observations).

**Table 1.** *Sample of industrial firms for the period 2009-2013*

Description	Number of Firms
Total number of Industrial listed firms on ASE as in 2013	78
Less:	
Firms which would not disclose non-financial information	(3)
Firms with insufficient financial data during the period 2009-2013	(2)
Industries smaller than 6 firms	(9)
Final population	64
Total firm-year observations for 2009 to 2013	320

Source: Authors' own research.

The data set of the current research comprises financial and non-financial information for the sample firms listed on ASE over the period 2009-2013. Financial information is collected from the available annual reports published on ASE website of industrial firms. As regards non-financial information, structured questionnaire has been used to collect the unavailable information relative to BDIND. This method is adopted from Gabrielsen et al. (2002), who employed it for data unavailability in the Danish market. Each firm was asked to provide exact information related to the number of independent directors on the board.

### Regression model

To test the research hypotheses, two regression models are employed as follows: The first model is employed to evaluate the association between BDIND and EM. The second

model is used to measure the effect of FOWC on the association between BDIND and EM through the inclusion of an interaction term between BDIND and FOWC.

$$\text{Model (1): } ABAC_{it} = \alpha_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 BIG4_{it} + \beta_4 BDIND_{it} + \epsilon_{it}$$

$$\text{Model (2): } ABAC_{it} = \alpha_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 BIG4_{it} + \beta_4 BDIND_{it} + \beta_5 FOWC_{it} + \beta_6 BDIND_{it} * FOWC_{it} + \epsilon_{it}$$

Table 2 provides definitions of the research variables which have been used in the above models.

### Dependent variable

Following previous literature, discretionary accruals is used in this research to proxy for EM. The model of Kothari et al. (2005) is employed for the purpose of estimating discretionary accruals. This model is widely used because it adjusts the modified Jones model by adding return on assets (ROA) as performance indicator of the company. This model is expressed as follows:

$$TAC_{it}/TA_{it} = \alpha (1/TA_{it-1}) + \beta_1 ((\Delta REV_{it} - \Delta REC_{it})/TA_{it-1}) + \beta_2 (PPE_{it}/TA_{it-1}) + \beta_3 ROA_{it-1} + e_{it}$$

Where:  $TAC_{it}$  is total accruals;  $TA_{it-1}$  is lagged total assets;  $\Delta REV_{it}$  is the change in revenues;  $\Delta REC_{it}$  is the change in receivables;  $PPE_{it}$  is net property, plant, and equipment;  $ROA_{it-1}$  is the lagged rate of return on assets;  $e_{it}$  is the residual.

### Independent variables

The main independent variables in this research are the predictor variable, BDIND, the moderator variable, FOWC, and the interaction term between BDIND and FOWC. This study measures BDIND as the total number of independent directors on the board divided by the total number of board members (Xie et al., 2003). Following Gabrielsen et al. (2002), this information are collected through the distribution of a questionnaire specifically designed for the gathering of data not available on ASE website. According to the agency theory; the higher the level of BDIND, the more effective it becomes in constraining managements from engaging in EM practices and in protecting the interests of the shareholders.

The moderating variable, FOWC, is measured as the percentage of family members to total number of directors on the board (Lokman et al. 2014). The ASE requires that each listed firm discloses the information of all directors and senior management and their relationships, if any. The annual reports information enables the identification of related the members of family on corporate boards.

Following Jaggi et al. (2009), to detect moderator effect, the interaction variable ( $BDIND * FOWC$ ) is computed by multiplying BDIND (i.e. the predictor variable) with FOWC (i.e. the moderator variable).

### Control variables

Previous research on earnings management has frequently included control variables that have evident effect on EM (e.g. Xie et al., 2003; Hsu and Wen, 2015). In this research, the first control variable is firm size (SIZE). It is measured by the natural logarithm of total assets. Generally, the larger the firm size, the more pressure is placed on management to report more desired earnings (Pincus and Rajgopal, 2002). The second control variable, leverage (LEV), is measured as total liabilities scaled by total assets. Firms in financial distress or near debt covenant violation may be more

motivated to engage in EM practices (DeFond and Park, 1997). Following Inaam et al. (2012), this study includes Big4 audit firms (BIG4) to proxy for audit firm size. This dummy variable is equals a value of (1) for firms audited by one of the big four, and (0) otherwise.

**Table 2.** *Measurements of the Variables*

Variables	Symbol	Measurement
<u>Dependent Variable:</u>		
Earnings management	ABAC	The discretionary accruals estimated by the Kothari <i>et al.</i> (2005) model.
<u>Independent variables:</u>		
Board independence	BDIND	The percentage of independent directors to the total number of directors on the board.
<u>Control variables</u>		
Firm size	SIZE	Natural logarithm of total assets.
Firm leverage	LEV	Total liabilities scaled by total assets.
Audit firm size	BIG 4	Equals "1" if the firm is audited by a Big 4 and "0" otherwise.
<u>Moderator variable</u>		
Family ownership control	FAMOC	Percentage of family members to total number of directors on the board.

Source: Authors' own research.

## Results and discussion

### Descriptive statistics

According to the findings of descriptive analysis as summarized in Table 3, the absolute value of performance-matched discretionary accruals (ABAC) for the firms in the sample of this research has a mean value of 0.069, with the minimum and maximum value of 0.004 and 0.475 respectively. The mean value of BDIND is 26.9%, indicating that some Jordanian industrial companies do not fulfill the requirements made by Jordanian CG Code which requires at least one-third of board members to be independent.

