

**Corporate Governance and Earnings Management: Evidence from The  
Jordanian Banking Sector**

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## **Abstract**

The world has witnessed a series of corporate accounting scandals. Earnings management, as a phenomenon at the core of these scandals, is one of the main challenges confronting the effectiveness of different monitoring mechanisms such as corporate governance. Recently, and more precisely after the financial crises of 2008-2009, Jordan has shown substantial interest in integrating the pillars of corporate governance. Therefore, this research examines the effect of corporate governance mechanisms on earnings management activities among all publicly listed commercial banks on the Amman Stock Exchange (ASE) during the period 2013-2018. Earnings management was measured by the modified Jones' model. The characteristics examined are board size, CEO duality, board independence, managerial ownership, institutional ownership, audit committee size, audit committee independence and audit committee activity. In addition, two control variables have been used: firm size and firm performance. The findings of the study reveal that earnings management has a significant positive relationship with both board size and institutional ownership, and a significant negative relationship with total assets.

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## **1. Introduction:**

Corporations use financial statements and annual reports to convey their achievements particularly net income. However, income presented by these statements may not reflect corporate performance as this income could be distorted (poor earning quality). Earnings management (EM) practices are the main cause of this distortion. Therefore, this study aims at investigating the levels of EM and the impact of corporate governance (CG) on these levels. Managers rely heavily on the importance of accounting information to use earnings for their personal benefits (management compensation contract motivations) (Abdul Rahman and Ali, 2006); therefore, earnings reliability or quality becomes questionable (Gul et al., 2003). Thus, all stakeholders are potential victims of EM (Al-Khabash and Al-Thuneibat, 2009). Other motivations for this manipulation are capital market pressures, lending contracts, regulatory requirements, and political costs (Alghamdi, 2012).

The world has witnessed a series of corporate accounting scandals. Examples include Enron, WorldCom, and Xerox. EM, as a common tool at the core of these scandals, has received significant consideration in the research literature (Goncharov, 2005). Given its potential harmful influence on financial reporting, EM is one of the main challenges confronting the effectiveness of different monitoring mechanisms such as corporate governance (Ebrahim, 2007, and Jaggi and Tsui, 2007).

Recently, and more precisely after the financial crises of 2008-2009, Jordan has shown substantial interest in integrating the pillars of CG through conducting a group of legislative, economic and financial developments (Tomar and Bino, 2012). Therefore, the Jordanian Banking Sector has been paying considerable attention to CG. In addition, The Central Bank of Jordan has started to develop a code of CG to

implement international best practices (Basel III) in the CG mechanisms of the Jordanian Banks (Bawaneh, 2011).

### **1.1 Research Objectives:**

This research addresses the question of the impact of applying CG mechanisms on EM activities (measured by discretionary accruals) among listed banks in Jordan. In particular, the study aims at examining the role of the board of directors, audit committee, and ownership structure characteristics in mitigating EM.

### **1.2 Contributions of the Thesis:**

The research literature has provided some perceptions about the role of corporate governance (e.g. Abed et al. (2012), Fayoumi et al. (2010), Abbadi et. al (2016), and Bataineh et. al (2018)), but it has not investigated such a role in an environment such as the Jordanian financial sector. Almost all the studies have investigated Jordanian non-financial firms, with the exception of Azzoz and Khamees (2016). Therefore, this research is the first study, to the best of the researcher's knowledge, which investigates the relationship between CG and EM in the context of Jordanian banks after the financial crisis of 2008-2009 and after the adoption of the Basel III framework.

Although wars and political instability are surrounding Jordan because of antigovernment uprisings, or what is commonly described as the "Arab Spring", along with all the political and economic pressure on the Jordanian government and people, Jordan has been able to remain safe and stable and to keep the development wheel moving forward. Part of these developments is its legislation. The Jordanian banking sector is considered developed and well regulated. The nature of the banking industry, through global interaction, requires a minimum set of standards to keep smooth

financial activities. Therefore, working to meet the Basel III framework requirements is not an option, although it is not mandatory.

This study uses Jordanian data given the similarity of its institutional setting to that of many emerging and the Middle East and North Africa region (MENA) markets. Thus, the potential exists to generalize the analysis and results over many other economies and to provide recommendations for different types of investors to have greater participation and awareness of corporate governance practices.

The above reasons make Jordan a special case that should be investigated to have more understanding of the effectiveness of CG mechanisms in a main sector (i.e. banks) and its relation to a controversial corporate accounting practices, i.e. EM.

This study improves upon and extends the study of Azzoz and Khamees (2016) in terms of three aspects. First, it examines the relationship of ownership structures and EM, which was not included in the previous study. Second, the previous study examined the period 2007-2012, prior to the adoption of the Basel III framework. Third, the study sample includes all financial firms listed on the Amman Stock Exchange, including banks, real estates, insurance, and diversified financial services. Generalizing the results of the study of Azzoz and Khamees (2016) over all sectors included would not be accurate, especially with different legislation, regulations and rules, and varied nature of these sectors. Therefore, the present study provides more accurate and reliable results given its more focused and homogenous sample, that is, the Jordanian banking sector.

## **2. Literature Review:**

### **2.1 Introduction:**

This study concentrates on investigating the association between CG mechanisms and EM among highly regulated firms (banks) operating in Jordan, as an emerging market. This section aims at identifying how CG, as a monitoring mechanism, constrains EM by reviewing the results of the empirical literature that are relevant to the focus of this study.

CG characteristics (independent variables) have been grouped into: board of directors' characteristics, audit committee characteristics, and ownership structures.

### **2.2 What is Corporate Governance?**

The Cadbury Report (1992) defines CG as “a system by which companies are directed and controlled” (page 14), and highlights that shareholders, a board of directors and the auditor are the main players.

Another well-known definition by the Organization of Economic Cooperation and Development (OECD, 2004) defines CG as “one key element in improving economic efficiency and growth as well as enhancing investor confidence. Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined” (page 11).

The Central Bank of Jordan, in the amended instructions of corporate governance for banks no. (63/2016) dated 1/9/2016, defines corporate governance as “the Bank's guiding structure that aims at identifying and achieving the corporate goals of the bank, managing the bank's operations in safe and sound manner,

protecting the depositors interests, committing to the responsibility towards shareholders and other stakeholders, and ensuring the bank's compliance with laws and regulations, and its internal policies and procedures" (page 3).

Although a set of general rules or standards for CG exists, differences in practice persist among regions and countries regarding its objectives and mechanisms. Thus, there have been many attempts to define the concept, but no consensus exists regarding its meaning. In general, the purpose of CG is to control the relationships among management, the board of directors, and stakeholders (Alghamdi, 2012).

### **2.3 Board of directors' characteristics:**

The board of directors is described as the most important element in the internal CG mechanism (Fama, 1980). Board size is a crucial element of board characteristics that may influence EM practices (Abdul Rahman and Ali, 2006). According to the Jordanian Code of Corporate Governance, the number of board members should be between five and thirteen.

