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The Role of Board of Directors in Constraining Earnings Management in Nonfinancial Listed Firms: Evidence from Jordan

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Abstract

This paper investigates the determinants of earnings management in Jordan. It addresses mainly the question of whether or not board of director's size and role duality affect discretionary accruals, using the modified Jones model (1995) for estimating discretionary accruals. It applies an Ordinary Least Squares regression model on Amman Stock Exchange annual data for a sample of 64 nonfinancial listed firms during the period of 2012-2017. The empirical results provided evidence that a Chief Executive Officer who also serves as the Chairman of the board of directors has no influence on earnings management, it also fails to connect board of director's size with earnings management. We find a conclusive evidence that larger firms are less involved in earnings management practices compared to smaller firms. In addition, we find that, on average, industrial firms have less discretionary accruals than services firms. Moreover, the analysis in this paper indicates that firm's growth and leverage are positively and significantly associated with discretionary accruals.

Keywords: Earnings Management, Discretionary Accruals, Modified Jones Model, Corporate Governance, Role Duality.

1. Introduction

Earnings management has been a topic of interest to be studied by researchers for decades. Various definitions exist for earnings management, Schipper (1989) appears to have captured the essence of earnings management by defining it as "purposeful intervention in the external financial reporting process with the intent of obtaining private gain". Likewise, Healy and Wahlen (1999) state that "earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers". Similarly, Aini et al. (2006) state that earnings management occurs in corporations where managers attempt to present a more favorable financial picture of the company

performance through discretionary accruals. Despite the benefits; managers have incentives to withhold information because lack of information hinders the ability of the capital and labor markets to monitor managers effectively. Regardless of the definition adopted, earnings management is inherently unobservable. Managers intervention in the reporting process can occur through many ways, managers may employ accounting procedures that increase reported earnings to hide the negative impact of projects (Chung et al., 2005). They may also use flexible accounting principles to manage earnings, one can take the advantages of flexibility allowed in International Financial Reporting Standards (IFRS) to change reported earnings as this enables choosing among different accounting methods when computing earnings and other financial measures of performance (Makar et al., 2000).

In the accounting literature, variety of terms synonymous with earnings management have been used, such as; accruals management, creative accounting, manipulation of accounts, earnings manipulation, earnings quality, income smoothing, cooking the books, etc. Moreover, prior studies have used different measures of discretionary or abnormal accruals as proxies for earnings management. However, earnings management behaviors have been widely explained using both the "big bath" and "income smoothing" practices. According to Healy (1985), the "big bath" occurs when the firm's current period earnings are unexpectedly low; preventing managers from receiving a bonus or meeting pre-specified targets. In this case, managers will probably clear off future potential expenses by matching additional discretionary charges to current earnings, worsening the reported financial outcome. On the other hand, the "income smoothing" reflects the propensity of managers to choose accounting policies that increase (decrease) reported earnings when unmanaged current period earnings are below (above) target earnings. Therefore; Income smoothing has been linked to dividend stability and higher share prices, reflecting manager's efforts to signal positive private information about the firm's future performance.

This paper examines the relation between earnings management, corporate governance and ownership concentration in the context of Jordanian nonfinancial listed firms. Specifically, it sets out to test the association between discretionary accruals and (1) the size of board of directors, (2) CEO role duality, and (3) firm-specific characteristics (size, growth and leverage). Examining earnings management in Jordan is vital due to several reasons. First: the studies on the link between earnings management, corporate governance and ownership structure report mixed results (see for example, Jensen, 1993; Salterio, 2001; Xie et al., 2003; Yang and Krishnan, 2005; Shen and Chih, 2007; Al-Fayoumi et al., 2010; Ghosh et al., 2010). Second: there is little known about earnings management in the context of small emerging economies, such as Jordan, most studies focus on the U.S., Europe and other well-established markets (see for example, Klein, 2000; Peasnell et al., 2005; Lin et al., 2006; Lin and Hwang, 2010). Third and most importantly: Jordanian listed firms are mostly characterized by highly concentrated ownership structures, which is a common feature outside the U.S. as documented by La Porta et al. (1999). It is interesting to examine this pattern of ownership on earnings management. This will be discussed in the next section. A key contribution of this paper is that it focuses on the impact of two primary variables; corporate governance and ownership concentration, on earnings management in developing countries, namely in Jordan. It will distinct from previous researches with its unique set of variables and its comprehensive hand-collected panel data obtained from annual reports of 64 nonfinancial firms listed on Amman Stock Exchange (ASE) industrial and services sectors, during the period of 2012-2017.

The remaining of this paper is organized as follows: The next section gives a brief overview of the institutional environment in Jordan. Section 3 presents a literature review. Section 4 describes hypotheses development, variables, model and data. Section 5 shows the descriptive statistics, correlation results and the empirical results. Section 6 concludes.

2. Corporate Governance and Ownership Structure in Jordan

As pointed out by Shleifer and Vishny (1997), corporate governance deals with the ways in which suppliers of funds to firms assure themselves of getting a return on their investment. In the modern

business world, a system of corporate governance is necessary, through which management is overseen and supervised to reduce the agency costs and align the interests of management with those of the investors. The role of the corporate governance structure in financial reporting is to ensure compliance with Generally Accepted Accounting Principles (GAAP) and to maintain the credibility of firm financial statements. Good governance mechanisms include systematic guidelines to guarantee efficiency and transparency in managerial actions, it helps ensure that the management properly utilizes the firm's resources in the best interest of absentee owners, and fairly reports the financial condition and operating performance of the firm. Accordingly; properly structured corporate governance mechanisms are expected to reduce earnings management because they provide effective monitoring of management in the financial reporting process. Accruals based earnings are used by investors in valuing the firm and monitoring its performance, it also involve management discretion in the form of accounting choices, estimates and disclosures. Given that such discretion exists even within GAAP, there has been an international trend towards developing and implementing good governance codes, as an attempt to recover investor confidence in the management of quoted firms. Therefore, this paper examines whether higher quality corporate governance results in higher quality financial reporting. Particularly; this paper focuses on the role of board of directors in constraining earnings management (discretionary accruals) in an institutional environment where there is both considerable accounting discretion and fewer governance regulations (i.e., Jordan's stock market) [1].

