



## BOARD CHARACTERISTICS AND FINANCIAL REPORTING QUALITY: EVIDENCE FROM JORDAN

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### Abstract

This paper aims outspreading preexisting researches by assessing practically and empirically how board characteristics play a vibrant role in magnitude of earning management (EM) for the Jordanian listed companies. In particular, the paper throws its light on the principle features of the board of directors, i.e. board independence, CEO duality, financial expertise, governance expertise, firm-specific expertise and size. In this paper, a cross-sectional version of the Modified Jones Model is applied to ensure the accurate assessment of the key impacts of board characteristics on EM for a sample of 86 industrial listed companies on the Amman Stock Exchange (ASE) for the years 2008 to 2010. Discretionary accruals are used as proxy for EM. This study, on the basis of findings, reveals the significant correlation between salient board features and EM. Findings of this systematic observation demonstrate that board independence, financial expertise, governance expertise and size have a negative relation with EM. It also found that CEO duality and board firm-specific expertise have an obvious positive relation with discretionary accruals. The findings suggested that the board character has an effective role in detecting EM and in turn improve financial reporting quality (FRQ). In real fields, the discoveries of this paper portray valuable information for the regulators in different countries. The results also provide useful information for investors in assessing the impact of board characteristics on FRQ. In fact, previous studies on this very issue in this context do not meet the demand of comprehensive observation appropriately. To make input in this area, particularly among Jordanian companies, this study will extend the scope through providing empirically tested findings of the role of board directors' characteristics on EM. In addition, this paper is the first empirical study to investigate the relationship between the board of directors' characteristics and EM in Jordan.

**Keywords:** Board of Directors, Corporate Governance, Earning Management, Financial Reporting Quality

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### 1. Introduction

Several corporate scandals along with the changing trend of global economic environment forced the development of corporate governance. The core of

these scandals was EM phenomenon (Goncharov, 2005; Habbash, 2010). Moreover, the East Asian financial crisis in 1997/1998 focused the fragility and incapability of poor governance standards that were, in a great extent, indirectly liable for the

crisis. This resulted a sharp fall down in foreign investors' confidence curve in the capital market (Hashim and Devi, 2009; Leng, 2004; Nam and Nam, 2004; Rahman and Haniffa, 2005). These situations have drawn the immense concentration to improve the corporate governance to improve FRQ and in turn, recapture the investors' confidence in the capital market (Abed *et al.*, 2012; Ebrahim, 2007; Pergola, 2005).

Jordan similarly faces the experiences of financial scandals such as Shamayleh Gate. This required Jordan to consolidate both the foundation and the principles of corporate governance in order to endorse transparency, accountability and the rule of law (JFED, 2003). To help Jordan in this, the present study offers empirical tests and analysis on the explicit and implicit impacts of board characteristics on EM.

Razaei *et al.* (2003) and Waweru and Riro (2013) stated that good corporate governance promotes practice mechanisms of accountability among the primary corporate participants and this may enhance overall corporate performance. Healthy corporate governance holds management accountable to shareholders. A number of prominent participants in the debates surrounding financial reporting and auditing practices have increased attention on the role of corporate governance procedures in the development of credible financial statement information (Levitt, 1998). Previous studies suggested that corporate governance can be associated with higher FRQ (Beeks and Brown, 2006; Bradbury *et al.*, 2006; Firth *et al.*, 2006; Jiang *et al.*, 2008; Karamanou and Vafeas, 2005; Lai, 2011; Nugroho and Eko, 2012; Waweru and Riro, 2013).

This study is, obviously, a breakthrough for the following whys and wherefores: first, the researcher affords a novel contribution to the EM literature; meanwhile as this paper is the first original input to delve the relationship between the impacts of several characteristics of board of directors and EM activities. There is also no solitary study that has addressed the effectiveness issue of the board governance expertise and board firm-specific expertise in monitoring company management with respect to EM. By the way, the present study puts an original/ordinary/primary type contribution to understanding the interrelating of the board role. Additional interesting feature of investigation this issue in Jordan context is that the Jordan Corporate Governance Code (JCGC) have gone through a series of processes and stages of amendments and improvements to form the present code. The researcher conducting the first study to inspect the relationship between board of directors and the extent of opportunistic EM in Jordan since the JCGC has been introduced in 2009. This study may shed some light on the effectiveness of the latest corporate governance recommendations on

improving FRQ in Jordan. Finally, previous literatures are mainly based on and related with the context of United State of America (USA) and United Kingdom (UK). To the best of our knowledge, there is slight research into the relationship between corporate governance mechanisms and managers' engagements in EM in Jordanian listed companies. Hofstede (2003) and De Zoysa and Rudkin (2010) documented that while the USA and the UK are similar in many aspects, numerous organizational differences exist in these two countries. In term of corporate governance recommendations, many international accounting researches find a number of differences in the composition of boards, levels of executive compensation and the functions of audit committee (Ferguson *et al.*, 2004; Monks and Minow, 2011). Not only corporate governance but also the EM notion is diverse amongst the two countries. Brown and Ngo Higgins (2002) claimed that the level to which USA managers manage earnings is significantly higher than that extent of their counterparts in the UK. It thus considered valuable to spread the previously testes empirical evidences through references and comparison to Jordan context to find how and in what extent Jordan is different from USA and UK.

Jordan is one amongst countries where the users developed a common trend to rely on accounting numbers for decision-making; it drawn a massive importance to reflect the area of EM to protect the users from being misled. Moreover, in Jordanian context, the lack of studies about EM forced this study to aim at providing evidence regarding EM activities. Using a sample of Jordan companies listed in ASE, this paper examines the impact of the boards' characteristics on the magnitude of discretionary accruals. The founded data suggests that board independence, board financial expertise, board governance expertise and know-hows and board size are negatively and significantly related to EM, while CEO duality and board firm-specific expertise (tenure) are positively and significantly related with EM.

Findings from this study could benefits corporate governance bodies that are considering reforms over the best practices. In particular, this study finds that the corporate governance mechanism (board) appears to be negatively related to EM. CEO duality and board firm-specific expertise are of the least important variables in respect to improving FRQ (Klein, 2002b; Hashim, 2009; Rahman and Ali, 2006). Given that CEO duality and board tenure are the most important platform for board of directors to discuss and share their expertise, it is awkward when they are viewed as a less credible internal governance mechanism. Regulators and other standard setters will have to pay their deep concentration on this issue. Findings from this study are also being mainly beneficial to

the shareholders, management and public members who are carefully concerned about the harmful effects of EM. In light of a latest corporate scandal in 2011 including Olympus, the finding from this study stresses the significance of companies providing sufficient monitoring and information to retain investors and analysts well informed. This study can have a great benefit for researchers who are engaged in investigating the implications of corporate governance mechanisms in deterring EM. As this study found that the effects of board characteristics exceed in reducing EM. This study will also carry values for the academics as it takes into account possible for simultaneous association between board and EM.

The reminder of this paper is organized as follows: Section two discusses the literature review and hypotheses development. Section three portrays a picture of the research design. Section four demonstrates the findings and analysis. Lastly section five presents the summary and conclusions..

## 2. Literature Review

### 2.1 Financial Reporting Quality (FRQ)

Verdi (2006) conceptually defined FRQ as the precision with which financial reporting conveys information about the firm's operations, in particular its expected cash flows, in order to inform equity investors. Schiller and Vegt (2010 as cited in Francis *et al.*, 2008) argued that accounting quality has a great impact from multiple dimensions. They used a two-dimensional concept: they first asked whether there is faithful representation that if the earnings report is unbiased. If an earnings report is faithful, it leads to a better reflection of the shareholder value in the stock price. Secondly, they asked if the report is regular on the basis of its scheduled fixed time. If a manager has early financial information, the introduction of interim reporting leads to an increased timeliness if the information is disclosed at the interim stage rather than at the end of the fiscal year. To summarize, they defined accounting quality as improved if, for a given degree of timeliness, there is increased faithfulness or if, for a given degree of faithfulness, there is better timeliness.