The monitoring effectiveness on management actions depends on the composition of the board and the ratio of independent directors to the total number of the board members (Fama and Jensen, 1983). Dunn (1987) states that the domination of board outsiders leads to a better position in monitoring managers' actions. Peasnell et al. (2005) argue that independent non-executive directors have the potential to detect EM.

CEO duality is another important variable considered in CG. In order to constrain the power of the CEO in handling daily business activities, the Jordanian Code of Corporate Governance recommends a separation in the role of the Chairman and the CEO. Therefore, the chair of the board should be independent, otherwise, a

CEO can easily manipulate income (Abdul Rahman and Ali (2006), and Klein (2002)). Moreover, when the same person dominates the firm's decision making and operations, it could result in a conflict of interest and in a higher business risk (Dechow et al., 1996).

#### **2.4 Audit Committee Characteristics:**

The main role of the audit committees is to protect the stakeholders' interests by monitoring management behaviour, yet the recent financial crises have raised many questions about the effectiveness of this role. An audit committee serves to safeguard the interests of shareholders via preventing irregular fraudulent accounting statements and reducing EM (Al Daoud (2018) and Klein (2002)). Hence, the main responsibility of the audit committee is to ensure the accuracy of financial information (Buchalter and Yokomoto, 2003).

Man and Wong (2013) highlight that the main functions of the audit committees are to provide independent monitoring of the effectiveness of internal control and the quality of the financial reporting, to assure that firms comply with relevant laws and regulations, to conduct internal and external affairs ethically, to maintain the control mechanisms' effectiveness against fraud, and to deal with the conflict of stakeholders' interests. The audit committee also provides a liaison between the board, external auditors, internal auditors, and the relevant authorities.

Jordan enacted legislation to support corporate governance informed by the US Sarbanes-Oxley Act (SOX) (2002) and the UK Corporate Governance Combined Code (2003). One such legislation was the introduction of the Stock Exchange Law no. (76; 2002), which obliges all Jordanian public companies to form an audit committee consisting of three non-executive members from the company's board of

directors. Jordan also introduced Banking Law no. (28) 2000, which obliges all Jordanian banks to form audit committees. Articles no (32) and (33) of this law determine the responsibilities and duties of the committee. In addition, in 2008 the Amman Stock Exchange issued the “directory of governance rules” for companies listed on the Amman Stock Exchange that instructs, firstly, that the audit committee should consist of non-executive members of the board of directors with a minimum of three members. Secondly, at least two of the members should be independent; one of whom should chair the committee. Finally, all members of the committee should be equipped with financial and accounting knowledge.

Previous empirical studies have used and analyzed the qualities of the audit committee as a CG tool in mitigating EM or improving earnings quality. Thus, this study investigates the most important features of audit committees, namely, size, independence, and meeting frequency.

### **2.5 Ownership Structure:**

Some of the differences, among countries, in CG mechanisms are attributed to dissimilarities in ownership structures. Li (1994) finds that ownership structure has a significant impact on CG mechanisms. Alzoubi (2016) indicates that ownership structure has a huge effect on the quality of financial reporting.

The development of an appropriate ownership structure is an effective mechanism to prevent or reduce manipulation (Habbash, 2010). Jensen and Meckling (1976) argue that the corporate ownership structure is one way to reduce agency problems between different stakeholders. Other studies have highlighted that agency problems could occur between owners and managers (vertical agency problems), and

between majority and minority owners (horizontal agency problems) (Shliefer and Vishny, 1997).

Table 1 provides a summary of the most recent and related studies which have been conducted in Jordan and the MENA region.

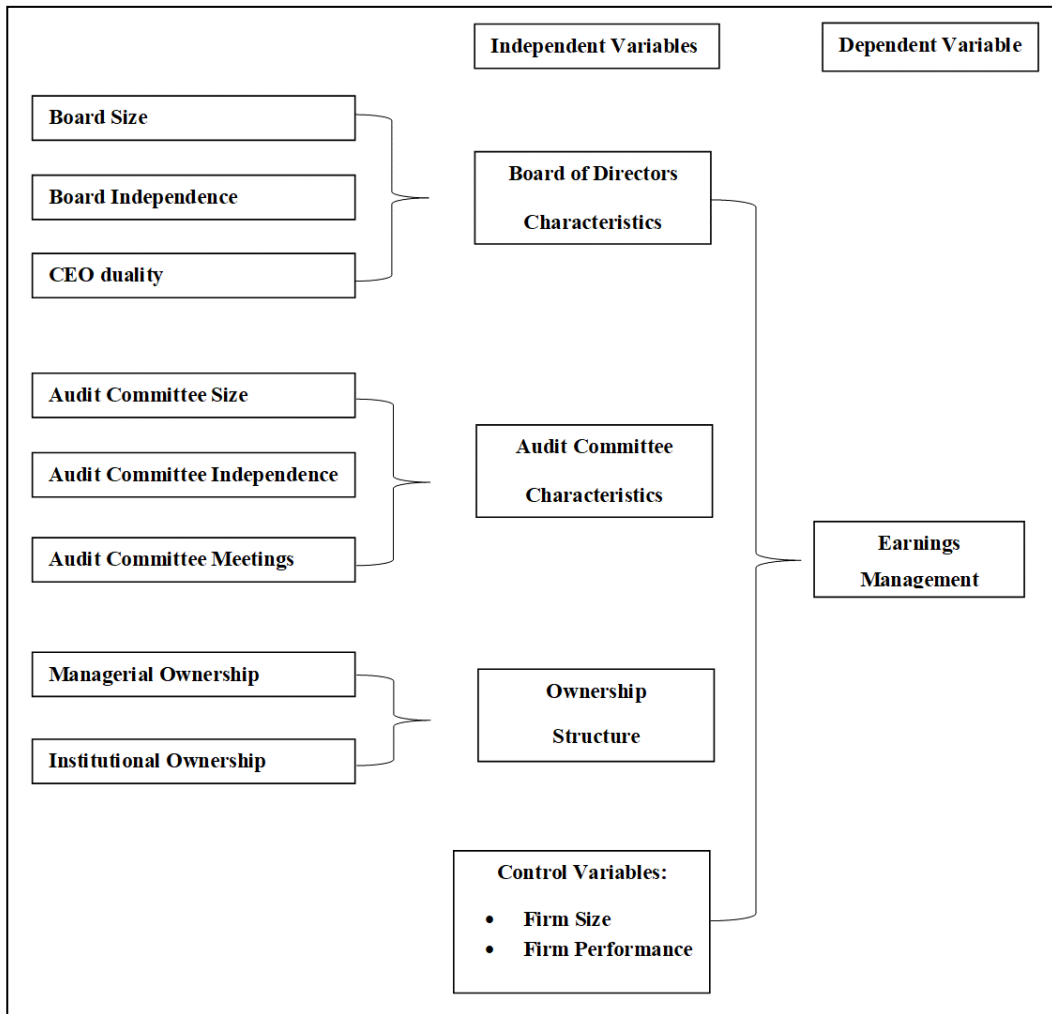
**Table 1: Recent studies in Jordan and MENA region**