Another important factor that this paper focuses on is ownership structure. Large quoted firms are characterized by having dispersed ownership structures. This implies that shareholders do not exert effective control on managers, which probably increases the likelihood of managers behaving opportunistically to achieve their particular interests. Jordanian listed firms are mostly characterized by highly concentrated ownership structures, which allows shareholders with large ownership stake to exercise control over the firm (Tayem, 2015). This is the case for Jordanian firms where the largest shareholder usually has the responsibilities of the Chief Executive Officer (CEO) and/or the Chairman of the board of directors (Tayem, 2015). Accordingly; managers of such firms have stronger incentives and greater power to act opportunistically for personal gain, and tend to get involved in unprofitable projects, over investments and misuse the funds (Jensen, 1986). Their activities may bring benefits or rewards for themselves at the expense of the shareholders. In order to conceal these activities, managers are forced to manage earnings via accounting discretions. However, the manager's opportunistic behavior may be minimized if the firm's internal corporate governance monitoring mechanism is effective (Bedard et al., 2004). Therefore, this paper focuses on the extent to which ownership concentration (expressed by CEO role duality) affects earnings management (discretionary accruals) in Jordan, since there is a priori reason to suspect systematic management of earnings, due to the nature of ownership structure of firms listed on ASE.

3. Literature Review

Numerous studies tried to link earnings management to a different set of explanatory variables, they have shown wide set of variables for earnings management determinants, incentives and constraints, such as; firm performance, dividends policy, surplus free cash flow, ownership structure, managerial ownership, board of directors characteristics, audit committee characteristics, corporate governance mechanisms, investor protection, voluntary disclosure, among others (see for example, Jensen, 1993; Yermack, 1996; Peasnell et al., 2000; Klein, 2000; Xie et al., 2003; Bedard et al., 2004; Abbott et al., 2004; Yang and Krishnan, 2005; Lin et al., 2006; Lin and Hwang, 2010; Al-Fayoumi et al., 2010; Ghosh et al., 2010; Azzoz and Khamees, 2016). Even though extant research examines earnings

[1] Jordan's stock market (hence; ASE) was established in 1978 making it one of the oldest and largest stock market in the MENA region. In addition, the ASE has many features similar to other markets in the MENA region such as corporate governance mechanisms and pattern of ownership structure. Therefore, the results can be generalized to MENA countries.

management forecasts and constraints extensively, the relation between corporate governance, ownership concentration and earnings management in developing countries is not thoroughly examined.

This paper relates mostly to a study by Ghosh et al. (2010). Using a sample of 9,290 observations from firms publicly traded in the U.S. between 1998 and 2005 and using absolute performance-adjusted discretionary accruals from the modified Jones model as a construct for earnings management, the authors analyze the composition and structure of a board and how they affect financial reporting. Specifically, the authors focus on the percentage of independent directors on the board (composition), the number of members on the board (size), the separation of CEO and Chair positions, and the presence of separate standing subcommittees (structure). They also analyze whether the composition, size, level of scrutiny, expertise, and ability of audit committee members influence reporting practices, the authors find that the association between absolute discretionary accruals and (1) board independence, (2) audit committee independence, and (3) board structure is mostly insignificant. In contrast, they find that board size, audit committee size and activity are strongly associated with absolute discretionary accruals for the pooled sample.

Also, related to this study is a paper by Jensen (1993) who claims that a streamlined board is more effective in monitoring management. As more directors are added, the incremental cost of poorer communication and decision making associated with larger groups are likely to overwhelm advantages of a larger board. He posits that the role of the Chair of the board is to monitor the CEO. Therefore, CEO-Chairs cannot perform both functions without conflicts of interest. For the board to be effective and to perform its critical functions, it is essential that the position of the chairman and CEO is separate. These arguments suggest a positive relationship between CEO/Chair duality and earnings management. Jensen's proposition that streamlined boards can operate more effectively in monitoring management can be extended to audit committee size. These findings are consistent with Yermack (1996) who states that smaller boards are likely to be more efficient in monitoring earnings management.

In the context of other developed countries, Peasnell et al. (2000) employ UK data and compare pre-managed earnings with earnings thresholds (either zero earnings or last year's reported earnings). They investigate the relation between earnings management and corporate governance. The results show that firms with a higher proportion of outside directors have less income-increasing accruals when earnings fall below the threshold. However, when earnings exceed the threshold, there is strong evidence of income-decreasing accruals. Moreover, they find that non-executive directors significantly constrain earnings manipulation.

Klein (2000) examines the relation between earnings management, and board and audit committee independence for a sample of 687 large publicly traded U.S. firms. She finds that earnings management is less pronounced in firms that have audit committees comprising a majority of independent directors. She posits that independent audit committees serve as superior monitors of the financial reporting process. Therefore, they are more effective in limiting earnings manipulation.

Beasley and Salterio (2001) find that as audit committee size increases, firms are more likely to include outside directors on the audit committee beyond the mandated minimum requirements, which enhances audit committee effectiveness.

Xie et al. (2003) using a sample of 282 firms selected from the S&P 500 index of the years 1992, 1994, and 1996, report a negative association between earnings management and the number of audit committee meetings, while they find no significant association between earnings management and the number of directors on the audit committee and the level of audit committee independence.

Studies from developing markets examine the impact of various variables on earnings management. For example, Bedard et al. (2004) report a significantly negative relationship between earnings management and the existence of an audit committee. The results also report a negative association between the audit committee's financial expertise and occurrence of earnings management.

Abbott et al. (2004) report that an audit committee that is independent, meets at least four times a year, and includes at least one member with financial expertise is negatively associated with the

occurrence of earnings management in the period of 1991-1998, while they find no impact of audit committee size (the number of directors on the audit committee) on earnings management.

Yang and Krishnan (2005) document that stock ownership by directors on the audit committee is positively associated with earnings management (using abnormal accrual as the proxy), while they find that audit committee size is negatively associated with earnings management, but they fail to find a significant association between earnings management and the existence of financial expertise among the audit committee.

Lin et al. (2006) examine the association between the occurrence of earnings restatement and characteristics of the audit committee for a sample of 106 publicly-held corporations in the U.S. for the fiscal year 2000, they find no impact of audit committee size, the level of audit committee independence, shares owned by audit committee members and the audit committee's financial expertise. They only report a negative association between earnings management and the number of audit committee meetings.

Lin and Hwang (2010) applied meta-analytic techniques to empirical data from 48 studies that examined relationships between corporate governance and audit quality variables and earnings management. Their results shows that of the 17 relationships tested, 12 showed significant effects. Specifically, for corporate governance, the independence of the board of directors and its expertise have a negative relationship with earnings management. Similar negative relationships exist between earnings management and the audit committee's independence, size, expertise, and the number of meetings.