Financial reporting, in its ideal sense, should provide information to help investors, creditors, and other users assess the amounts, timing, and uncertainty of prospective net cash inflows to the related enterprise. Available data on enterprise earnings and its components measured by accrual accounting generally demonstrates a relatively obvious indication of enterprise performance than the data on current cash receipts and payments (IASB, 2010). The plea for having a full-fledge financial report and its openness arises from

information asymmetry and agency conflicts between managers and outside investors (Healy and Palepu, 2001). Hence, the purpose of corporate reporting is to ensure disclosure of necessary information that is useful to a wide range of users in designing economic decisions. Standards and Poor's (2003) correctly observed that, investor confidence and market efficiency depend on the disclosure of accurate and timely information about corporate performance. However, Cascino *et al.* (2010) refers the quality of accounting information to the informativeness of reported numbers, the level of disclosure, and the degree of compliance with generally accepted accounting standards.

FRQ can be examined from the perspective of EM, financial restatement and fraud (Barth *et al.*, 2008; Nichols and Wahlen, 2004). Teets (2002) recognized three decisions that have notable impact on FRQ: standard setters' decisions, management choices on the accounting method and management judgment and estimates in implementing the chosen alternatives.

This paper puts its utmost effort to concentrate on EM since it is the greatest committed fraud in the capital market (Al-Khabash and Al-Thuneibat, 2009). Large body of academic literatures discussed the issue of EM (Dechow and Skinner, 2000; Healy and Wahlen, 1999; Lo, 2008; Schipper, 1989). Schipper (1989, p. 92) defined EM as: "... purposeful intervention in the external financial reporting process, with the intent of obtaining some private gains". In addition, Healy and Wahlen (1999, p. 368) stated that EM may occur: "... when managers use judgment in financial reporting and in structuring transactions to alter financial reports in order to either mislead some stakeholders about the underlying economic performance of the company or to influence", in a severe extent, "contractual outcomes that depend on reported accounting numbers". Moreover, Levitt (1998) the Chairman of SEC, said: numbers game, expressed the concern and fears about the EM practices and sequentially the negative effects on FRQ. "Choices, judgments and estimates are an inevitable consequence of not being able to observe, measure and communicate economic value-added accurately and reliably" (Brown, 1999, p. 61). A great number of techniques and mechanisms are available that managers can apply the judgment in an effective financial reporting and in turn results relatively better and more opportunities for them to manipulate earning for their benefits. The financial reporting judgment decorates prospects for managers to manage earnings by choosing the reporting methods along with the estimation that did not precisely reflect the firms underlying economics (Healy and Wahlen, 1999).

The above definition of EM is focused on the managers' intent, which is hard to observe (Dechow and Skinner, 2000; Lo, 2008; Loomis, 1999;

Wiedman, 2002). As an inexorable outcome, this is quite usual to perceive the reported numbers by having a deep observation for the related context where EM is primarily like to happen and try to gather large firms' samples in the same context to provide evidence of EM activity (Wiedman, 2002). Consequently, the measurement discussions of EM issues are on-going because the difficulty differentiates between the management true belief and the management intention to manipulate earnings. Healy and Wahlen (1999) studied the literature of EM and its implications for the standard setting. They argued that previous EM literature did not afford notable evidence on the interest question to standard setters but only documented the presence of EM issues. Questions about the EM choice and level are, willy-nilly, left unanswered because of these measurement issues. Furthermore, assumed that managers are more sophisticated; the process in which they deal with and engage in EM are not simple-minded as well as it is not amazing that the newest studies documented EM in their studies (Lo, 2008). In consideration of the issues of this measurement, the evidence of EM is attained through looking at the managers' incentives to manage earnings (Dechow and Schrand, 2004). The circumstances which take place as effect where the causes are those incentives are identified and followed over the estimation of unexpected accruals to observe the impact of managers' discretion (Healy and Wahlen, 1999). Christensen *et al.* (1999) proposed that as managers have incentives and potentials to manage earnings they are engaged in EM. There are three main incentives that afforded managers to manage earnings, i.e. contractual incentives, market incentives and regulatory incentives (Dechow and Skinner, 2000; Healy and Wahlen, 1999; Jackson and Pitman, 2001).

In the recapitulation, it could be assumed that EM arises when there are incentives and opportunities for it. As a result, the question can be raised: how companies are able to get away of it? This question leads to the following subsequent discussion of the role that corporate governance can play in reducing EM activity and in turn, safeguarding and improving FRQ.

## 2.2 Corporate governance

Corporate governance denotes the governing companies which act in order to protect shareholders' interest. The differentiation of ownership and control has directed to the assortment of appropriate corporate governance mechanisms to confirm the alignment of interest of principle and agents in an efficient way. Shleifer and Vishny (1997) viewed corporate governance from the agency perspective that investors will get their investment back from managers. The agency

theory has a deep concern about the problem of principle-agent in the separation of ownership and control of the company and addresses the possible for agency problems (Fama and Jensen, 1983; Jensen and Meckling, 1976). Contracts signed between shareholders and managers give managers essential residual controlling rights that create opportunities practices by incumbent managers in order to confiscate the funds of shareholders (Shleifer and Vishny, 1997).

The Cadbury (1992, p. 15) defined corporate governance as:

*"... the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders' role in governance structure is in place. The responsibilities of the board include setting the strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship. The board's actions are subject to laws, regulations and the shareholders in general meeting"*.

The above definition identifies the role of boards of directors as an agent to direct and control the firms as well as communicate the accurate underlying financial information to the shareholders. The board of directors is quite active in performing the monitoring role on behalf of the shareholders and has the major responsibilities to lead and direct the firm in order to attain corporate goals through closely monitoring the management mechanisms and shielding the interest of shareholders. Additionally, the board is considered as the most powerful and effective corporate governance for scrutinizing the management activities to increase the value of firm (Abdullah and Nasir, 2004; Hashim, 2009). The presence of effective board ensures the presence of effective alignment of both managers' and owners' interests to actuate the shareholders' funds along with earnings so that the earnings are similar among every shareholders of the same firm.

Due to the significance of board as one of governance mechanisms, this paper has paid a great effort to assess the salient characteristics of boards empirically. Being equipped with this understanding permits Jordanian regulatory agencies to lessen EM activity and in turn increase FRQ.

### 2.2.1 Corporate governance and financial reporting quality

One of the most important corporate governance functions is to ensure the process of FRQ (Cohen *et al.*, 2004). Watts and Zimmerman (1978, p. 113) stated that: "one function of financial reporting is to constrain management to act in the shareholders' interest". Davis-Friday *et al.* (2006) indicated that the value relevance of earnings and book value were significantly lessened in the time of the Asian

financial crisis and was related to the relatively fragile performance of corporate governance mechanisms in four East Asian countries, i.e. Malaysia, Indonesia, Thailand and South Korea. Coombes and Wong (2004) revealed that the majority of investors have left their consent that that corporate governance is great concern and it has a great importance in strengthening the accounting disclosure quality. Bushman and Smith (2001) noted that the publicly disclosed accounting information can be applied as vital input information in different mechanisms of corporate governance. The significance of the corporate governance mechanisms to ameliorate FRQ and good corporate governance aids have a good outcome in decreases the risks of financial reporting problems (Cohen et al., 2004). Dana (2003, p. 44) noted that: "good governance goes in-hand with reduced risk of financial reporting problems and other bad accounting outcomes". Evidences from the previous studies of the relationship between poor governance and poor FRQ including EM, financial restatement and fraud are quite comprehensive (Beasley, 1996; Beasley et al., 2000; Davidson et al., 2005; Dechow et al., 1996; Habbash, 2010; Hashim, 2009; Kao and Chen, 2004; Klein, 2002a; Peasnell et al., 2000b; 2005; Xie et al., 2003).