<b>Study</b>	<b>Independent Variable(s)</b>	<b>Dependent Variable</b>	<b>Sample</b>	<b>Main Findings</b>	<b>Recommendations for Future studies</b>
Abed et al. (2012)	Board independence and size, role duality, and insider ownership	EM	Jordanian non-financial firms listed on the Amman Stock Exchange (ASE) during the period of 2006 - 2009	<ul style="list-style-type: none"> <li>The size of board of directors is the only variable that has a significant relation with EM.</li> </ul>	<ul style="list-style-type: none"> <li>Include more mechanisms of CG.</li> <li>Examine other sectors.</li> </ul>
Abbadi et al. (2016)	Board of director size, board meeting, audit and nomination and compensation committee	EM	Jordanian industrial and service firms listed on the ASE during the period of 2009 - 2013	<ul style="list-style-type: none"> <li>A negative relationship between CG quality and EM level</li> <li>Large companies or those with high performance are less likely to engage in earnings management practices</li> </ul>	
Al Daoud (2018)	Board of directors, the presence of an audit committee	EM	Industrial firms listed on the ASE from the years 2014 - 2016	<ul style="list-style-type: none"> <li>The presence of an audit committee negatively affected the earnings management.</li> <li>Independence and CEO duality significantly influenced the practices of earnings management</li> </ul>	<ul style="list-style-type: none"> <li>Use new variables of corporate governance.</li> </ul>
Alqudah (2017)	Board characteristics, Audit committees' characteristics, and ownership structure	EM	134 non-financial firms listed on the ASE during the period of 2009 - 2014	<ul style="list-style-type: none"> <li>A significant monitoring tendency for independent board members in constraining EM issue.</li> <li>As the number of external directorships occupied by board members increased, the likelihood of engaging in EM decisions increased significantly.</li> <li>Active boards (meetings) has a significant negative relationship with EM</li> </ul>	<ul style="list-style-type: none"> <li>Widen the adopted theoretical framework in this thesis, to go beyond the adoption of one theory (agency theory) by considering the effects of institutional theory, resource dependency theory and stewardship theory.</li> </ul>
Azzoz & Khamees (2016)	Board characteristics and audit committee characteristics	EM	All financial companies listed on the ASE (73 companies) during the period of 2007 - 2012	<ul style="list-style-type: none"> <li>Positive relationship between audit committee size and earnings management.</li> </ul>	<ul style="list-style-type: none"> <li>Include more mechanisms of corporate governance like ownership structure and board compensation committee.</li> <li>Examine present-day periods.</li> </ul>

Bataineh et al. (2018)	Family ownership and board characteristics	EM	Jordanian industrial firms listed on the ASE during the period 2011-2016	<ul style="list-style-type: none"> <li>No significant relationships were found between board size, CEO duality and board education and EM level.</li> <li>A positive relationship exists between (the existence of) family ownership and EM level.</li> </ul>	
Alzoubi (2016)	Ownership structure	EM	62 firms listed on the ASE at the end of 2013	<ul style="list-style-type: none"> <li>Insider managerial ownership, institutional ownership, external blockholder, family ownership and foreign ownership have a greater influence on financial reporting quality.</li> </ul>	
Lassoued et al. (2017)	Ownership structure	EM	Sample of 134 banks from 12 Middle Eastern and North African countries during the period of 2006 - 2012  Jordan: 11 banks, only 6 listed	<ul style="list-style-type: none"> <li>More concentrated ownership uses discretionary loan loss provisions (DLLP) to manage their earnings.</li> <li>State and institutional owners encourage earnings management, while family owners reduce this practice.</li> </ul>	<ul style="list-style-type: none"> <li>Develop an instrument to compute corporate governance indexes that consider different aspects of corporate governance in emerging markets.</li> </ul>
Grassa (2017)	Board characteristics (size, expertise), ownership structure (blockholders, institutional), and audit committee characteristics (size, meetings)	EM	Sample of 26 Islamic Banks (IBs) pertaining to the GCC region (2004-2012)	<ul style="list-style-type: none"> <li>IBs with large Shariah Board size manage less DLLP.</li> <li>A negative relationship exists between boards of director's independence the extent to which IBs manage DLLP.</li> <li>The existence of block holders positively affects earnings management by IBs.</li> <li>A negative relationship exists between audit committee meetings and DLLP.</li> <li>Institutional ownership and bank size have no effect on earnings management through DLLPs.</li> </ul>	<ul style="list-style-type: none"> <li>Explore the impact of additional IBs governance structures including CEO bonus, experience, gender and the extent to which IBs use real earnings management with <i>Murabaha</i>, <i>Mudaraba</i> and <i>Musharaka</i> transactions.</li> </ul>
Boulila & Mbarki (2014)	Board characteristics and external audit quality	EM	10 major Tunisian banks over the period of 2003-2007	<ul style="list-style-type: none"> <li>CEO duality is associated with higher levels of discretionary provisions.</li> <li>The presence of directors affiliated with the largest shareholder tends to constrain earnings management practices.</li> <li>A co-audit belonging to the BIG 4 provides incentives to manage earnings.</li> </ul>	

From the previous literature review, the study investigates the relationship between three groups of corporate governance variables and earnings management as illustrated in Figure 1. These relationships are discussed in detail in the next section.

**Figure 1: The Relationship between Corporate Governance Mechanisms and Earnings Management.**



### **3. Hypotheses Development:**

The previous chapter presents literature about CG mechanism groups. This chapter details the hypotheses for the relationship between each variable in these groups and EM.

#### **3.1 Board size:**

Disagreement exists in the findings of previous studies regarding the effect of board size on the efficacy of financial monitoring. For instance, studies of Ahmed et al. (2006), De Andres et al. (2005), and Huther (1997) claim that smaller boards are more effective than larger boards in making beneficial decisions and monitoring CEO behaviour. Nevertheless, other studies (Zahra and Pearce (1989) and Yu (2008)) argue the opposite case that small boards may not be effective in monitoring activities. However, most prior studies claim that larger board size enhances the board's monitoring ability (Habbash (2010), Klein (2002), Peasnell et al. (2005), and Xie et al. (2003)).

Board size has been used as an important determining factor of EM, but there were contradictory findings about the board size effect. For instance, studies of Abdul Rahman and Ali (2006), Alonso et al. (2000) and Kao and Chen (2004) find a positive relationship between board size and EM. Nevertheless, Abed et al. (2012), Ahmed et al., (2006), Peasnell et al. (2005), Soliman and Ragab (2013), and Xie et al. (2003) find a negative relationship. Moreover, Abbott et al. (2000) and Bataineh et. al (2018) find no relationship.