In the context of the Jordanian market, Al-Fayoumi et al. (2010) use Generalized Method of Moment (GMM) methodology to examine the relationship between ownership structure and earnings management (discretionary accruals) for a sample of 39 Jordanian industrial firms listed on ASE during the period 2000-2005. They find a positive and significant relationship between insider ownership, firm size and earnings management. Moreover, the results documented that firms' growth and leverage are not significantly affecting the quality of accounting information.

More recently; Azzoz and Khamees (2016) investigated the impact of board size and independence, CEO duality, audit committee independence, size and activity, firm size and performance on earnings management in the Jordanian firms, using a sample of financial firms listed in the ASE during the period 2007-2012. Their results shows that the audit committee size has a negative relation with absolute discretionary accruals. Whereas, the relation between audit committee size and earnings management was positive. Moreover, the results demonstrated that the financial Jordanian firms have held more than four regular audit committee meetings during the year. In addition, the results indicated that the audit committee activity has a negative relation with each of absolute and signed discretionary accruals, which implies that the meetings of the audit committee is effective in the discussion between members and in discovering potential errors in the financial reporting.

4. Hypotheses Development and Methodology

4.1. Hypotheses Development

In this section we provide the motivation behind choosing the variables in this study by examining the link between each independent variable and earnings management.

- **Board of Directors:** It's well-known that outside directors who are independent of management's influence help enhance shareholder value by protecting shareholder interests against managerial opportunism. Klein (2002) finds that outside directors are effective monitors of managerial actions. Given that boards in most public firms are fairly large (Yermack, 1996), board size is also likely to be related to firm performance because adding more people to the board enhances its knowledge base, yet larger boards are less flexible and more inefficient. Following previous studies, we argue that larger boards are expected to reduce earnings

management because they provide effective monitoring of management in the financial reporting process (Xie et al., 2003). Thus, the following hypothesis is formulated:

H01: There is a significant negative association between the size of the firm's board of directors (e.g. the number of directors on the board) and its earnings management.

- **Role Duality:** One of the important roles played by the chairman of the board is to run the board meetings and oversee the process of hiring, evaluating, firing and compensating the CEO. Jensen (1993) argues that it creates a conflict of interest for the CEO to serve as the board chairman and perform the oversight function related to this process. He argues that it is important to separate the CEO and the chairman positions for the board to provide effective monitoring. Therefore, we expect that the separation of the positions of CEO and chairman of the board of directors reduces earnings management. Therefore; consistent with Jensen (1993), the following hypothesis is formed:

  H02: There is a significant negative association between separation (whether or not a firm has a separate CEO and Chairman of the board of directors) and earnings management.

4.2. Variables Definition

Three measures of earnings management have been previously used in the literature. The first proxy is the absolute value of discretionary accruals (where accruals are the difference between income before extraordinary items and operating cash flow), the second one is the special items (the absolute value of special items scaled by total assets at the beginning of the year), and the last proxy for earnings management is the deferred tax (tax expense -as reported in the income statement- scaled by total assets at the beginning of the year). Consistent with prior studies (Klein, 2002; Yang and Krishnan, 2005 and Ghosh et al., 2010), the dependent variable; discretionary accruals, for the purposes of this study has been measured using the absolute value of performance-adjusted discretionary accruals as a proxy for earnings management. Bartov et al. (2001) support the use of the modified Jones model, estimated in a cross-section using other firms in the same industry. Discretionary or abnormal accruals equal the difference between actual and ''normal'' accruals, using a regression formula to estimate normal accruals. The modified Jones model first estimates normal accruals as a fraction of lagged assets from the following equation [2]:

$$TACC_{it}/A_{it-1} = \beta 0\,[1/A_{it-1}] + \beta 1\,[\Delta Sales_{it}/A_{it-1}] + \beta 2\,[PPE_{it}/A_{it-1}] + \varepsilon_{it} \quad (1)$$

Where, TACC is total accruals; the difference between income before extraordinary items and operating cash flow, A is total assets, ΔSales is the change in sales, PPE is the level of plant, property, and equipment. *t* and *t-1* are time subscripts and *i* is the firm subscript. Discretionary accruals as a fraction of lagged assets ($DACC/A_{it-1}$), are then obtained from the following equation [3]:

$$DACC_{it}/A_{it-1} = (TACC_{it}/A_{it-1}) - (\widehat{\beta 0}\,[1/A_{it-1}] + \widehat{\beta 1}\,[(\Delta Sales_{it} - \Delta AR_{it})/A_{it-1}] + \widehat{\beta 2}\,[PPE_{it}/A_{it-1}] \quad (2)$$

Where, hats denote estimated values from equation (1), $DACC_{it}$ is discretionary accruals for firm *i* in year *t*, *TACC* is total accruals, A_{it-1} denotes prior year total assets for firm *i*, $\Delta Sales_{it}$ denotes change in sales for firm *i* in year *t*, Δ*AR* is the change in accounts receivable and PPE denotes property, plant, equipment. The inclusion of Δ*AR* in equation (2) is the ''modification'' of the Jones model, this variable attempts to capture the extent to which a change in sales is due to aggressive recognition of questionable sales. Kothari et al. (2005) show that matching firms based on operating performance gives the best measure of discretionary accruals. Accordingly; to measure propensities for earnings management, the absolute value of discretionary accruals will be used. The next table summarizes the definitions of the variables used in the analysis model.

[2, 3] All variables in equations (1) and (2), including the intercept, are scaled by prior year total assets (total assets at the beginning of the year), to control for heteroscedasticity (cross-sectional differences in firm size).

Table 1: Definitions of Variables

Variable	Definition
TACC	Total accruals; The difference between income before extraordinary items and operating cash flow.
DACC	Discretionary accruals; The difference between total accruals and the non- discretionary components of accruals.
ΔSales	Change in sales; Calculated as current year total sales minus previous year total sales.
ΔAR	Change in account receivables; Calculated as current year total account receivables minus previous year total account receivables.
PPE	The level of plant, property, and equipment.
D1	Industry indicator; Dummy variable equals to 1 if the firm belongs to the industrial sector and 0 otherwise.
Dependent Variable	
EM	The absolute value of discretionary accruals is used as a proxy for earnings management; Calculated as the difference between actual and ''normal'' accruals.
Independent Variables	
$SIZE_{BD}$	Board of directors size; The number of directors on the board of directors.
SEP	CEO duality; Dummy variable equals to 1 when the CEO also serves as chairman of the board of directors and 0 otherwise.
Control Variables	
SIZE	Firm size; Measured as the natural logarithm of the firm's fiscal year-end value of total assets,
GROW	Firm growth; Calculated as the sum of the market value of equity and the book value of debt scaled by the book value of total assets. Market value of equity is computed as the closing price per share multiplied by the number of company shares outstanding.
LEV	Leverage ratio; Total debt divided by total assets, proxy of firm's financial risk.