In the Jordan context, Al-Momani and Obeidat (2013), based on the simple random sampling method, delved the effect of board (independence, size and composition) and audit committee activities on EM for 123 auditors working in Jordan. They found that the activities of both board of directors and audit committee restricting the practice of EM phenomenon. Abed et al. (2012) examined relationship of board size, CEO duality and board independence with EM for the non-financial firms during the period 2006-2009. The findings demonstrated that board size is negative and significant with EM, while, they failed to find out any relation between CEO duality and EM. The result also documented positive but insignificant relation between percentage of outsider in boards and EM. However, Al-Fayoumi et al. (2010) examined the relationship between ownership structure and EM for the period 2001-2005 for the industrial firms. Their results documented that managers' ownership is, in a great extent, ineffective in nature when aligning managers to take value of maximizing decisions. In addition, they observed an insignificant role for blockholders in monitoring managerial behavior of EM. Moreover, Al-Khabash and Al-Thuneibat (2009) provided evidences regarding the existence of EM from the perspective of both external and internal auditors. They believed that managers deal with increasing or decreasing of EM activities.

The question of whether the mechanisms of corporate governance is effective given the wide

corporate governance reforms for ensuring a significant decrease in EM and in turn, a notable increase in FRQ, is still an open vital query requiring additional empirical examination.

### **2.3.1 Hypotheses development**

Board of directors is the most vital role maker in ensuring the effectiveness corporate governance mechanisms in order to enhance the quality and integrity of accounting information (Cadbury, 1992). The most significant internal control mechanism as theorized by Fama and Jensen (1983) is not only the board of directors' precise responsibility for monitoring the top management actions but also the effective combination of work with senior management to attain corporate legal and ethical compliance. As a result, it increases the expectation that boards will constrain opportunistic EM activities (Abed et al., 2012; Epps and Ismail, 2009).

Board characteristics not only refer to its independence and CEO duality but also encompass the financial and governance expertise of the board members. The board firm-specific expertise and size are also vital among the elements of characteristics. It is imperative to find whether these attributes of the board of directors have a bearing on the EM incidence. Here, an examination of relevant past researches is presented in order to observe the effects of each characteristic on EM in a systematic process.

#### **2.3.1.1 Board independence**

The board of directors is a central mechanism as well as the central authority of internal control designed for scrutinizing the top management actions. Fama (1980) and Fama and Jensen (1983) suggested that the board effectiveness is a function of its composition. They argued that the presence of non-executive members improves the internal control mechanism through the corporate board. Actually, all board members are supposed to work to ensure the growth of the wealth of shareholders, agency theory argued that non-executive directors, due to their independence and specialized expertise, are mainly influential monitoring device of the actions of executive directors. Non-executive directors are possibly effective as: "outside directors have incentives to develop reputation as experts in decision control" (Fama and Jensen, 1983, p. 315). The board also can be considered as an instrument through which managers control other managers. As described by Fama (1980, p. 293), "if there is competition among the top managers themselves, then perhaps they are the best ones to control the board of directors".

Board composition ensures the impression to make an effective corporate governance mechanism

to decrease agency problems and increase FRQ. Research, in general, supports the notion that non-executive directors play a vital role in both monitoring management and providing relevant complementary knowledge (Booth *et al.*, 2002). Most of the preceding studies documented a negative relationship between the presence of outside directors and EM (Abed *et al.*, 2012; Al-Momani and Obeidat, 2013; Alves, 2011; Bedard *et al.*, 2004; Benkel *et al.*, 2006; Benkraiem, 2011; Booth *et al.*, 2002; Clout *et al.*, 2013; Epps and Ismail, 2009; Habbash, 2010; Jaggi *et al.*, 2009; Klein, 2002a; Lo, Wong and Firth, 2010; Niu, 2006; Osma, 2008; Osma and Noguera, 2007; Peasnell *et al.*, 2000a; 2000b; 2005; 2006; Siagian and Tresnaningsih, 2011; Uzun *et al.*, 2004; Waweru and Riro, 2013; Xie *et al.*, 2003). Contrary-wise, Dimitropoulos and Asteriou (2010) exposed that the informativeness of annual accounting earnings have a clear positive nexus regarding the fraction of outside directors. Others did not find any significant correlation between board independence and EM (Bradbury *et al.*, 2006; Park and Shin, 2004).

Hence, previous empirical findings appear to betoken that boards which are structured to be more independent of the management are more effective in monitoring the corporate financial accounting process. JCGC recommended at least half of the board should comprise of individual that have non-executive responsibilities in the organization (non-executive director) Thus, these evidences lead us to the following hypothesis:

*H1. The independence of the board of directors is negatively related to EM among Jordanian listed companies.*

### **2.3.1.2 CEO duality**

The differentiation among the roles of chairman and CEO is recommended to avoid the potential risk to concentrate the substantial power whereby similar person executes both roles (Davidson *et al.*, 2005). Agency theory also argued the separation of these two roles in order to ensure the effective monitoring over the process of board (Fama and Jensen, 1983; Jensen, 1993; Saleh *et al.*, 2005). The independence role of chairman from the company affairs, whereas being on the company board and in turn, will be a beneficial check on the CEO (Rahman and Ali, 2006). Research by Cornett *et al.* (2008) revealed that the separation of CEO and board chairperson will encourage a more efficient and effective supervision. Saleh *et al.* (2005) documented that the separation of two roles is significant in reducing EM activity. Rahman and Haniffa (2005) supported that by saying that companies with CEO duality did not perform well and incline to do EM. Klein (2002b) observed the strong evidence which suggested that CEO duality

has a significant positive connection with EM issues. However, Rahman and Ali (2006) found insignificant relationship between CEO duality and EM as they indicated that separating the role of the CEO and chairman has no effective monitoring function in curbing EM among Malaysian companies. More recently, Abed *et al.* (2012) did not find any evidence which support any significant positive nexus between CEO duality and EM phenomenon among Jordanian listed companies. Prior studies also observed that CEO duality has no effective connection with the discretionary accruals (Epps and Ismail, 2009; Iqbal and Srong, 2010; Lin and Hwang, 2010). Constant with agency theory, previous studies predicted a positive relationship between CEO-duality and EM (Nugroho and Eko, 2012; Rahman and Haniffa, 2005; Taktak and Mbarki, 2014; Saleh *et al.*, 2005; Xie *et al.*, 2003). Recently, Mohamad *et al.* (2012) found that the CEO duality has a significant negative relationship with EM activities. The results indicated that a CEO with excessive power over board matters could easily manipulate earnings. The chairman and CEO have different responsibilities, and accordingly to avoid conflicting interests and maintain effective supervision of management, different people should fill the two positions (JCGC). Hence, it hypothesized that:

*H2. CEO duality is positively related to EM among Jordanian listed companies.*

### **2.3.1.3 Board financial expertise**

Barton *et al.* (2004, p. 61) indicated that in order to accomplish the tasks effectively, the boards must have the ability for: "asking management tough questions, actively helping to set corporate strategy, monitoring risk management, contributing to CEO successions plan and ensuring that companies set and meet their financial and operating targets". Directors, as both, an advice source and counsel for the CEO, are the key role maker in increasing the firms' value (Daily *et al.*, 2003). It is also notable for both inside and outside directors to put distinct contribution in the amelioration of FRQ and to provide access to the firms needed resources such as financial, governance and firm-specific expertise (Bedard *et al.*, 2004). According to Reilly (2003) governance, strategic business direction and finance are three significant areas that every director should have a deep perception. Prior studies disclose that board of directors with corporate or investments banking backgrounds have a negative relationship with the level of EM (Agrawal and Chadha, 2005; Lin and Hwang, 2010; Xie *et al.*, 2003). Bedard *et al.* (2004) and Park and Shin (2004) observed that the presence of financial expert in the audit committee has a negative nexus with the potentiality of aggressive EM. On the other hand, Hashim (2009), Iskanadr and Abdullah (2004) and