Thus, building on these results grounded in agency theory, a large board is assumed to have more diversified experience and a higher board independency ratio;

therefore, it is more effective to mitigate EM or to enhance the quality of the financial information. Consequently, this study proposes the following hypothesis:

*H1: There is a significant negative relationship between board size and earnings management.*

### **3.2 Board independence:**

A considerable number of previous studies (Al Daoud (2018), Murhadi (2009), Bedard et al. (2004), Dimitropoulos and Asteriou (2010), Grassa (2017), Jaggi et al. (2009), Boulila and Mbarki (2014), Niu (2006), Osma (2008), and Peasnell et al. (2005)) have documented a positive effect of the existence of independent board members on governance effectiveness in mitigating EM.

On the contrary, Abdul Rahman and Ali (2006), Abed et al. (2012), Agrawal and Chadha (2005), Marrakchi et al. (2001), Park and Shin (2004), Siregar and Utama (2008), Soliman and Ragab (2013), Osma and Noguier (2007), and Mersni and Othman (2016) find no relationship between board independence and EM. In contrast, Dechow and Dichev (2002), Grassa (2017) and Peasnell et al. (2000) report a negative association between the existence of independent directors and EM.

Many studies have claimed that boards with more independent members are in a better situation to monitor and mitigate managerial discretion (e.g. Beasley (1996) and Xie et al. (2003)). Furthermore, other studies, such as Klein (2002) and Peasnell et al. (2005), state that less potential exists for the reporting of abnormal accruals in firms with independent boards. Hence, this study proposes the following hypothesis:

*H2: There is a significant negative relationship between the proportion of independent directors on the board and earnings management.*

### **3.3 CEO duality:**

Previous studies have investigated the relationship between EM and CEO duality. For instance, Boulila and Mbarki (2014) and Klein (2002) find that discretionary accruals are positively associated with CEO duality. Other studies have examined the effect of good CG in mitigating EM, and have highlighted that duality has a significant effect on EM (Al Daoud (2018) and Murhadi (2009)). Anderson et al. (2003) find that this role separation positively influences the content of accounting earnings.

In contrast, Abdul Rahman and Ali (2006), Bataineh et. al (2018), Beasley (1996), and Johari et al. (2009) report an insignificant relationship between CEO duality and EM. In the same manner, no association is found by Peasnell et al. (2005) and Xie et al. (2003).

Based on agency theory, the positions of chairman and CEO should be separated to constrain earnings management, since CEO with excessive power could easily manage accounting information (Abdul Rahman and Ali (2006)). Consequently, this study proposes the following hypothesis:

*H3: There is a significant positive relationship between CEO duality and earnings management.*

### **3.4 Audit committee size:**

The size of the audit committee is an indication of resources available to this committee and is one of the most significant characteristics of its effectiveness (Habbash, 2010). Previous studies (Abbott et al. (2004), and Xie et al. (2003)) suggest that the perfect average of the audit committee size is between three and four members, and that firms with large audit committee demonstrate better monitoring effectiveness.

Previous studies have examined the effect of the audit committee size in constraining EM, yet these findings are contradictory and inconclusive. For example, Abdul Rahman and Ali (2006) and Azzoz and Khamees (2016) find a positive association between audit committee size and EM. In addition, Felo et al. (2003) document a positive relationship between the audit committee size and the financial information quality.

In contrast, studies by Lin et al. (2006) and Yang and Krishnan (2005) report a negative association between the size of the audit committee and EM. Moreover, Abbott et al. (2004), Bedard et al. (2004), Baxter and Cotter (2009), and Xie et al. (2003) find an insignificant association between the committee size and EM.

A larger audit committee could have greater potential to detect and mitigate accounting and reporting problems (Bedard et al. 2004). In contrast, a smaller audit committee could be exploited by the management of the firm (Habbash, 2010). Thus, the following hypothesis is proposed:

*H4: There is a significant negative relationship between audit committee size and earnings management.*

### **3.5 Audit committee independence:**

The independence of members, as one of the most important features of audit committees, has been the focus of previous empirical studies. The general argument, based on agency theory, is that independent members of the audit committee would generate better financial reporting via a more effective monitoring function (Fama and Jensen, 1983). Dechow et al. (1996) state that firms with an audit committee are less likely to engage in financial fraud. Additionally, McMullen and Raghunanadan (1996)

reports that the existence of an audit committee enhances the quality of financial information.

The majority of the empirical studies state that the existence of audit committees and their independence are associated with higher earnings quality and are negatively associated with the incident of EM (Benkel et al. (2006), Bedard et al. (2004), Davidson et al. (2005), and Piot and Janin (2007)). Likewise, the study of Felo et al. (2003) reveals that a negative relationship exists between the independence of the audit committee and financial deviations. Bryan et al. (2004) report a positive relationship between the content of accounting earnings and audit committee independence. Furthermore, Baxter and Cotter (2009) find that the existence of audit committees mitigates EM practices but has no effect on earnings quality.

Alternatively, other studies have not found an association between the existence or independence of audit committees and the incidence of EM. Peasnell et al. (2005) show that there is no strong evidence that the existence of an audit committee affects the extent of EM. In addition, Osma and Noguera (2007) argue that the existence of an audit committee is not effective in mitigating EM. Furthermore, Marrakchi et al. (2001) do not find an association between the independence of audit committees and earnings manipulation. In the same manner, Xie et al. (2003) and Abdul Rahman and Ali (2006) report an insignificant relationship between the independence of audit committees and EM levels. Moreover, Lin et al. (2006) fail to provide evidence that independent audit committees can affect the levels of EM.

In summary, although contradictions exist in the previous findings, all these studies suggest that independent audit committees are negatively associated with EM levels. Thus, the following hypothesis is proposed:

*H5: There is a significant negative relationship between the audit committee independence and earnings management.*

### **3.6 Audit committee meetings:**

It is recommended that audit committees should hold a minimum of three or four meetings a year, or, when necessary, special meetings, to improve the monitoring function to constrain potential financial manipulation (Yang and Krishnan, 2005). Previous studies also suggest that firms with frequent audit committee meetings experience less corporate fraud and financial restatement (Abbott et al. (2000) and Abbott et al. (2004)), and are less likely to practice EM (Xie et al. 2003).

The study of Xie et al. (2003) highlights that frequent meetings of audit committees can constrain EM. In addition, Song and Windram (2004) indicate a positive relationship between the frequency of audit committee meetings and the quality of financial reporting. Moreover, Grassa (2017) and Abbott et al. (2004) highlight a negative association between audit committee meetings on the one side and financial reporting restatements and corporate fraud on the other. Furthermore, Ebrahim (2007) reports that the audit committee is more active and stronger when it holds frequent meetings.