4.3. Model

To model earnings management as a function of corporate governance mechanisms and other control variables, an approach similar to Ghosh et al. (2010) will be applied, the following specification will be used:

$$EM = \beta 0 + \beta 1 SIZE_{BD} + \beta 2 SEP + \beta 3 SIZE + \beta 4 GROW + \beta 5 LEV + \varepsilon_{it} \quad (3)$$

Where, *EM* is earnings management; measured as the absolute value of discretionary accruals, $SIZE_{BD}$ is the number of directors on the board, *SEP* is a dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* is the firm size; measured as the natural logarithm of total assets, *GROW* is the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* is a measure of financial risk; calculated as total debt to total assets, ε_{it} is the error term (disturbance term; assumed to be an independently, identically distributed random variable with zero mean and σ_ε^2 variance), $\beta_{0...}\beta_5$ are Regression coefficients. Individual firm's effects are included to allow for company heterogeneity. In addition, fixed effects at the industry level will be estimated. This is accomplished by including dummy variables for all sectors with except for one. This model includes an industry indicator variable that takes the value of one if the firm belongs to the industrial sector and zero otherwise. This paper also presents OLS and random effects results to illustrate the importance of controlling for the fixed effects. Finally, the expected relations between variables are as follows:

If larger boards are associated with more (less) effective monitoring, $\beta 1$ is likely to be negative (positive). $\beta 2$ is expected to be negative because CEOs also serving as Chairman of the board of directors are more powerful and have a greater influence over board members, Therefore, it is expected that the separation of the positions of CEO and Chairman of the board of directors reduces earnings management. $\beta 3$ is expected to be negative because managing earnings signals from larger firms add little value and therefore, larger firms are less involved in earnings management practices compared to smaller firms. $\beta 4$ is expected to be positive because firms with the highest growth opportunities are

likely to have more private information about these prospects, which would exacerbate the problems of asymmetric information. Therefore, insiders try to reveal this relevant information through financial statements in which earnings have been managed to signal the profitable projects available to the firm. Finally, $\beta 5$ is expected to be positive because debt influences the incentives to manage earnings, managers are more likely to exercise their accounting discretion granted by GAAP when they are closer to default on debt covenants, in order to show a margin of safety to the creditors and to avoid debt covenant violation.

4.4. Sample and Data Sources

The study starts with all firms listed on ASE in the industrial and services sectors from 2012 to 2017. We have choose nonfinancial firms because they represent about two-third (67%) of the overall firms listed in Jordan's capital market, in addition to their high influence on the Jordanian economic growth. Therefore, this sample considered a good representative of ASE.

To be included in our sample, firms must have a complete record of all variables employed in the analysis, all observations that do not have a complete record of all variables employed in the analysis are excluded. Therefore; the study's final sample consists of 64 firms (384 firm-year observations) covering 2012 to 2017. Some observations were dropped from the analysis because the annual reports do not contain all the required information. This case is possible due to missing information on the board of directors and/or firms that stopped working or its core business has changed during the study period. In this study, the required information is hand collected from various sources. Most of the financial, accounting and other data on the ownership structure are obtained mainly from the firm's annual reports. Financial reports are a reliable source of data for publics companies as they are audited externally. Some other data are obtained from ASE website.

4.5. Research Limitation

One limitation of the analysis model (presented earlier in section 4.3) in our opinion, is that it ignores an important variable that potentially affects earnings management in Jordan; which is audit committee. In the absence of effective monitoring, managers can conceal information on their activities by providing minimal disclosure. During the study period, firms were not obligated by low to disclose enough information -beyond the mandated minimum requirements- about its audit committees and audit committees characteristics, such as; audit committee size, level of independence, number of annual meetings, shares owned by its members, their financial expertise, etc. Therefore; and due to lack of available data, audit committee characteristic's variables were dropped from the analysis. Which is considered as a drawback of the model, when it comes to detect earnings management. Nevertheless, the results of the analysis model are presented next.

5. Results

5.1. Descriptive Statistics

Table 2 documents the summary statistics on earnings management for firms listed on ASE during the period 2012-2017 by sector.

Panel A of table 2 shows the descriptive statistics for services sector firms listed on ASE. It reports that, on average services firms have an average total assets of almost 96 million JOD ranges from a minimum of 1.6 million to a maximum of about 1.2 billion. Total liabilities have a mean value of about 54 million varies from a minimum of 0.11 million to a maximum value of almost 952 million. Average total sales (account receivables) for services firms is about 65.5 million JOD (20.67 million JOD). Panel A of table 2 also reports that, on average, services firms have an average discretionary accruals of 7.7 percent, varies from a minimum of almost 0 to a maximum of about 50 percent, with a standard deviation of 67.8 percent. Size of the board of directors has a median value of 8 and a

standard deviation of 2.30. Separation dummy variable has a mean value of 0.47 and a standard deviation of 50 percent. The average debt to assets ratio is 36.4 percent, showing the services firm's leverage, while the size of services firms have an average logarithm of total assets equals 7.62, and an average growth of 1.34 for the services firms in the study sample (172 firm-year observation).

Table 2: Descriptive Statistics for Dependent and Independent Variables (by Sector)

Variable	Panel (A) Services Sector					
	Mean	**Median**	**Max.**	**Min.**	**Std. D.**	**N**
Total Assets*	95.962	38.521	1193.379	1.616	194.048	172
Total Liabilities*	54.198	10.130	951.841	0.111	140.057	172
Total Sales*	65.570	16.990	1022.857	0.701	169.136	172
Account Receivables*	20.678	1.960	497.350	0.678	67.131	172
EM	0.077	0.013	0.491	0.000	0.678	172
$SIZE_{BD}$	8.174	8	13	3	2.300	172
SEP	0.470	0	1	0	0.500	172
SIZE	7.620	7.586	9.077	6.209	0.528	172
GROW	1.341	1.109	11.553	0.169	0.976	172
LEV	0.364	0.283	1.606	0.019	0.261	172
	Panel (B) Industrial Sector					
Total Assets*	108.469	15.446	1798.636	0.320	29500	233
Total Liabilities*	45.250	5.145	1649.670	0.152	18600	233
Total Sales*	117.166	10.246	4624.128	0	50100	233
Account Receivables*	24.263	2.075	1362.243	0	103900	233
EM	0.050	0.010	0.250	0.000	0.323	233
$SIZE_{BD}$	7.103	7	13	3	2.298	233
SEP	0.433	0	1	0	0.500	233
SIZE	7.321	7.189	9.255	5.505	0.655	233
GROW	1.138	0.982	7.605	0.439	0.794	233
LEV	0.403	0.352	1.542	0.069	0.249	233

* Total Assets, Total Liabilities, Total Sales and Account Receivables are in Millions of Jordanian Dinars (JODs) and are NOT used in the analysis.