Rahman and Ali (2006) did not find any association between board financial expertise and EM among Malaysian companies. Despite the contrary results, there is a potential relationship between the board financial expertise and the reduction of EM levels. Thus, the following hypothesis is proposed:

*H3. The financial expertise of the board of directors is negatively related to EM among Jordanian listed companies.*

#### **2.3.1.4 Board governance expertise**

Governance expertise denotes the caliber of the director's ability to appreciate and analyze the management and direction differences and to possess a perception about the knowhow of the board maneuvers encompassing the legal framework inside which they operate (Renton, 2003). Additional directorships are indicating the directors' capacity to deal with the environment of the managerial labor market and to provide directors platform to achieve governance expertise (Bedard *et al.*, 2004; Fama, 1980; Saleh *et al.*, 2005). Consequently, Beasley (1996) and Saleh *et al.* (2005) found the multiple directorships are negatively related to EM activity. The greater the number of the board seats directors hold the more sensitive performance took place to protect their reputations so in this matter generating an effective incentive to accomplish laden duties well and to ensure transparency in decision-making process through the best practices gained from other firms (Haniffa and Cooke, 2002; Vafeas, 2005). Moreover, the greater the additional number of other directorships the lower the EM activity (Bedard *et al.*, 2004; Saleh *et al.*, 2005). On the other hand, Hashim (2009) showed a positive and highly significant relationship between governance expertise and EM among Malaysian companies. Nugroho and Eko (2012) did not show any significant effect between multiple directorships and EM. Governance expertise can influence EM, thus the following hypothesis is proposed:

*H4. The governance expertise of the board of directors is negatively related to EM among Jordanian listed companies.*

#### **2.3.1.5 Board firm-specific expertise**

Firm-specific expertise is achieved through an experience as a board member developing more knowledge of a company operations and its director's executive (Bedard *et al.*, 2004). Beasley (1996) found significant but negative connection between the number of years of board serve for outside directors and financial statement fraud. He believed that the board's capacity, in order to scrutinize the management, is consistent with the increased number of years they served. Peasnell *et*

*al.* (1999; 2001) obtained the average tenure of non-executive directors on the board members has a relatively negative relationship with EM level. On the other hand, Hashim (2009) and Xie *et al.* (2003) found a significant positive relationship between board tenure and discretionary accruals. Bedard *et al.* (2004) reported insignificant findings on the relationship between board tenure and EM for the USA firms. Adding with this, Rahman and Ali (2006) suggested that the competence of independent directors based on age of their tenure as board members, may not be sufficient to examine the analyze financial statement in Malaysian firms. Experience, as board members of the firm allows outside directors to gain a better understanding of the firm and its people, thus make them capable to develop better governance competencies. Nugroho and Eko (2012) did not indicate any vital impact derived by the board tenure on EM phenomenon. This leads to the following hypothesis:

*H5. The firm-specific expertise of the board of directors is positively related to EM among Jordanian listed companies.*

#### **2.3.1.6 Board size**

Previous studies demonstrated that larger boards are able to commit more time and effort (Rahman and Ali, 2006; Loderer and Peyer, 2002; Monks and Minow, 2011) whereas smaller boards are capable to commit comparatively less time and effort to monitor and scrutinize management (Rahman and Ali, 2006). In fact, large board members with varied expertise could increase the synergetic of the board in decreasing the number incidences of EM. In addition, Klein (2002b) extended this argument by observing that board monitoring has a significant positive nexus with larger boards for their ability to distribute the workload to many people. Xie *et al.* (2003) revealed EM is less likely to take place in firms with larger boards. Yu (2008) found that small boards seem to have a comparatively more propensity to be failure in detecting EM. Implicit in these findings is that smaller boards incline to be influenced by the management or dominated by block-holders as larger boards have more effective ability to oversee the top management actions. Rahman and Ali (2006), Jaggi and Leung (2007) and Kao and Chen (2004) found a significant positive nexus between board size and EM. The results indicated that the larger the board, the more ineffective it is in its monitoring function. However, Alves (2011), Coles *et al.* (2008), Ebrahim (2007), Habbash, (2010), Peasnell *et al.* (2001), and Xie *et al.* (2003) found a negative association between EM and board size. Nugroho and Eko (2012) found that board size did not play a significant role in EM practices. Their different results might be because of different types

of EM adopted or different markets and corporate governance practices. Based on the JCGC, the size of the board should be small enough (minimum 3) for efficient decision-making and large enough (maximum 13) for directors to contribute their board experiences and knowledge sufficiently. As such, the next hypothesis, which is related to board size and EM, is set as follows:

*H6. The size of board of directors is negatively related to EM among Jordanian listed companies.*

### 3. Research design

In this section, the present paper demonstrates the main model which is designed for and applied in this study; clarifies the operational definition of the variables used and explains the procedures of sample selection.

#### 3.1 Definition of variables

##### 3.1.1 Measuring earning management

Accruals includes a different techniques of EM that are available to managers once preparing financial statements, namely inter alia, accounting policy choices and accounting estimates (Al-Fayoumi *et al.*, 2010; Fields *et al.*, 2001; Grace and Koh, 2005).

Previous literatures have been used accounting accruals as a mechanism which makes difference between earnings and cash flows from operating activities. Healy (1996) applied total accruals to measure EM while other studies separated them into component, discretionary and non-discretionary accruals. Discretionary accruals are extensively applied to substantiate that managers transfer their accounting earnings from one period to another. Total accruals include non-discretionary accruals which reflect non-manipulated accounting accruals items because they are out of managers' control. Consistent with the previous literature in EM (Rahman and Ali, 2006; Klein, 2002b; Becker *et al.*, 1998; Warfield *et al.*, 1995) in this paper, discretionary accruals are used to measure the extent of EM. The direction of EM is disregarded to include the combined effect of income-increasing and income-decreasing EM. Following recent texts (Abed *et al.*, 2012; Al-Fayoumi *et al.*, 2010; Avels, 2011; Jaggi and Leung, 2007) this paper applies the cross sectional variation of the modified Jones model to find out a proxy for discretionary accruals, which is the most powerful model for the estimating discretionary accruals among the existing models (Rahman and Ali, 2006; Cornett *et al.*, 2008; Dechow *et al.*, 1995; Frankel *et al.*, 2002; Haw *et al.*, 2005; Kim and Yoon, 2008; Liu and Lu, 2007; Peasnell *et al.*, 2005; Warfield *et al.*, 1995). Furthermore, Al-Fayoumi *et al.* (2010) and

Bartov *et al.* (2000) indicated that the cross sectional model outperforms its time-series counterpart in detecting accruals management. The dependent variable in the present study model is EM and measured as discretionary accruals using a cross-sectional of the modified Jones model (Dechow *et al.*, 1995) as follows:

First, the total accruals (TACC) are defined in this study as the difference between net income before extraordinary items (NI) and cash flow from operating activities (OCF):

$$TACC = NI - OCF \quad (1)$$

Equation 2 is estimated for each firm and fiscal year combination

$$TACC_{it}/A_{it-1} = \beta_0 (1/A_{it-1}) + \beta_1 [(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \beta_2 (PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (2)$$

Where, TACC is the total accrual,  $\Delta REV$  is the change in operation revenue,  $\Delta REC$  is the change in the net receivables, PPE is gross property, plant and equipment, t and t-1 are time subscripts and i is the firm subscript.

Change in revenues is taken under consideration to control the economic circumstances of a firm whilst gross property, plant and equipment are included to control for the portion of total accruals related to non-discretionary depreciation expenses (Jones, 1991). Dechow *et al.* (1995) modified the Jones Model (1991) by removing the discretionary components of revenue through changes in account receivable. Firms are assumed to involve in income-increasing (decreasing) discretionary accruals if they have positive (negative) estimated discretionary accruals. Earnings denote the reported earnings before interest and tax and before extraordinary items. Earnings target refers to the previous year earnings level (Al-Fayoumi *et al.*, 2010; Degeorge *et al.*, 1999). Non-discretionary earnings (NDE) are earnings less discretionary accruals (DACC). To estimate the coefficient values an Ordinary Least Squares (OLS) regression with no intercept is employed.