Previously mentioned studies have suggested that the frequency of audit committee meetings is related to the effectiveness of the monitoring function, providing better financial reporting quality, and associated with EM practices. Yet, many other studies are unable to provide evidence indicating a relationship between an active audit committee and EM. For instance, the study of Beasley and Petroni (2001) finds that the nature of fraud differs by industry and that the frequency of audit committee meetings is not necessarily associated with financial reporting

manipulation. Furthermore, the study of Baxter and Cotter (2009) finds that the frequency of audit committee meetings is not associated with mitigating EM or enhancing the quality of earnings. Davidson et al. (2005) report that the existence of active audit committees is not associated with EM levels. In addition, Lin et al. (2006) find no association between frequent audit committee meetings and constraining fraud or earnings restatement.

However, the fact that a number of studies do not suggest any association between an active audit committee and EM may be attributed to their sample size or their time scope. In addition, most of this research was conducted before the issuing of important corporate governance codes such as SOX, which enhance the effectiveness of the audit committees.

Thus, this study argues that, in Jordanian banks, the frequency of audit committee meetings may play a powerful role in constraining EM. This argument leads to the following hypothesis:

*H6: There is a significant negative relationship between the frequency of audit committee meetings and earnings management.*

### **3.7 Managerial ownership:**

Based on agency theory arguments (Jensen and Meckling 1976), most prior studies presume that managers with a high ownership in the firm are less likely to manipulate earnings for short-term personal gains at the expense of outside shareholders, which would lead to the appropriate alignment of interests (Peasnell et al. 2005). Therefore, high managerial ownership will result in improving the quality of financial reporting (Ballesta and García-Meca, 2005).

US studies have found that a negative relationship exists between managerial ownership and EM, (Peasnell et al. 2005). Nevertheless, Habbash (2010) highlights that the majority of the previous studies have found a positive association between insider ownership and earnings manipulation.

Warfield et al. (1995) state that the level of managerial ownership can affect the earnings treatment and the size of discretionary accounting accruals, and ownership structure plays an important role in aligning top-management hidden actions with the interest of shareholders. Consistently, Alexander and Cohen (1999) found that corporate crime is less likely to occur in firms with greater managerial ownership.

Most of previous studies have found a positive relationship between managerial ownership and EM (Al-Fayoumi et al. (2010), Hsu and Koh (2005), Klein (2002), Koh (2003), and Teshima and Shuto (2008)). In contrast, other studies argue that a negative association between managerial ownership and EM exists (Abdul Rahman and Ali (2006), Marrakchi et al. (2001), Gul et al. (2003), and Warfield et al. (1995)). Inconsistently, Peasnell et al (2005), based on a sample of UK firms, find no evidence to support the existence of an association between managerial ownership and the level of EM.

Based on the previous discussion, the following hypothesis has been developed:

*H7: There is a negative relationship between managerial ownership and earnings management.*

### **3.8 Institutional ownership:**

It has been argued that institutional investors have an important monitoring role, and that this involvement provides a complementary corporate governance mechanism. The study of Ferreira and Matos (2008), utilizing a comprehensive data set of equity holdings from 27 countries, investigates the role of institutional investors. It finds that firms with higher foreign and independent institutional ownership have higher firm value and operating performance, and lower capital expenditures.

Al-Zyoud (2013), based on a sample of UK companies, reports that outsiders' ownership (institutional investors) contributes in constraining EM whereas insiders' ownership (management ownership) does not. Furthermore, influences of institutional nonblockholders and active institutional blockholders were differentiated and investigated. The study of Bushee (2001) suggests that institutional nonblockholders are concerned with short-run performance; therefore, they may put pressure on management to announce high earnings.

Many of the empirical studies report an association between institutional ownership and earnings management (Al-Zyoud (2013), Balsam et al. (2002), Cornett et al. (2008), Ebrahim (2007), Jiraporn and Gleason (2007), Koh (2003), Lassoued et al. (2017), and Grassa (2017)). Inconsistently, Siregar and Utama (2008) argue that no association exists between institutional ownership and EM.

The literature highlights the significant influence of institutional ownership on the quality of reported earnings and claims that institutional investors involve actively in monitoring the investee firms. Thus, a negative relationship is expected between institutional ownership and EM (Koh, 2003).

Based on the previous discussion, the following hypothesis has been developed:

*H8: There is a negative relationship between Institutional ownership and earnings management.*

**Data and Methodology:**

In this study, hand-collected data from the annual reports of the banks in the study sample were used. The total number of listed banks in Jordan is 16. Three of these are Islamic banks and have been excluded from the sample given that Islamic banks use a different banking system compared to that of commercial banks. Therefore, over the study period (2013 to 2018), a total of 78 observations have been included in the analysis.

To examine the relationship between the earnings management (EM) and corporate governance (CG) and control variables under study, a multiple OLS regression analysis has been performed using SPSS version 25. The multiple regression assumptions were checked to ensure that they are not violated.

**4.1 Control Variables:****4.1.1 Introduction:**

In addition to the CG characteristics (independent variables) discussed earlier, other factors may also contribute to EM. Hence, the current study employs two control variables to control for some variance in discretionary accruals, which may be caused by political costs (SIZE), and extreme financial performance (ROA). The inclusion of these control variables in the regression analysis is considered fundamental to ensure that the tests focus more precisely on the differences created by variations in CG and isolates the impact of other factors that influence EM <sup>1</sup>.

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<sup>1</sup> Adding more control variables would dilute the power of the study model, especially with the small sample size.

#### **4.1.2 Firm Size:**

The EM activities of firms are likely to be influenced by firm size. The association between the firm's size and EM is controversial. On the one hand, consistent with the size hypothesis (Watts and Zimmerman 1978 and 1990), larger firms face higher political costs and are more politically visible and are more likely to use accounting discretion in order to reduce the potential political visibility or attention. On the other hand, as the firm's size increases, the agency costs are more likely to increase and allow for greater managerial opportunistic behaviour (Jensen and Meckling, 1976). A large firm size, as suggested by a number of previous studies, is a motivation for managers to engage in EM (Cheng and Warfield (2005), Kadan and Yang (2005), Moses (1987), Pincus and Rajgopal (2002), and Richardson (2000)).

Some empirical studies also support the negative association between the firm's size and EM (Abdul Rahman and Ali, (2006), Becker et al. (1998), Dechow and Dichev (2002), Klein (2002), Meek et al. (2007), Warfield et al. (1995), and Xie et al. (2003)). They argue that a large firm is required to disclose its financial information; therefore, it has less motivation to engage in EM and has better accrual quality.

Thus, there is no precise prediction about the relationship between firm size and EM. Therefore, to control for this controversial effect, firm size is included as a control variable.

#### **4.1.3 Firm Performance:**

Return on Assets (ROA) is used in previous empirical studies to control the relationship between EM and CG, in order to have a validated model (e.g. Carter et al. (2003), Kiel and Nicholson (2003), and Kothari et al. (2005)). ROA is an indicator of

management's efficiency in utilizing corporate resources (assets) that ultimately belong to shareholders. Therefore, ROA can be used as a strong measure of firm performance.