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

The descriptive statistics for industrial sector firms listed on ASE are shown in Panel B of table 2. It shows that, on average industrial firms have an average total assets of about 108 million JOD varies from a minimum of 0.32 million to a maximum of almost 1.8 billion. Total liabilities have a mean value of about 45 million varies from a minimum of 0.15 million to a maximum value of almost 1.65 billion. Average total sales (account receivables) for industrial firms is about 117 million JOD (24 million JOD). Panel B of table 2 also shows that, on average, industrial firms have an average discretionary accruals of 5 percent, ranged from a minimum of almost 0 to a maximum of 25 percent, with a standard deviation of 32.3 percent. Size of the board of directors has a median value of 7 and a standard deviation of almost 2.30. Separation dummy variable has a mean value of 0.43 and a standard deviation of 50 percent. The average debt to assets ratio is 40.3 percent, showing the industrial firm's leverage, while the size of industrial firms have an average logarithm of total assets equals 7.32, and an average growth of about 1.14 for the industrial firms in the study sample (233 firm-year observation).

In general, table 2 reveals that industrial firms have less discretionary accruals than services firms, discretionary accruals have a mean value of 5 percent for industrial sector, and 7.7 percent for services sector. Moreover, industrial firms have lower growth rate than services firms, growth is averaged almost 1.14 for industrial sector, and about 1.34 for services sector. However, industrial firms have witnessed a higher leverage ratio during the study period than services firms, the reported mean of

leverage ratio for industrial sector equals about 40 percent, while it equals about 36 percent for services sector. No apparent difference between the sample firms in term of separation impact, statistics on separation dummy variable are close to each other for both sectors, separation mean value of 0.47 for services sector and 0.433 for industrial sector (with a standard deviation of 50 percent for both sectors), which signals that the ownership structure effect (e.g., CEO role duality) does not vary among different sectors. Finally, it's noteworthy that Panel A of table 2 reports a maximum leverage of 1.606 for services firms, while Panel B of table 2 reports a maximum leverage of 1.542 for industrial firms, the observations in question are related to firms that have total debt exceeds their total assets due to financial losses, these outliers have been dropped from the analysis. The next table; table 3 provides descriptive statistics for the variables used in the analysis model. It documents the summary statistics on earnings management (discretionary accruals) for the sampled firms during the study period. The outliers -although reported in tables 2 and 3- are dropped from the regression analysis as they are linked to firms that do not report their full information about board of directors or it belongs to a firms that stopped its activities during the period of the study. The final sample contains 64 nonfinancial firms (28 services firm and 36 industrial firm).

Table 3: Descriptive Statistics for Dependent and Independent Variables (Full Sample)

Variable	Full Sample					
	Mean	**Median**	**Max.**	**Min.**	**Std. D.**	**N**
Total Assets*	103.000	25.912	1798.636	0.320	25900	405
Total Liabilities*	49.050	7.489	1649.670	0.111	17100	405
Total Sales*	86.416	12.830	4624.128	0	39700	405
Account Receivables*	22.740	1.998	1362.243	0	11400	405
EM	0.061	0.012	0.491	0.000	0.505	405
$SIZE_{BD}$	7.558	7	13	3	2.357	405
SEP	0.449	0	1	0	0.498	405
SIZE	7.448	7.413	9.255	5.505	0.622	405
GROW	1.224	1.028	11.552	0.169	0.880	405
LEV	0.386	0.327	1.606	0.019	0.255	405

* Total Assets, Total Liabilities, Total Sales and Account Receivables are in Millions of Jordanian Dinars (JODs) and are NOT used in the analysis.

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

As documented by table 3, Jordanian nonfinancial listed firms, as per the selected sample, have an average discretionary accruals of 6.1 percent, ranges from a minimum of almost 0 to a maximum of about 50 percent, this result is consistent with prior research in the context of Jordanian market (see for example, Al-Fayoumi et al., 2010 and Abbadi et al., 2016). Moreover, the standard deviation of earnings management, which measures the spread in managing earnings, is about 50 percent, which points to the high variation and wide spread of earnings management among ASE nonfinancial listed firms. The average (median) firms growth is 1.22 (1.03), showing the growth firms. However, the range of total assets varies from a minimum of 0.320 million JOD to a maximum of almost 1.8 billion JOD with an average of 103 million JOD. The range of leverage ratio varies from a minimum of almost 2.0 percent to a maximum value of 98 percent, with an average (standard deviation) of 38.6 percent (25.5 percent). This suggests that Jordanian nonfinancial firms, in general, are not highly leveraged. Apparently; firms do not depend heavily on debt to finance their assets, which is consistent with Alkhalaileh (2016) findings. Most importantly; Separation has a mean (median) value of 0.449 (0) and a standard deviation of 0.498, means that almost half of the sampled firms have CEO who also serves as a Chairman of the board of directors. It's noteworthy that board size has an average (median)

of 7.558 (7), with a maximum value of 13 and a minimum value of 3, as Jordanian firms are obligated by corporate governance code to have a board of directors members that ranges from 3 to 13 member. Finally, table 3 shows a minimum value of zero for total sales and account receivables, the observations in question are related to firms that either stopped working due to financial losses or its core business has changed during the study period, these observations have been dropped from the analysis as its financial data were missing.

5.2. Correlation Results

Pairwise correlation coefficients between the variables are shown in table 4 below.

Table 4: Pearson Correlations [a] Matrix of the Variables

Variable	EM	$SIZE_{BD}$	SEP	SIZE	GROW	LEV
EM	1					
$SIZE_{BD}$	-0.015	1				
SEP	-0.008	0.190*	1			
SIZE	0.000	0.168*	0.023	1		
GROW	-0.002	-0.010	0.050	-0.071	1	
LEV	0.075	-0.132*	-0.162*	0.128*	0.022	1

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

a. Listwise N= 384

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

Table 4 shows the correlation matrix for the variables used in this study. Pearson correlation matrix shows significant pairwise correlations between some explanatory variables. Although it's weak, the significant correlation between these variables is noteworthy. First, board size is positively correlated to separation at 1% significant level (0.190). In addition, negative correlation of (0.132) exists between board size and leverage. Second, leverage is negatively correlated to separation at 1% significant level (-0.162) and positively correlated with firm size at1% level of significance (0.128); while the latter is significantly positively correlated with board size (0.168) at 1% significant level. The positive correlation between firm size and leverage can be attributed to the fact that larger firms have the capacity for borrowing more than smaller firms, as they have higher leverage constraint levels. As for the dependent variable; Table 4 doesn't record any association between earnings management and any of the explanatory variables. None of the remaining variables are correlated to an extent that merits noting, the magnitude of correlations does not exceed 0.20 and therefore, the relations between variables appear small.