The difference between total accruals and the non-discretionary components of accruals is considered as discretionary accruals (DACC) as stated below:

$$DACC_{it} = TACC_{it}/A_{it-1} - [\beta_0 (1/A_{it-1}) + \beta_1 [(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \beta_2 (PPE_{it}/A_{it-1})] \quad (3)$$

All variables are scaled by prior year total assets  $A_{it-1}$  to control for heteroscedasticity.

##### 3.1.2 Measuring board characteristics

Consistent with Rahman and Ali (2006), Klein (2002b) Becker *et al.* (1998) and Warfield *et al.*



(1995), this study incorporates absolute value of *DACC* as the dependent variable. The variables of board of directors are measured at the ending of each year in which EM occurred. Six variables that represent board of directors' characteristics are - the proportion of independent directors, CEO duality, financial expertise, governance expertise, firm-specific expertise and board size.

The board independence is measured by the proportion of independent non-executive directors on the board as a percentage (Rahman and Ali, 2006; Hashim, 2009; Klein, 2002b; Peasnell *et al.*, 2001; Xie *et al.*, 2003). CEO duality occurs when the chairman of the board is also the CEO of the company. In this study, the variable takes a value of 1 when the roles of the chairman and CEO combined; and the value of 0 when it differs (Rahman and Ali, 2006; Haat *et al.*, 2008; Hashim, 2009; Peasnell *et al.*, 2000b; 2001; 2005; Xie *et al.*, 2003).

Similar to Hashim (2009), Peasnell *et al.* (2000b), Vafeas (2005) and Xie *et al.*, (2003), Board financial expertise is estimated by the proportion of directors' with financial expertise on the board and expressed in percentage. Board governance expertise is measured by the proportion of directors with directorship in other companies on the board and it's expressed in percentage (Haniffa and Cooke, 2002; Hashim, 2009; Saleh *et al.*, 2005).

Similar to the studies conducted by Rahman and Ali (2006), Bedard *et al.* (2004) Hashim (2009) and Peasnell *et al.* (2001), Board firm-specific expertise is measured by the average number of years of board services of independent non-dependent directors. Board size refers to the total number of board members (Rahman and Ali, 2006; Hashim, 2009; Habbash, 2010; Peasnell *et al.*, 2001; Xie *et al.*, 2003).

### 3.1.3 Controlled variables

Factors other than corporate governance practices (board of directors) may also have an immense contribute in lessening EM and in turn improving FRQ. The study applies eight controlling variables: firm size, return on assets (ROA), cash flow operating (CFO), leverage, firm growth, managerial ownership, listing status and Big4.

It has been argued that the larger the firms, the more the potential for EM (Rahman and Ali, 2006; Banderlipe and Reynald, 2010; Chung *et al.*, 2002; Chen and Zhou, 2007; Habbash, 2010; Jiang *et al.*, 2008; Peasnell *et al.*, 2001; Pincus and Rajgopal, 2002; Xie *et al.*, 2003). Firm size measured by the natural logarithm of total assets. Kothari *et al.* (2005) argued that tests related to accounting discretion that do not control for effect of performance are often miss-specified. Therefore, the present paper controls firm performance and it

is measured by ROA (Rahman and Ali, 2006; Ashbaugh *et al.*, 2003; Bartov *et al.*, 2000; Habbash, 2010). ROA is measured through the net income divided by the total assets at the beginning of the period.

This study also control for CFO to capture performance differences across firms in different industries and to control for the association between abnormal accruals and operating cash flow (Becker *et al.*, 1998; Dechow *et al.*, 1995; Habbash, 2010; Peasnell *et al.*, 2001). CFO means the operating activities divided by beginning of period total assets. Past studies also argued that the financial difficulties provide firms with more incentive to engage in EM activity (Rahman and Ali, 2006; Ali *et al.*, 2008; Bartov *et al.*, 2000; Becker *et al.*, 1998; Chnug *et al.*, 2002; Habbash, 2010; Jelinek, 2007; Jiang *et al.*, 2008; Park and Shin, 2004). Leverage is the total debt divided by the total assets at the beginning of the period. Additionally, firm growth is encompassed as a control variable because the model for expected accruals could be miss-specified for firms experiencing unusual growth. Previous studies documented that highly growing firm is more likely to manage earnings (Rahman and Ali, 2006; Habbash, 2010; Huang *et al.*, 2008; Jelinek, 2007; Matsumoto, 2002; Skinner and Sloan, 2002).

In this paper, firm growth is calculated by applying market-to-book ratio. Moreover, this study controls managerial ownership because of its effect in the study model. Managers with a high ownership interests are consistent with shareholders report earnings that reflect the underlying economic value of the firm (Jensen and Meckling, 1976; Warfield *et al.*, 1995). The previous studies on the association between managerial ownership and EM have revealed mix results (Ali *et al.*, 2008; Banderlipe and Reynald, 2010; Bergstresser and Philippon, 2006; Gul *et al.*, 2003; Habbash, 2010; Klein, 2002b; Ronen and Yaari, 2007; Teshima and Shuto, 2008). Managerial ownership denotes the portion of total shares, in percentage, held by dependent directors divided by total number of shares.

The ASE has two separate tiers of stocks that are traded - the first market and the second market. However, it is notable that, the frequency of reporting is different between listed companies listed on the first market and those on the second market. Moreover, there are certain must-fulfilling prerequisites which must be met before a company can be listed in the first market of ASE. Those requirements include that the company must have made a pre-tax profit for at least two out of the three years before being listed. The company also fulfill certain requirements concerning the free-float and number of shareholders in the company. In addition, investors must be capable to sell their stocks easily through the stock exchange. Thus, it is

required that shares of the first market companies are more actively traded than those of the second market. It is also more likely that the first market companies are more closely followed by financial analysts. Listing status is the indicator variable with the value of 1 if the company listed in the first market and 0 if otherwise. Previous studies have also portrayed that companies employing Big4 auditors resulted lower level of EM than companies employing non-Big4 auditors (Rahman and Ali, 2006; Balsam *et al.*, 2003; Becker *et al.*, 1998; Davidson *et al.*, 2005). In contrast to low quality auditors, high quality auditors like Big4 auditors are more likely to detect questionable of accounting practices and to a certain extent may constrain management to follow accounting standard.

### 3.1.4 Model specification

In light of above discussion, the various hypotheses are combining into function relation for describing the nexus between board characteristics and extent level of EM phenomenon. The empirical model is set out as follows:

$$DACC_{it} = \beta_0 + \beta_1 BRDIND_{it} + \beta_2 CEODUAL_{it} + \beta_3 BRDFINEXP_{it} + \beta_4 BRDGOVEXP_{it} + \beta_5 BRDTENUR_{it} + \beta_6 BRDSIZE_{it} + \beta_7 FRMSIZE_{it} + \beta_8 ROA_{it} + \beta_9 CFO_{it} + \beta_{10} LEV_{it} + \beta_{11} FRMGROWTH_{it} + \beta_{12} MNGOWNRSH_{it} + \beta_{13} LSTSTATUS_{it} + \beta_{14} BIG4_{it} + \varepsilon_{it} \quad (4)$$