However, the maximum and minimum percentages of independent directors are 80% and zero respectively, which indicates that some boards are prevalently independent and some are completely not. The mean value of BDIND in this study is consistent with the earlier studies in Jordan such as Hamdan et al. (2013) who reports that BDIND has a value of 26% and 31%, respectively, in industrial companies listed on ASE. Furthermore, the descriptive statistics show that FOWC varies from 0 to 100%, with an average of 34.6% and a standard deviation of 24.3%. The control variable (SIZE) has a mean of 7.231 which is similar to previous studies in Jordan for instance Idris (2012).

**Table 3.** *Descriptive Statistics*

Variable	Mean	Standard Deviation	Maximum	Minimum
ABAC	0.069	0.072	0.475	0.004
BDIND	0.269	0.175	0.800	0.000
FOWC	0.346	0.243	1.000	0.000
SIZE	7.231	0.616	9.088	5.742
LEV	0.360	0.242	1.071	0.004
BIG4	0.516	0.500	1.000	0.000

Source: Authors' own research.

As regards the average leverage (LEV) for the sample firms in this study is about 36%. This figure is similar to the average leverage in a study conducted by Al-Fayoumi et al. (2010). The mean of audit firm size (BIG4) is 51.6% with a standard deviation of 0.500. This implies that 51.6% of the financial reports of the Jordanian firms are audited by the big 4 audit firm.

### Main empirical results

Table 4 demonstrates regression estimates for testing the relation between BDIND and EM, and the moderating effect of FOWC on this relationship. The results show that BDIND has a negative and significant relationship with EM. This provides supportive evidence of the argument that the EM practices are lower in the case of firms with higher BDIND. This finding is consistent with those of previous studies which document that existence of independent directors on boards or higher percentages of independent directors on boards significantly enhance board effectiveness to mitigate EM practices and play a key role in reducing agency problems (e.g. Klein, 2002; Peasnell et al., 2005; Niu, 2006; Di Donato and Fiori, 2012). Moreover, this result contradicts that of Abed et al. (2012). The reason might be due to the different test periods between which CG quality has improved in Jordan as suggested by Abbadi et al. (2016). Regarding the moderating effect of FOWC, the sign of coefficient on the interaction variable (BDIND\*FOWC) is positive and significance. This indicates that the association between BDIND and EM becomes weak when the controlling FOWC prevails. As such, the result is in line with the findings of Jaggi et al. (2009) and Hashim (2011) that prove that higher BDIND in non-family-controlled firms are more effective in constraining EM practiced than in family-controlled firms. The findings of this study support the view that FOWC control decreases the agency problem between agents and principals but also creates conflicts between the controlling family and minority shareholders, particularly in countries where the protection level of minority shareholders is weak. Thus, the majority shareholders may employ EM practices to distort the quality of reported earnings in order to cover their channeling of wealth from the firm to their own benefits (Jaggi et al., 2009).

**table 4.** regression analysis results of earnings management, board independence and family control

Variables	Model (1)		Model (2)	
	Cofe.	t-stat	Cofe.	t-stat
Intercept	-1.808***	-3.27	-1.290**	-2.34
BDIND	-2.422***	-9.13	-3.548***	-7.28
FOWC			-1.563***	-4.55
BDIND*FOWC			3.502***	3.15
SIZE	-0.096	-1.25	-0.095	-1.28
LEV	0.317	1.63	0.197	1.02
BIG4	-0.069	-0.74	-0.084	-0.92
Adj.R <sup>2</sup>	0.264		0.309	
Obs	320		320	
F-stat	8.328		9.912	

\*\*\*, \*\* and \* indicate significance at 1%, 5% and 10% respectively.

BDIND\*FOWC = Interaction between board independence and family ownership control.

Source: Authors' own research.

## Conclusion

This research investigates the relation between BDIND and EM in the emerging market of Jordan. In addition, it examines whether FOWC affects the relationship between BDIND and EM. The results of this study document that a higher percentage of BDIND is related with more effective monitoring resulting in a reduction of EM practices. This suggests that the existence of independent directors prevents managements from engaging in EM and thus protecting the interests of the shareholder. Consequently, earnings quality of firms with a higher percentage of independence is anticipated to be high. Nevertheless, the effectiveness of BDIND is reduced clearly in the family-controlled firms (proxied by the presence of family members on corporate boards), and an increase in the percentage of BDIND is unlikely to contribute in mitigating EM practices in family-controlled firms. A plausible interpretation is that the reliance on independent directors in family-controlled firms becomes less important in constraining EM practices as family ownership increases. Thus, the results add to agency theory predictions that family ownership might act as an effective monitoring mechanism but, at the same time, reduces the reliance on BDIND in emerging markets.

There are few limitation associated with this research. First, this research focuses only on one type of ownership (family ownership) and ignores other types of ownership such institutional and foreign ownerships. Second, the sample is based only on the industrial firms listed on ASE. Thus, the generalizability of the findings might not hold for service and financial firms.

Notwithstanding the aforementioned limitations, the conclusions of this study are useful to investors and shareholders as they provide a vital sign concerning the type of family shareholder and board of directors that either protect or pose a threat to their interests. Hence, an increased awareness of EM practices and their consequences is required. Investors and other stakeholders need to see through the earnings figures in order to make rational contractual decisions, especially when such decisions involve family-owned firms.

Moreover, it is recommended for the regulators to enhance the regulations of CG such as increasing the liability attached to executive family members on corporate boards, and the liability and independence of non-executive directors to reduce the practice of EM and prevent its negative consequences.

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