5.3. Empirical Results

To examine the determinants of earnings management, the regression equation (presented earlier in section 4.3) has been used. The regression estimates the impact of several variables on the absolute value of discretionary accruals (as a proxy for earnings management) in the study sample using panel data analysis. The model is carried out after the realization of the required modifications and changes; these are (1) removal of outliers and (2) log transformation for total assets. Table 5 below shows the estimated results of the Ordinary Least Squares (OLS) regression model.

Table 5: Results of the OLS Regression Model

EM	Coefficient	Std. Error	t-Statistic	Prob.>|t|
C	0.069	0.027	2.580	0.010
$SIZE_{BD}$	0.002	0.001	1.557	0.120
SEP	-0.001	0.003	-0.415	0.678
SIZE	-0.010	0.004	-2.731	0.007
GROW	0.007	0.003	2.773	0.006
LEV	0.022	0.010	2.335	0.020
D1	-0.003	0.005	-0.692	0.490
R^2 = 0.052; N= 384			F= 3.434, Prob. > F= 0.003	

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = firm growth; the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk, *D1*= dummy variable equals to 1 if the firm belongs to the industrial sector and 0 otherwise.

Table 5 shows that the R^2 value for the OLS regression model equals 5.20 percent, which means that 94.80 percent of the variation in earnings management practices not explained by the model. Moreover, only 5.20 percent of the overall variance is explained by the variables in the model. The significant predictors were leverage at 5% level of significance and firm size and growth at 1% level of significance. The regression coefficient values were 0.022, -0.010 and 0.007 respectively, with t-values of 2.335, -2.731 and 2.773 respectively. The next table; table 6 shows the estimated results of the fixed effect regression model.

Table 6: Results of the Fixed Effect Regression Model

EM	Coefficient	Std. Error	t-Statistic	Prob.>|t|
C	-0.013	0.171	-0.075	0.941
$SIZE_{BD}$	0.006	0.003	1.667	0.097
SEP	-0.001	0.005	-0.119	0.905
SIZE	-0.003	0.022	-0.125	0.901
GROW	0.005	0.004	1.194	0.233
LEV	0.025	0.021	1.175	0.241
R^2 = 0.327; N= 384			F= 2.253, Prob. > F= 0.000	

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = firm growth; the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

Table 6 shows that the R^2 value for the OLS regression model equals 32.70 percent, which means that 67.30 percent of the overall variance not explained by the variables in the model. The only significant predictor was board size at 10% level of significance. The regression coefficient value was 0.006, with t-value of 1.667. The next table; table 7 below shows the estimated results of the random effect regression model.

Table 7 shows that the R^2 value for the regression model equals 3.60 percent, which means that 96.40 percent of the overall variance not explained by the variables in the model. The significant predictors were leverage at 10% level of significance, firm size and growth at 5% level of significance. The regression coefficients values were 0.022, -0.010 and 0.006 respectively, with t-values of 1.915, -2.045 and 2.187 respectively.

Table 7: Results of the Random Effect Regression Model

EM	Coefficient	Std. Error	t-Statistic	Prob.>|t|
C	0.068	0.036	1.889	0.060
$SIZE_{BD}$	0.002	0.001	1.409	0.160
SEP	-0.001	0.004	-0.308	0.758
SIZE	-0.010	0.005	-2.045	0.042
GROW	0.006	0.003	2.187	0.029
LEV	0.022	0.012	1.915	0.056
D1	-0.003	0.006	-0.504	0.615
R^2 = 0.036; N= 384			F= 2.321, Prob. > F= 0.032	

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = firm growth; the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk, *D1*= dummy variable equals to 1 if the firm belongs to the industrial sector and 0 otherwise.

In order to determine which model is fit with panel data, Hausman test was performed; where the null hypothesis is that the preferred model is random affects Vs. the alternative that the fixed effects model is suitable. It tests whether the unique errors (ui) are correlated with the regression; the null hypothesis is they are not. Hausman test was performed and showed that the study model should use the random effect regression. Based on the results of Hausman test, Chi-square value (3.813) is statistically insignificant (P= 0.577). Thus the random effect was used for hypotheses testing. The usage of random effect panel data method is due to the fact that cross-section regressions may omit significant explanatory variables; in this case, there is a possibility of a correlation between the omitted variables and any variable in the model. Which potentially cause statistical bias in the estimated relations.

The results of the random effect regression model (presented above in table 7) show a significant negative relationship between firm size and earnings management. Consistent with our predictions, the fact that the coefficient of the firm size is negative indicates that larger firms are less involved in earnings management practices compared to smaller firms, because smaller firms are subject to less governor from directors and so, managers tend to involve in earnings management practices. Moreover, smoothed income signals from larger firms add little value; accordingly; they have less incentive to smooth income. This finding is consistent with Abed et al. (2012) and Xu and Ji (2016). The estimated results also show a significant positive relationship between growth and earnings management. Consistent with our predictions, the positive coefficient of growth means that firms with higher growth rate have higher discretionary accruals. According to Healy and Palepu (2003), firms with the highest growth opportunities are likely to have more private information about these prospects, which would exacerbate the problems of asymmetric information. Therefore, insiders try to reveal this relevant information through financial statements in which earnings have been managed to signal the profitable projects available to the firm. It can be seen in table 7 that there is a significant positive relationship between leverage and discretionary accruals. Consistent with Deangelo et al. (1994), also consistent with the study predictions, leverage is positively correlated with earnings management, indicating that managers in more leveraged firms are more likely to adopt aggressive earnings management techniques to hide the negative impact of projects (Watts and Zimmerman, 1986). In other words, managers are more likely to exercise their accounting discretion granted by GAAP when they are closer to default on debt covenants (Press and Weintrop, 1990). This result is lower than the result reported by Alkhalaileh (2016), who reports a significant leverage coefficient of 0.135. Surprisingly, and inconsistent with our predictions, none of the independent variables (board size and separation) have been found to have a statistically significant effect on discretionary accruals. Which is also inconsistent with prior studies (Jensen,1993; Xie et al., 2003 and Ghosh et al., 2010).