Kadan and Yang (2005) indicate that companies with poor performance in the previous year improve future results via EM practices. Chen et al. (2006) argue that firms with lower profitability have higher levels of EM. In contrast, Abdul Rahman and Ali (2006) indicate a positive relationship between ROA and EM.

Thus, to control for the potential effect of firm performance on EM, this study controls for the variable firm performance measured by ROA.

Data for CG and control variables have been collected and prepared for analysis based on the definitions and measurements illustrated in Table (2).

<b>Table 2: Definition and Measures for Independent and Control Variables</b>		
<b>Symbol</b>	<b>Variable name</b>	<b>Descriptions and measures</b>
<b>Board Composition:</b>		
BRDSIZE	Board size	Total number of board members.
BRDIND	Proportion of independent directors	Number of independent non-executive directors to total number of board members.
DUALITY	Role duality	A dichotomous variable equal to 0 if the firm <i>i</i> separates the role of CEO and Chairman, and 1 otherwise.
<b>Ownership Structures:</b>		
MANGOWN	Managerial ownership	The percentage of total shares held by executive directors divided by the total number of shares.
INSTOWN	Institutional ownership	The percentage of shares outstanding owned by institutional investors.
<b>Audit Committee Characteristics:</b>		
ACSIZE	Audit committee size	The total number of members on the audit committee.
ACMEET	Audit committee meetings	The yearly number of audit committee meetings.
ACIND	Audit committee independence	The proportion of independent non-executive directors on the audit committee to total committee members.
<b>Control Variables:</b>		
SIZE	Company size	A dichotomous variable equal to 1 if the total assets of firm <i>i</i> are greater than the median of all observations' total assets, and 0 otherwise <sup>2</sup> .
ROA	Firm performance	A dichotomous variable equal to 1 if the ROA (net income divided by the total assets) of firm <i>i</i> is greater than the median of all observations' ROA ratios, and 0 otherwise.

<sup>2</sup> Both measure types of firm size, continuous (natural log) and dummy (as indicated in Table (2)), are tested. The results are similar in terms of significant and insignificant relationships and the explanatory power of the study model.

#### 4.2 Measuring Earnings Management (Dependent Variable):

To measure earnings management, this study uses a two-stage analysis. For this purpose, the modified version of Jones' model (Jones (1991) and Dechow et al. (1995)) is used<sup>3</sup>:

$$TA = DA + NDA$$

$$\text{Total Net Accruals} = \text{Net Income} - \text{Cash Flow from Operations}$$

$$TA_{i,t} / A_{i,t-1} = \alpha_1 (1 / A_{i,t-1}) + \alpha_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) / A_{i,t-1} + \alpha_3 (PPE_{i,t} / A_{i,t-1}) + e$$

$$DA_{i,t} = (TA_{i,t} / A_{i,t-1}) - [\alpha_1 (1 / A_{i,t-1}) + \alpha_2 ((\Delta REV_{i,t} - \Delta REC_{i,t}) / A_{i,t-1}) + \alpha_3 ((PPE_{i,t}) / A_{i,t-1})]$$

Where:

$DA_{i,t}$ : is discretionary accruals for firm (i) in period (t), (the proxy of earnings management)

$TA_{i,t}$ : is total accruals for the firm (i) in period (t),

$NDA$ : non-discretionary accruals,

$A_{i,t-1}$ : is total assets for the firm (i) in period (t-1),

$\Delta REV_{i,t}$ : is the change in revenues of the firm (i) between years (t) and (t-1),

$\Delta REC_{i,t}$ : is the change in receivables of firm (i) between years (t) and (t-1),

$PPE_{i,t}$ : is total of property, plant, and equipment of the firm (i) in the year (t),

$\alpha_1, \alpha_2, \alpha_3$ : regression parameters.

Moreover, managers could manage earnings up or downward. Following previous studies (e.g. Abed et al. (2012), Abdul Rahman and Ali (2006), Hamdan et al. (2013),

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<sup>3</sup> For the banking sector, using the discretionary loan loss provision (DLLP) as a measure of earnings management is considered more appropriate and powerful. However, the data for DLLP in banks' reports are not available until after 2015, likely as a result of Basel III requirements.

Klein (2002), Peasnell et al. (2000), Warfield et al. (1995), the absolute value of DA is considered<sup>4</sup>.

To examine the hypotheses of this study, two control variables are included (firm performance and firm size) Therefore, the following regression model is used:

$$DA_{i,t} = \beta_0 + \beta_1 BRDSIZE_{i,t} + \beta_2 BRDIND_{i,t} + \beta_3 DUALITY_{i,t} + \beta_4 MANGOWN_{i,t} + \beta_5 INSTOWN_{i,t} + \beta_6 ACSIZE_{i,t} + \beta_8 ACMEET_{i,t} + \beta_9 ACIND_{i,t} + \beta_{10} SIZE_{i,t} + \beta_{12} ROA_{i,t} + \epsilon_{i,t}$$

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<sup>4</sup> The study model is tested using signed discretionary accruals values, but no association was detected between dependent and independent variables.

#### **4. Analysis and Results:**

##### **5.1 Descriptive Statistics:**

Table (3) presents the descriptive statistics of the study variables, dependent and independent.

The magnitude of earnings management (EM), the absolute value of discretionary accruals (DA), has a mean value of approximately 0.7483 with a standard deviation of 0.6372. EM values range from a minimum of 0.01 to a maximum of 3.29. These values are higher than those of previous studies using the same model (Modified Jones model 1995) in the Jordanian environment. This result can be justified by using samples for different sectors, such as industrial or service, (e.g. Abed et al. (2012), Abbadi et. al (2016), and Bataineh et. al (2018)), or by examining different periods and a broader sample size (Azzoz and Khamees (2016)). Generally, it indicates that the Jordanian banking sector undertakes more EM activities than other sectors do, although more strict regulations and standards are applied.

##### **5.1.1 Board Size:**

According to board size, the average number of the board members is 11 with a minimum of 7 and a maximum of 16 members. This range implies that banks, in general, are not committed or do not follow the Jordanian Corporate Governance Code, which recommends that the board size should be between 5 and 13 members. More precisely, only two banks violated this rule.

### 5.1.2 Board Independence:

The mean value of board independence is 0.356, which generally indicates that the Jordanian banking sector meets the requirement of the Corporate Governance Code of having at least one-third of the board size as independent-non-executive directors. Furthermore, the results show that the minimum value of board independence is 0.00 indicating that there were some violations of the code requirements.