Where  $DACC_{it}$  denotes EM as measured by discretionary accruals;  $BRDIND_{it}$  is the proportion of independent non-executive directors on the board and expressed in percentage;  $CEODUAL_{it}$  is a dummy variable; its value equals to 1 if the roles of the chairman and CEO<sub>it</sub> are combined and 0 if not;  $BRDFINEXP_{it}$  refers to the proportion of directors with financial expertise on the board and express as a percentage;  $BRDGOVEXP_{it}$  is the proportion of directors with directorship in other companies on the board and express as a percentage;  $BRDTENUR_{it}$  means an average number of years of board services of independent non-executive directors;  $BRDSIZE_{it}$  is the total number of board members. The controlled variable;  $FRMSIZE_{it}$  delineates the natural logarithm of total assets at year-end;  $ROA_{it}$  means the net income divided by the total assets at the beginning of the testing period;  $CFO_{it}$  demonstrates the operating cash flows from operating activities divided by beginning of period total assets;  $LEV_{it}$  presents the total debt divided by total assets;  $FRMGROWTH_{it}$  indicates the percentage of total shares held by executive directors divided by the total number of shares;  $MNGOWNRSH_{it}$  is the percentage of total shares held by executive directors divided by total shares;  $LSTSTATUS_{it}$  is a dummy variable takes the value of one if the company listed in the first market while 0 if not;  $BIG4_{it}$  is a dummy variable which

will take the value of 1 if the company audit by big4 and 0 if audit by non-big4;  $\beta_0$  is the intercept;  $\beta_1 - \beta_{14}$  is the coefficient of slope parameters; and  $\varepsilon$  is error term.

### 3.2 Sample selection

The initial sample population chosen for this study included 94 Jordanian companies in 2008, 2009 and 2010 as they encompass a broad range of industrial sector and account for significant portion of Jordan economic output. The industrial sector in Jordan is considered as quite significant to the economy as it's a vast field of employment and the key contributor in economic growth. Therefore, perceiving the EM activities within this sector is vital to enhance the reliability and transparency of FRQ and consequently, to ameliorate the capacity of the investors to define the fair value. Corporate governance and financial variables were obtained from companies' annual report from the Jordanian Shareholding Companies (JSC) guide issued by ASE. Company with the inadequate data for board and financial data were excluded from the sample. A total 86 companies were included in the analysis which represents 91% of the Jordanian industrial companies. The final sample consists of 258 company-year observations in order to ensure an accrual estimation and empirical analysis.

## 4. Results and discussion

### 4.1 Descriptive statistics

In Table 1, the descriptive statistics for all variables are demonstrated. The descriptive statistics of  $DACC$  as presented in Table I, shows the absolute value of  $DACC$  for the companies in this study sample has a small mean value of 0.095, whereas the minimum value is much closer to 0 (0.0001). These findings are consistent with Klein (2002b) who obtained a minimum value of absolute  $DACC$  among large USA firms of 0.00002. However, the mean of absolute  $DACC$  among USA firms in Xie's study (Xie *et al.* 2003) is higher at 0.10. Othman and Zeghal (2006) reported closer means of absolute  $DACC$  among Canadian and French companies of 0.06 and 0.03, respectively. Rahman and Ali (2006) obtained the magnitude of absolute value of  $DACC$  of the Malaysian companies possesses a relatively small mean value of 0.04 whereas the minimum value is very much closer to 0 (0.0001). Moreover, Habbash (2010) indicated that the absolute value of  $DACC$  is 0.05 using UK companies and the minimum value is much closer to 0 (0.0001). The importance of discretionary rests with the assumption that discretionary accruals represent managers' discretion over accruals. This assumption is partly validated by the significant difference between  $DACC$  means. At such, the test provides evidences that, large Jordanian industrial

companies, on average, manage their reported earnings.

**Table 1.** Pooled descriptive statistics and univariate test (N = 258)

Variable	Mean	Min	Max	Median	St. Dev.	Skewness	Kurtosis
DACC	0.095	0	0.848	0.067	0.098	2.937	17.791
BRDIND	0.475	0	1	0.444	0.305	0.146	1.718
CEODUAL	0.360	0	1	0	0.481	0.581	1.338
BRDFINEXP	0.471	0	1	0.444	0.280	0.168	1.810
BRDGOVEXP	0.737	0	1	0.857	0.264	-1.140	3.253
BRDTENUR	12.438	4	27	12	4.430	0.411	2.667
BRDSIZE	8.260	3	14	9	2.126	0.223	3.601
MNGOWNRSHP	0.373	0	0.876	0.367	0.191	0.014	2.431
LSTSTATUS	0.302	0	1	0	0.460	0.861	1.741
FRMSIZE	4.080	219946	8.730	1.290	9.920	5.202	33.934
ROA	0.973	-8.104	9.841	0.060	2.759	1.440	6.734
LEV	0.074	0	0.990	0	0.199	3.044	11.467
FRMGROWTH	1.613	-14.230	23.670	1.230	2.181	2.756	53.173
CFO	0.479	-8.292	8.549	0.028	1.888	1.989	11.927
BIG4	0.516	0	1	1	0.501	-0.062	1.004

The correlation coefficient is further performed to assess the connection between the dependent and independent variables. This test examines the extent to which both dependent and each independent variable in the study are related. The correlation matrix (Pearson correlation) in Table 2 depicts that there are some significant relationships among the independent variables. The highest correlation is between *BRDGOVEXP* and *BRDIND* is 0.390 ( $P < 0.05$ ). This result implies that more effective external monitoring mechanisms have a significant relation to improve the internal monitoring mechanisms.

This study calculates the Variance Inflation Factors (VIF) as well for the model and finds out that *VIF* values are within acceptable limits. Gujarati (2003) suggested that a *VIF* containing value of less than 10 is acceptable, so in this study the maximum *VIF* value is 1.38 while the mean is 1.21. Thus, the multicollinearity does not appear as a probable problem for this study model. Table 3 shows the *VIF* results.

#### 4.2 Regression analysis

Regression analysis is one of the most commonly applied mechanisms in multivariate analysis which is applied in this study. OLS regression is considered to be a powerful technique when the model contains both dummy and continuous variables (Hutcheson and Sofroniou, 1999).

In the descriptive analysis, it can be observed that both skewness and kurtosis for some variables show high value. Data is considered to be normal if the standard skewness is within  $\pm 1.96$  and standard kurtosis is  $\pm 2$  (Rahman and Ali, 2006). Consequently, the dependent variable and most of the independent variables are not generally distributed as shown in Table I. The lack of normality of the dependent variable is expected

since this deliberately does not eliminate the outliers of this variable as the firms with extreme values of EM potentially provide the observations that portray large negative accruals or large positive accruals which may actually represent management discretion. Therefore, normality which is one of the important assumptions of the parametric test is not satisfied as this is expected in this type of study. Kao and Chen (2004) suggested that OLS regression is not an appropriate one when the dependent variable is the absolute value of EM as it's limited to only positive values.

**Table 3.** VIF Test Results

Variable	VIF	1/VIF
BRDGOVEXP	1.38	0.726
BRDSIZE	1.33	0.755
BRDIND	1.32	0.759
BIG4	1.31	0.764
BRDFINEXP	1.31	0.787
FRMSIZE	1.27	0.822
CEODUAL	1.20	0.834
MNGOWNRSHP	1.20	0.837
LSTSTATUS	1.19	0.842
BRDTENUR	1.16	0.864
LEV	1.12	0.890
ROA	1.12	0.896
FRMGROWTH	1.11	0.904
CFO	1.06	0.946
<b>Mean VIF</b>	1.21	