Board size has an insignificant positive relationship with earnings management, indicating that smaller boards are as efficient as larger boards in constraining earnings management. Finally, as depicted by the selected sample, separation has kept the insignificant negative relationship with earnings management in tables 5,6 and 7, indicating that there is a small and negligible role for the separation of the positions of CEO and Chairman of the board of directors in constraining earnings management.

It is difficult to compare firms in two different sectors in terms of their growth and leverage due to the differences in their size and composition of debt and equity. Therefore, the regression analysis includes industry effects. Ideally, one would perform the analysis for each sector by itself; however, as the size of the sample decreases sharply for each sub-sample, this study runs the analysis for all sectors using industry effects, in addition to performing the analysis for each sector by itself. Regression results for each sector are shown below in the next two tables.

Table 8: Results of the OLS Regression Model (Services Sector)

EM	Coefficient	Std. Error	t-Statistic	Prob.>|t|
C	0.144	0.055	2.627	0.009
$SIZE_{BD}$	0.002	0.002	0.712	0.478
SEP	0.003	0.010	0.333	0.740
SIZE	-0.018	0.007	-2.452	0.015
GROW	0.001	0.005	0.322	0.748
LEV	0.009	0.019	0.468	0.641
R^2 = 0.039; N= 168			F= 1.313, Prob. > F= 0.261	

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = firm growth; the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

Table 8 shows that for the services firms the model is insignificant (F= 1.313, P= 0.261). Also the R^2 value for the regression model equals 3.90 percent, which means that 96.10 percent of the overall variance not explained by the variables in the model. Firm size was the only significant predictor in the analysis (α = 5%), the coefficient value was -0.018, with t-value of -2.452. All other variables does not appear to have any significant effect on earnings management. However, board size, separation, growth and leverage have a statistically insignificant positive effect on discretionary accruals. The next table; table 9 shows the estimated results of the regression model for industrial sector.

Table 9: Results of the OLS Regression Model (Industrial Sector)

EM	Coefficient	Std. Error	t-Statistic	Prob.>|t|
C	0.002	0.024	0.070	0.944
$SIZE_{BD}$	0.000	0.001	0.487	0.627
SEP	-0.001	0.003	-0.277	0.782
SIZE	-0.002	0.003	-0.524	0.601
GROW	0.016	0.003	5.273	0.000
LEV	0.032	0.009	3.504	0.001
R^2 = 0.187; N= 216			F= 9.663, Prob. > F= 0.000	

EM = earnings management; measured as the absolute value of the difference between total accruals and the non-discretionary components of accruals, $SIZE_{BD}$ = the number of directors on the board, *SEP* = dummy variable that equals to one when a firm CEO also serves as the chairman of the board of directors; 0 otherwise, *SIZE* = firm size; the natural logarithm of the firm's fiscal year-end total assets, *G*ROW = firm growth; the sum of the market value of equity and the book value of debt scaled by the book value of total assets, *LEV* = total debt to total assets; a measure of financial risk.

Table 9 shows that for the industrial firms the model is highly significant (F= 9.663, P= 0.000). Also the R^2 value is sharply increased (0.187) compared to services sector, which means that 18.70 percent of the overall variation in discretionary accruals for industrial firms are explained by the variables in the model. The significant predictors were growth and leverage ($\alpha = 1\%$). The regression coefficients values were 0.016 and 0.032 respectively, with t-values of 5.273 and 3.504 respectively. The results reported in tables 8 and 9 indicate that there are no differences between the two sectors, industrial and services, in term of the association between earnings management and board size. Finally, it is obvious that the OLS random effect regression results for full sample (presented earlier in table 7) are driven by industrial firms, since their results are almost close to each other, and they have the same significant predictors.

6. Conclusions

This paper investigated the impact of board of director's size and CEO role duality on discretionary accruals for a sample of nonfinancial listed firms in Jordan during the period of 2012-2017 using panel data analysis. The empirical results provided evidence that earnings management practices in Jordan are relatively small, even smaller in industrial sector. We find a conclusive evidence that larger firms are less involved in earnings management practices compared to smaller firms. Earnings management signals from larger firms add little value, accordingly; managers of such firms have less incentives to manipulate earnings.

The analysis in this paper indicates that firm's growth is positively and significantly associated with discretionary accruals, positing that firms with the highest growth opportunities are likely to have more private information about these prospects, which would exacerbate the problems of asymmetric information. Therefore, insiders try to reveal this relevant information through financial statements in which earnings have been managed to signal the profitable projects available to the firm. Furthermore, the findings suggest a positive significant impact of leverage on discretionary accruals. The fact that the coefficient of leverage is positive indicates that managers in more leveraged firms are more likely to adopt aggressive earnings management techniques to show a margin of safety to their creditors and to avoid violation of debt covenants.

Surprisingly, the results revealed that separation has no influence on discretionary accruals, the insignificant negative relationship with earnings management indicates that there is a small and negligible role for the separation of the positions of CEO and Chairman of the board of directors in constraining earnings management. we believe this result is due to the fact that manager's rewards and compensations in Jordanian listed firms are not tied to the firm's financial performance, therefore, managers have less incentives to increase the reported earnings, when the firm's current period earnings are low.

Finally, the analysis in this paper fails to link board of director's size to discretionary accruals. We believe this result is due to the fact that smaller boards are as efficient as larger boards in monitoring earnings management. Accordingly; listed firms are recommended to reduce the number of board of directors members, as more directors are added, the incremental cost of poorer communication and decision making associated with larger groups are likely to overwhelm advantages of a larger board.

Based on our findings, we believe that listed firms, especially financially distressed firms, should rely more on equity instead of debt to finance their assets and to cover any potential losses, which will reduce manager's motives to manipulate earnings. Since higher debt is involved in higher discretionary accruals. On the other hand, policy-makers and involved authorities should provide more effective monitoring of earnings management practices in Jordanian firms, especially those with a small size, where managers have greater motivation and opportunity to manage earnings to maximize their private benefits.

Overall, the results raise questions about the validity of the modified Jones model and whether or not different models (such as Deangelo, 1986) should be used in future studies regarding earnings management. Perhaps the most important area for future research is on the effect of ownership type

(e.g., widely held firms, state controlled firm, privately controlled firms) on managing earnings in Jordanian firms. In addition, the role of audit committees in reducing earnings management is an avenue for more research, another avenue is the interaction between performance measures and earnings management.