<b>Table 3. Descriptive Statistics for the Study Variables</b>					
<b>Variable</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>EM</b>	78	0.01	3.29	0.7483	0.6372
<b>BRDSIZE</b>	78	7	16	11.53	1.552
<b>BRDIND</b>	78	0.00	0.70	0.356	0.1174
<b>MANGOWN</b>	78	0.00	12.56	0.93	2.999
<b>INSTOWN</b>	78	0.00	87.67	41.44	31.96
<b>ACSIZE</b>	78	3	7	3.95	1.068
<b>ACMEET</b>	78	4	21	7.82	4.054
<b>ACIND</b>	78	0.00	0.75	0.59	0.1376
<b>Valid N (listwise)</b>	78				
		<b>Frequency of 1's - % of Frequency</b>		<b>Frequency of 0's - % of Frequency</b>	
<b>DUALITY</b>		4 (5.1%)		74 (94.9%)	
<b>TA_Dummy</b>		39 (50%)		39 (50%)	
<b>ROA_Dummy</b>		39 (50%)		39 (50%)	

### 5.1.3 Ownership:

Managerial ownership shows a mean value of 0.93% with a standard deviation value of 2.99. Compared to other sectors, banks have lower managerial ownership (See, for example, Almasarwah (2015)). Regarding institutional ownership, the results indicate a mean value of 41.44% with a high standard deviation value of 31.96. From the

ratios of managerial and institutional ownership, it can be concluded that other important ownership types are present, such as individual internal (board of directors) or external ownership.

#### **5.1.4 Audit Committee:**

Regarding the audit committee characteristics, the results show an average audit committee size of 4 members and ranging from 3 to 7. For the audit committee meeting, it has a mean value of 7.82 meetings with a minimum of 4 and a maximum of 21. The audit committee independence ratio ranges from 0.00 and 0.75 with a mean value of 0.59. The Jordanian Corporate Governance Code indicates that the audit committee shall be comprised of at least three Board members with independent members in the majority; furthermore, the Audit Committee shall meet four times per annum and whenever necessary. Thus, in general, the Jordanian banking sector is committed to the code in terms of the committee size and meeting frequency but does not adhere to the committee independency requirements.

Furthermore, Table (3) shows the frequencies and percentages of three dichotomous variables, role duality, and two control variables. The sample shows a very low frequency and percentage of having a role duality (Chairman and CEO), with values of 4 (5.1%). More precisely, these four frequencies are noted for only one bank for the years from 2013 to 2016. In general, the Jordanian banking sector follows the requirement of the Jordanian Corporate Governance Code in that no Chairman/Chief Executive Officer duality exists.

#### **5.1.5 Control Variables:**

Regarding the study control variables (total assets and ROA), the results in Table 3 indicate equal frequencies for these two dummy variables. The study observations

have been divided based on the median of the values of each variable. The values above the median are denoted as 1, and 0 otherwise.

Table (4) shows the average value of EM by year. The years 2015 and 2016 witnessed higher EM levels. This result could be related to a two-stage adoption process of Basel III that the government had started in 2013.

<b>Table 4. Average Earnings Management Per Year</b>		
<b>Year</b>	<b>Total EM</b>	<b>Average EM/year</b>
<b>2013</b>	6.36	1.06
<b>2014</b>	8.93	1.49
<b>2015</b>	16.12	2.69
<b>2016</b>	12.45	2.08
<b>2017</b>	6.67	1.11
<b>2018</b>	7.84	1.31

## **5.2 Empirical Results and Discussion:**

### **5.2.1 Correlation Matrix:**

Table (5) illustrates the correlation matrix between the study variables. The results show that a positive significant correlation exists between EM and both audit committee size and institutional ownership. Furthermore, the coefficients between the study variables are found to be below 0.8. In addition, Table (8) shows low values for the VIF test, where the highest is 2.467, indicating no signs of a multicollinearity problem.

**Table 5. Correlation Matrix**

Variable	EM	BRDSIZE	BRDIND	DUALITY	MANGOWN	INSTOWN	ACSIZE	ACMEET	ACIND	TA Dummy	ROA Dummy
<b>EM</b>	1										
<b>BRDSIZE</b>	0.127	1									
<b>BRDIND</b>	-0.042	-0.205	1								
<b>DUALITY</b>	0.076	-0.079	0.151	1							
<b>MANGOWN</b>	-0.083	-0.039	-0.059	-0.061	1						
<b>INSTOWN</b>	0.259*	-0.240*	-0.181	-0.209	-0.184	1					
<b>ACSIZE</b>	0.265*	-0.023	-0.148	0.011	-0.262*	0.589**	1				
<b>ACMEET</b>	-0.020	-0.067	0.014	0.039	-0.139	-0.331**	-0.191	1			
<b>ACIND</b>	-0.059	0.129	0.376**	0.272*	0.165	-0.402**	-0.380**	0.147	1		
<b>TA_Dummy</b>	-0.186	0.274*	-0.198	0.000	-0.284*	0.001	-0.169	-0.172	-0.102	1	
<b>ROA_Dummy</b>	-0.076	0.042	-0.196	0.232*	0.042	-0.205	-0.048	-0.255*	-0.130	0.077	1

\*, Correlation is significant at the 0.05 level (2-tailed).  
 \*\*, Correlation is significant at the 0.01 level (2-tailed).

### **5.2.2 Hypotheses Tests (Regression Analysis):**

The results in Table (6), using a multiple OLS regression analysis, show that the model explains about 9% of the variation of the dependent variable with an Adjusted R-Square value of 0.089. Low Adjusted R-Square values are common in the EM literature (e.g. Abed et al. (2012) and Azzoz and Khamees (2016)). Table (7) shows that the F-statistics (F-test value=1.753; p-value=0.087) which indicate that the model is not statistically significant as the p-value is greater than 0.05. One possible reason for such values is that the sample is small based on the number of indicators included in the model. This result is considered a limitation of the study.

#### **5.2.2.1 Board size:**

*H1: There is a significant negative relationship between board size and earnings management.*

The regression results in Table (7), report a significant positive relationship between EM and board size, which is inconsistent with the tenets of agency theory. This result supports H1 and consistent with the results of a number of previous studies (e.g. Abdul Rahman and Ali (2006), Alonso et al. (2000) and Kao and Chen (2004)). Nevertheless, this result is inconsistent with other previous studies that report a negative relationship between board size and EM (Abed et al. (2012), Xie et al. (2003), Peasnell et al. (2005), Abdul Hamid et al. (2014), and Soliman and Ragab (2013)), or a lack of such relationship (e.g. Abbott et al. (2000), Azzoz and Khamees (2016) and Bataineh et al. (2018)).