**Table 2. Pearson correlation coefficients (N=258)**

	DACC	BRDIND	CEODUAL	BRDFINEXP	BRDGOVEXP	BRDTENUR	BRDSIZE	MNGOWNRSH	LSTSTATUS	FRMSIZE	ROA	LEV	FRMGROWTH	CFO	BIG4
DACC	1.000														
BRDIND	-0.290	1.000													
CEODUAL	0.258	-0.227	1.000												
BRDFINEXP	-0.370	0.127	-0.144	1.000											
BRDGOVEXP	-0.378	0.390**	-0.187	0.132	1.000										
BRDTENUR	0.143	0.131	0.092	-0.004	0.093	1.000									
BRDSIZE	-0.256	0.252**	0.060	0.175*	0.267**	0.204**	1.000								
MNGOWNRSH	-0.262	0.016	0.102	0.247**	0.165*	-0.116	0.076	1.000							
LSTSTATUS	-0.269	0.107	-0.020	0.120	0.182*	-0.067	0.242**	0.098	1.000						
FRMSIZE	0.048	0.230**	-0.049	0.043	0.142	0.196*	0.223**	-0.142	0.176*	1.000					
ROA	0.271	-0.034	0.072	-0.171	0.006	0.001	0.052	-0.006	-0.139	-0.004	1.000				
LEV	-0.160	-0.077	0.065	0.006	0.113	-0.110	-0.027	0.074	0.175*	0.042	-0.024	1.000			
FRMGROWTH	0.145	0.035	0.010	0.047	-0.004	-0.037	0.048	-0.064	-0.054	0.162	0.085	-0.167	1.000		
CFO	-0.191	0.050	-0.056	0.073	0.159	-0.035	0.051	0.123	0.037	-0.014	-0.057	0.021	0.091	1.000	
BIG4	-0.433	0.138	-0.193	0.366**	0.225**	-0.011	0.228**	0.113	0.132	0.028	-0.214	0.056	0.039	0.102	1.000

Generally, parametric tests seem as more powerful when all assumptions are met. However, if any single OLS regression assumption is exploited by the obtained data then non-parametric tests become more appropriate (Habbash, 2010). In the view of Zhang and Liu (2009) and Habbash (2010), non-parametric statistical techniques can be regarded as an alternative to parametric techniques. Non-parametric tests are considered to be a distribution-free method as they generate no assumption regarding the distribution of the sample scores. Additionally, non-parametric tests do not require the measurement of data on an interval scale and do not require data to meet the rigorous assumptions of normality and homogeneity of variance required by the parametric method.

Given the above discussion, non-parametric tests are applied in this study to examine the obtained data. This is because the data obtained in this study does not meet the conditions required by the parametric tests. Therefore, Generalized Least Square (GLS) instead of OLS regression is adopted as a multivariate test technique. Habbash (2010) argued that when the number of time series data is small and the number of cross-sectional units is large, the statistical inference is conditional on the observed cross-sectional units in the sample. Hence,

the choice of the random effect approach is more accurate. This study encompasses a three-year time series data and has relatively large number of cross-sectional units which also make the random effect approach more appropriate. Moreover, the fixed effects approach applies a dummy variable to identify firms. This, in turn, would result in a large number of parametric relative to the number of observations. Thus, the power of the model would be weakened because of the loss of degrees of freedom. Therefore, a pooled cross-sectional GLS (random effects) model is applied in order to examine the proposed relationships. Statistical analysis of the data is then performed by using the computer program STATA.

Table 4 reports the GLS (random effect) regression of board characteristics and controlled variables. The adjusted  $R^2$  obtained for this model is fairly highly comparable with those in similar studies, for example, those of Frankel et al. (2002), Ashbaugh et al. (2003), Rahman and Ali (2006), Dimitropoulos and Asteriou (2010) and Habbash (2010). The constant is positive and highly significant at  $p < 0.01$ . Table 4 also demonstrates the regression outcomes from the estimate of equation 4.

**Table 4.** Random-effects GLS regression (N=258)

DACC	Exp. Signe	Coefficient	Z	P> t
BRDIND	-	-0.048	-2.81	***
CEODUAL	+	0.027	2.65	***
BRDFINEXP	-	-0.053	-2.91	***
BRDGOVEXP	-	-0.061	-3.04	***
BRDTENUR	+	0.003	2.91	***
BRDSIZE	-	-0.007	-2.84	***
MNGOWNRSH	-	-0.055	-2.14	**
LSTSTATUS	-	-0.020	-1.83	*
FRMSIZE	+	1.120	2.24	**
ROA	+	0.006	3.46	***
LEV	+	-0.046	-1.91	*
FRMGROWTH	+	0.006	2.56	**
CFO	-	-0.005	-1.87	*
BIG4	-	-0.038	-3.68	***
_cons		0.228	9.41	***
$R^2$	49%			

Consistent with the *H1* that states there is a negative relationship between the proportion of independent directors on the board and EM, the result suggests that there is a negative and significant relationship, hence, *H1* is supported. The findings show that discretionary accruals are decreasing when boards are comprised of

independent outside directors. These findings are consistent with the previous studies (Alves, 2011; Benkel *et al.*, 2006; Davidson *et al.*, 2005; Dimitropoulos and Asteriou, 2010; Habbash, 2010; Klein, 2002; Lo *et al.*, 2010; Peasnell *et al.*, 2005; Xie *et al.*, 2003). The result also indicated that there is a positive and significant relationship between

CEO duality and the indicator of EM. Thus, *H2* is supported. These findings are in line with Rahman and Haniffa (2005) and Saleh *et al.* (2005) as reported greater associated with firms that combine the roles of chairman and CEO and EM that support agency theory predictions regarding the increase of agency problems associated with dual governance structure.

The obtained outcome suggests that there is a negative and significant relationship between board financial expertise and the indicator of EM. *H3* is also supported. This suggests that independent directors with corporate and financial backgrounds are vital to deter managed earnings. This finding is consistent with the previous studies (Bedard *et al.*, 2004; Park and Shin, 2004; Xie *et al.*, 2003). Furthermore, consistent with *H4*, the result find that there is a negative and significant relationship between board governance expertise and the indicator of EM, hence, *H4* is supported. This result is also found by Bedard *et al.* (2004) and Saleh *et al.* (2005). This indicates that the greater the additional number of other directorships held by members of board has a relationship with lower EM activity and enhances the company.

The study finding suggests a positive and significant relationship between board firm-specific expertise and EM. Thus, *H5* is supported as well. The same result found by Hahsim (2009) and Xie *et al.* (2003). The increase in the number of years independent directors served in the firm provides them the capacity to manage earnings effectively which results in a lower of FRQ. Moreover, there is a negative and significant relationship between board size and EM, and thus, *H6* is supported. As a result boards' size is more effective in monitoring financial reporting and in decreasing EM activities (Abed *et al.*, 2012; Chtourou *et al.*, 2001; DeZoort and Salterio, 2001; Ebrahim, 2007; Klein, 2002a; Peasnell *et al.*, 2005; Xie *et al.*, 2003; Yu, 2008).

Agency theory and previous observations indicated that large firms have more pressure on their management to report more predictable earnings. Thus, managers are likely to involve in EM to achieve this predictability. Firm size is found to have a significant positive relationship with EM (Alves, 2011; Chen and Zhou, 2007; Chung *et al.*, 2002; Dimitropoulos and Asteriou, 2010; Habbash, 2010; Pincus and Rajgopal, 2002). The model finds a significant positive relationship between ROA and EM. Prior studies found that firms with strong performance are more likely to manage discretionary accruals (Dechow *et al.*, 1995; Kasznik, 1999). The result of this study shows that CFO has a significant but negative relationship with EM activity. This finding is consistent with the notion that the firms with a strong CFO performance are less likely to manage discretionary accruals because they already performing well

(Becker *et al.*, 1998; Habbash, 2010; Jiang *et al.*, 2008; Lobo and Zhou, 2006).

Leverage represents the debt structure of a company and is usually applied in various observations as a measure for debt covenant violations. In the context of this study, it is obtained that highly leverage companies are less involved in fraudulent practices such as EM. The negative relationship between leverage and discretionary accruals is consistent with a conservative accounting attitude that responds to debt holders concern in assessing potential loan or in monitoring borrower's ability to pay back existing loans (Becker *et al.*, 1998; Watts, 2003). Previous studies have left inconclusive results on the expected effect of a firm's growth on EM (Abbott *et al.*, 2004; Ashbaugh *et al.*, 2003; Carcello and Nagy, 2004). Firm growth shows significant relationship with EM.