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References

[1] Abbadi, S. S., Hijazi, Q. F. and Al-Rahahleh, A. S., 2016. "Corporate Governance Quality and Earnings Management: Evidence from Jordan", *Australasian Accounting*, *Business and Finance Journal* 10(2), pp. 54-75.

[2] Abbott, J., Parker, S. and Peters, G. F., 2004. "Audit committee characteristics and restatements", Auditing: *Journal of Practice and Theory* 23, pp. 69-87.

[3] Abed, S. Attar, A. and Suwaidan, M., 2012. "Governance and earnings management: Jordanian Evidence", *International Business Research* 5(1), pp. 216-225.

[4] Aini, A., Takiah M.I., Pourjalali, H and Teruya, J., 2006. "Earnings Management in Malaysia: A Study on Effects of Accounting Policy", *Malaysian Accounting Review* 5(1), pp. 185-209.

[5] Al-Fayoumi, N., Abuzayed, B. and Alexander, D., 2010. "Ownership Structure and Earnings Management in Emerging Markets: The Case of Jordan", *International Research Journal of Finance and Economics* 38(1), pp. 28-47.

[6] Alkhalaileh, M., 2016. "The Association between Corporate Social Responsibilities Disclosure and Ownership Structure: An Empirical Study on Companies listed in ASE", *The Journal of American Academy of Business*22, pp. 103-111.

[7] Azzoz, A. and Khamees, B., 2016. "The Impact of Corporate Governance Characteristics on Earnings Quality and Earnings Management: Evidence from Jordan", *Jordan Journal of Business Administration*, 12(1), pp. 87-207.

[8] Bartov, E., Gul, F.A. and Tsui, J.S.L., 2001. "Discretionary-accrual models and audit qualifications", *Journal of Accounting and Economics* 30, pp. 421-452.

[9] Beasley, M. S., and S.E. Salterio, 2001. "The relationship between board characteristics and voluntary improvements in audit committee composition and experience", *Contemporary Accounting Research* 18, pp. 539-520.

[10] Bedard, J., S. M. Chtourou and L. Courteau, 2004. "The Effect of Audit Committee Expertise, Independence, and Activity on Aggressive Earnings Management", Auditing: *Journal of Practice and Theory* 23, pp. 13-35.

[11] Chung, R., Firth, M. and Kim, J.B., 2005. "Earnings Management, Surplus Free Cash Flow, and External Monitoring", *Journal of Business Research* 58, pp. 766-776.

[12] DeAngelo, H., DeAngelo, L. and Skinner, D. 1994. "Accounting choice in troubled companies", Journal of Accounting and Economics 17, pp. 113-143.

[13] Ghosh, A., A. Marra, and D. Moon, 2010. "Corporate Boards, Audit Committees, and Earnings Management: Pre- andPost-SOX Evidence", *Journal of Business Finance and Accounting* 37 (9-10), pp.1145-1176.

[14] Healy, P. and Palepu, K., 2003. "How the quest for efficiency corroded the market", *Harvard Business Review* (July), pp. 76-85.
[15] Healy, P. and Wahlen, J., 1999. "A review of the earnings management literature and its implications for standard setting", *Accounting Horizons* 13(4), pp. 365-383.
[16] Jensen, M. C., 1986. "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers", *American Economic Review* 76, pp. 323-329.
[17] Jensen, M. C., 1993. "The modern industrial revolution, exit, and the failure of internal control systems", *The Journal of Finance* 48(3), pp. 831-850.
[18] Klein, A., 2006b. "Economic determinants behind variations in audit committee independence", *Working paper*, New York University.
[19] Klein, A., 2002. "Audit Committee, Board of Director Characteristics, and Earnings Management", *Journal of Accounting and Economics* 33, pp. 375-400.
[20] Kothari, S.P., Leone, A.J. and Wasley, C.E., 2005. "Performance matched discretionary accrual measures", *Journal of Accounting and Economics* 39, pp. 163-197.
[21] La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 1999. "Corporate Ownership around the World", Journal of Finance 54 (2), pp. 471-517.
[22] Lin, J., Li, J. and Yang, J., 2006. "The effect of audit committee performance on earnings quality", *Managerial Auditing Journal* 21(9), pp. 921-933.
[23] Lin, J., W. and Hwang, M., 2010. "Audit quality, corporate governance, and earnings management: A Meta-Analysis", *International Journal of Auditing* 14, pp. 57-77.
[24] Peasnell, K. V., Pope, P. F. and Young, S., 2000. "Detecting Earnings Management Using Cross-Sectional Abnormal Accruals Models", *Accounting and Business Research* 30, pp. 313-326.
[25] Peasnell, K. V., Pope, P. F. and Young, S., 2005. "Board Monitoring and Earnings Management: Do outside directors influence abnormal accruals? ", *Journal of Business Finance and Accounting* 32, pp. 1246-1311.
[26] Press, E. and Weintrop, J., 1990. "Accounting-based constraints in public and private debt agreements: their association with leverage and impact on accounting choice", *Journal of Accounting and Economics* 12 (1), pp. 65-95.
[27] Schipper, K., 1989. "Commentary on earnings management", *Accounting Horizons* 3(4), pp. 91-102.
[28] Shen, C. H. and H. Chih, 2007. "Earnings Management and Corporate Governance in Asia's Emerging Markets", *Corporate Governance: An International Review* 15, pp. 999-1021.
[29] Shleifer, A. and Vishny, R. W., 1997. "A Survey of Corporate Governance", *Journal of Finance* 52, pp. 737-783.
[30] Tayem, G., 2015. "Ownership Concentration and Investment Sensitivity to Market Valuation", *Corporate Ownership and Control* 13 (1), pp. 1228-1240.
[31] Watts, R. and Zimmerman, J., 1986. "Positive Accounting Theory", *Working paper*, Englewood Cliffs, NJ: Prentice Hall.
[32] Xie, B., Davidson, W.N. III and DaDalt, P.J., 2003. "Earnings management and corporate governance: the role of the board and the audit committee", *Journal of Corporate Finance* 9, pp. 295-314.
[33] Xu, G. and Ji, X., 2016. "Earnings management by top Chinese listed firms in response to the global financial crisis", *International Journal of Accounting and Information Management* 24(3), pp. 226-251.
[34] Yang, J. S. and Krishnan, J., 2005. "Audit committees and quarterly earnings management", *International Journal of Auditing* 9, pp. 201-219.
[35] Yermack, D., 1996. "Higher Market Valuation of Companies with a Small Board of Directors", *Journal of Financial Economics* 40, pp. 185-211.