Agency theory predicts a negative relationship between the managerial ownership and EM. This study is in line with that prediction. This is, may be because managerial ownership in this study sample is eligible. Given that it is likely that managerial ownership can mitigate the potential conflict of interests arising from the separation of control and ownership (Ali *et al.*, 2008; Alves, 2011; Banderlipe and Reynald, 2010; Haniffa and Hudaib, 2006; Saleh *et al.*, 2005; Peasnell *et al.*, 2005).

Listing status predicts a negative relationship with EM; this suggests that the companies listing in the second market have less EM. The Big4 audit firms are expected to have a positive impact on FRQ (Balsam *et al.*, 2003; Davidson *et al.*, 2005) compare to smaller audit firm in EM detection. Findings obtained in this study indicate that the Big4 has a significant and negative association to EM activity.

### 4.3 Further analyses

It is common to use the non-parametric tests in EM studies, since some of the prior studies choose the solution of doing nothing about the problems of not meeting the parametric test assumptions and carry on using this type of test while recognizing its limitation (Benkel *et al.*, 2006; Davidson *et al.*, 2005; Habbash, 2010; Jaggi *et al.*, 2009; Peasnell *et al.*, 2005; Rahman and Ali, 2006).

In this sensitivity analysis, following Dimitropoulos and Asteriou (2010) and Habbash (2010) a parametric test applying Robust Standard Error OLS regression with fixed effect is implemented as a robustness check of the main findings. The obtained results depict that there are no differences between the main analysis applying the non-parametric test and the results of the parametric test of this study model. The  $R^2$  is same to the value of 49 per cent and the results show that the same level of significance and the coefficients

suggest the identical directions for the all variables. Table 5 shows the results.

**Table 5.** Parametric Test (OLS) Regression

DACC	Exp. Signe	Coefficient	t	P> t
BRDIND	-	-0.048	-2.81	***
CEODUAL	+	0.027	2.65	***
BRDFINEXP	-	-0.053	-2.91	***
BRDGOVEXP	-	-0.061	-3.04	***
BRDTENUR	+	0.003	2.91	***
BRDSIZE	-	-0.007	-2.84	***
MNGOWNRSH	-	-0.055	-2.14	**
LSTSTATUS	-	-0.020	-1.83	*
FRMSIZE	+	1.120	2.24	**
ROA	+	0.006	3.46	***
LEV	+	-0.046	-1.91	*
FRMGROWTH	+	0.006	2.56	**
CFO	-	-0.005	-1.87	*
BIG4	-	-0.038	-3.68	***
_cons		0.228	9.41	***
R <sup>2</sup>	49%			

Table 5 demonstrates the outcomes another sensitivity analysis adopt in this study is the pooled test. This analysis implements a panel of a firm-level fixed effects specification which also assumed to address the endogeneity issue (Habbash, 2010; Lehn *et al.*, 2009). The findings are also robust with the panel data test in the study model.

This paper applies an Instrumental Variables (IV) with two-stage regression (2SLS) approach analysis. It adopts the approach used by Coles *et al.* (2008) and McKnight and Weir (2009) as well as uses the lagged values of the endogenous variables as instruments. In the analysis all the factors are treated as endogenous. First, Hausman test is applied to examine whether

there is any endogeneity bias for the independent variable (Greene, 2003). Hausman test demonstrates insignificant evidence of an endogeneity bias at the 5 percent level ( $w^2 \frac{1}{4} 2.438$ ,  $p = 0.13$ ) which has two important implications. First, same outcomes should be obtained by applying either OLS or 2SLS. Second, the lagged independent variable are likely to be valid instrument variable because they pass the Hausman test. The 2SLS results are in agreement with the OLS results reported earlier. Thus, endogeneity does not appear to unduly affect this study results. Tables 7 show the results.

**Table 6.** Pooled Regression with Fixed Effect

DACC	Exp. Signe	Coefficient	Z	P> t
BRDIND	-	-0.048	-2.76	***
CEODUAL	+	0.027	2.65	***
BRDFINEXP	-	-0.053	-2.90	***
BRDGOVEXP	-	-0.061	-3.04	***
BRDTENUR	+	0.003	2.79	***
BRDSIZE	-	-0.007	-2.85	***
MNGOWNRSH	-	-0.055	-2.14	**
LSTSTATUS	-	-0.02	-1.84	*
FRMSIZE	+	1.12	2.25	**
ROA	+	0.006	3.47	***
LEV	+	-0.046	-1.90	*
FRMGROWTH	+	0.006	2.57	**
CFO	-	-0.005	-1.87	*
BIG4	-	-0.038	-3.64	***
_cons		0.228	9.35	***
R <sup>2</sup>	49%			

**Table 7.** Instrumental Variables (2SLS) Regression

DACC	Exp. Signe	Coefficient	t	P> t
BRDIND	-	-0.048	-2.81	***
CEODUAL	+	0.027	2.65	***
BRDFINEXP	-	-0.053	-2.91	***
BRDGOVEXP	-	-0.061	-3.04	***
BRDTENUR	+	0.003	2.91	***
BRDSIZE	-	-0.007	-2.84	***
MNGOWNRSH	-	-0.055	-2.14	**
LSTSTATUS	-	-0.020	-1.83	*
FRMSIZE	+	1.120	2.24	**
ROA	+	0.006	3.46	***
LEV	+	-0.046	-1.91	*
FRMGROWTH	+	0.006	2.56	**
CFO	-	-0.005	-1.87	*
BIG4	-	-0.038	-3.68	***
_cons		0.228	9.41	***
R <sup>2</sup>	49%			

## 5. Summary and conclusions

As a response to the recent worldwide financial crisis, the JCGC has introduced to improve the monitoring mechanisms of board of directors, audit committee and the external auditor. The managers' capacity to control the reported earnings opportunistically is constrained by the effectiveness of internal monitoring such as corporate boards. Boards of directors are responsible for monitoring the quality of information contained in financial statements, and thus they control the behavior of managers to guarantee that their actions are aligned with the shareholders' interests.

Therefore, this study has investigated whether the boards characteristics help constrain management opportunity behaviors. In particular, the paper has paid its full-fledge concentration to assess the main characteristics of the boards that are highlighted by JCGC (2009) recommendations: board independence, CEO duality, board financial expertise, board governance expertise, board firm-specific expertise (tenure) and board size. Discretionary accruals are used as a proxy for the level of EM. The data in the analyses were collected from ASE during the period 2008-2010.

The observed findings suggest some certain decisive conclusions. The findings indicates that board independence, board financial expertise, board governance expertise and board size have a significant negative nexus with EM level. This is consistent with the previous studies as suggested that the independence, financial expertise, governance expertise and size of the boards will

constrain EM activity. However, the results suggest that CEO duality and board firm-specific expertise (tenure) have a positive relationship with EM activity. These findings indicate that there is a need to strengthen these elements of corporate governance. The JCGC has to enforce the separation of chairman and CEO as recommended. Though, regulators cannot force managers of companies to hold the company's stock.

The founded data also reveals that managerial ownership can mitigate the potential conflict arising from the separation of control and ownership. The companies listed in second market, highly leverage, CFO and Big4 audit firm have less EM activities and that there are more EM activities when company size, company growth and ROA are high. The findings of this study, for the Jordanian context, make the following contributions. First, the outcomes suggest that, on average, board independence, board financial expertise, board governance expertise and board size have an impact on the level of EM in Jordanian listed companies and in turn, have a positive nexus with the amelioration of FRQ. In particular, this finding betokens that both CEO duality and board firm-specific expertise have a positive association with EM activity, this resulted in lower of FRQ. Second, given the similarities between Jordan and other countries, the findings based in this study provide useful applicable information for the regulators. Finally, the findings also generate necessary information to investors in evaluating the role and impact of board characteristics on FRQ.



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