### 5.2.2.2 Board independence:

**H2:** *There is a significant negative relationship between the proportion of independent directors on the board and earnings management.*

Table (8) shows that there is no significant relationship between board independence and EM; therefore, H2 is rejected. This result is consistent with many previous studies (e.g. Abdul Rahman and Ali (2006), Abed et al. (2012), Azzoz and Khamees (2016), Siregar and Utama (2008), Soliman and Ragab (2013), and Mersni and Othman (2016)). However, this result contradicts other studies (e.g. Dechow and Dichev (2002), Grassa (2017) and Peasnell et al. (2000)), which find a negative association between the existence of independent directors and EM.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455 <sup>a</sup>	0.207	0.089	0.60816

a. Predictors: (Constant), ACIND, TA\_Dummy, ROA\_Dummy, ACMEET, BRDSIZE, MANGOWN, DUALITY, BRDIND, ACSIZE, INSTOWN  
b. Dependent Variable: EM

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.485	10	0.648	1.753	.087 <sup>b</sup>
	Residual	24.780	67	0.370		
	Total	31.265	77			

a. Dependent Variable: EM  
b. Predictors: (Constant), ROA\_Dummy, BRDSIZE, ACSIZE, DUALITY, MANGOWN, BRDIND, ACMEET, TA\_Dummy, ACIND, INSTOWN

**Table 8. The Results of Multiple Regression Analysis of Earnings Management**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-0.832	0.950		-0.876	0.384		
BRDSIZE	0.131	0.054	0.320	2.456	0.017	0.696	1.436
BRDIND	0.064	0.726	0.012	0.088	0.930	0.661	1.513
DUALITY	0.543	0.358	0.189	1.515	0.134	0.759	1.317
MANGOWN	-0.012	0.028	-0.058	-0.443	0.659	0.683	1.464
INSTOWN	0.008	0.003	0.376	2.203	0.031	0.405	2.467
ACSIZE	-0.012	0.094	-0.019	-0.124	0.902	0.479	2.087
ACMEET	0.009	0.022	0.059	0.425	0.672	0.620	1.613
ACIND	-0.200	0.652	-0.043	-0.307	0.760	0.598	1.673
TA_Dummy	-0.360	0.171	-0.284	-2.108	0.039	0.652	1.534
ROA_Dummy	-0.026	0.167	-0.021	-0.158	0.875	0.680	1.471

Dependent Variable: EM

### 5.2.2.3 CEO duality:

*H3: There is a significant positive relationship between CEO duality and earnings management.*

The regression results do not support H3 by revealing that no significant relationship exists between CEO duality and EM. This result is consistent with Abdul Rahamn and Ali (2006), Abed et al. (2012), Azzoz and Khamees (2016), and Bataineh et al. (2018). On the contrary, the result is inconsistent with Klein (2002) and Abdul Hamid et al. (2014) which report a positive association between CEO duality and EM.

#### **5.2.2.4 Audit committee size:**

*H4: There is a significant negative relationship between audit committee size and earnings management.*

As shown in Table (8), there is no statistically significant relationship between audit committee size and EM. Consequently, H4 is rejected. This result is consistent with Alghamdi (2012), Xie et al. (2003), Abbott et al. (2004), and Baxter and Cotter (2009). However, this result is not consistent with Hamdan et al. (2013) and Azzoz and Khamees (2016) which report a negative relationship in the Jordanian environment.

#### **5.2.2.5 Audit committee independence:**

*H5: There is a significant negative relationship between the audit committee independence and earnings management.*

Further, Table (8) shows that no statistically significant relationship exists between audit committee independence and EM. Therefore, H5 is rejected. This result is consistent with Xie et al. (2003), Abdul Rahman and Ali (2006), and Lin et al. (2006). On the contrary, this result contradicts the results of Abdul Rahman and Ali (2006) and Azzoz and Khamees (2016) which find a significant negative relationship.

#### **5.2.2.6 Audit committee meetings:**

*H6: There is a significant negative relationship between the frequency of audit committee meetings and earnings management.*

Furthermore, there is no statistically significant relationship between audit committee meetings and EM. Hence, H6 is rejected. Nonetheless, this result is consistent with those of many previous studies (e.g. Alghamdi (2012), Baxter and

Cotter (2009), and Davidson et al. (2005)). Again, this result contradicts the results of Abdul Rahman and Ali (2006) and Azzoz and Khamees (2016) which report a significant negative relationship.

#### **5.2.2.7 Managerial ownership:**

*H7: There is a negative relationship between managerial ownership and earnings management.*

The regression result shows that no significant relationship exists between managerial ownership and EM. Thus, H7 is rejected. This result is consistent with Alghamdi (2012) and Peasnell et al. (2005) and contradicts those of most previous studies whether they found a positive relationship (e.g. Al-Fayoumi et al. (2010), Hsu and Koh (2005), Klein (2002), Koh (2003), and Teshima and Shuto (2008)) or a negative one (e.g. Abdul Rahman and Ali (2006), Marrakchi et al. (2001), Gul et al. (2003), and Warfield et al. (1995)). A possible reason for this contradiction is that managerial ownership ratios are very small in the Jordanian banking sector.

#### **5.2.2.8 Institutional ownership:**

*H8: There is a negative relationship between institutional ownership and earnings management.*

For the last hypothesis, inconsistent with the tenets of agency theory, the results in table (8) show a significant positive relationship between institutional ownership and EM. Therefore, H8 is rejected. This result is consistent with Lassoued et al (2017). In contrast, the result contradicts Alqudah (2017) and Alzoubi (2016) which find a negative relationship and Grassa (2017) and Siregar and Utama, (2008) which report a lack of such a relationship.

### **5.2.3 Control Variables:**

For the control variables, inconsistent with the size hypothesis (Watts and Zimmerman (1978) and (1990)), the regression result reports a negative significant relationship between company size and EM, which is consistent with some previous studies (e.g. Abdul Rahman and Ali, (2006), Becker et al. (1998), Dechow and Dichev (2002)). In contrast, other studies that have been conducted in Jordan report an insignificant relationship between firm size and EM (e.g. Abed et al. (2012), Abbadi et al. (2016), Azzoz and Khamees (2016), and Bataineh et al. (2018)).

Furthermore, the result shows an insignificant relationship between ROA and EM, thus indicating an inconsistency with Chen et al. (2006) and Abdul Rhanman and Ali (2006), which report a significant relationship.

In summary, the regression result shows that EM has a significant positive relationship with both board size and institutional ownership, and a significant negative relationship with total assets. The results of other variables (board independence, duality, managerial ownership, and all audit committee characteristics) do not show a significant association with EM.

## **5. Conclusions**

### **6.1 Implications of findings**

The main objective of the study has been to examine the relationship of CG characteristics and EM for banks listed on the Amman Stock Exchange for the period 2013-2018. In particular, the impact of board characteristics, ownership structure, and audit committee characteristics has been investigated. The results reveal insignificant relationships between EM and board independence, duality, managerial ownership, audit committee size, frequency of meetings, and independence. In addition, a significant positive relationship exists with both board size and institutional ownership and a significant negative relationship with total assets.

Descriptive statistics show that the Jordanian banking sector engages in EM activities at higher levels compared with the results of other studies using the same measurement method (Modified Jones' model 1995). In addition, the average value of EM by year indicates that the years 2015 and 2016 witnessed higher EM levels. These results could be justified by the two-stage adoption process of Basel III that the government began in 2013. One possible interpretation of the results is that Jordanian banks might have been trying to meet the new requirements of the Central Bank of Jordan during the end of the first stage (2015) and the beginning of the second stage (2016).

The results indicate some violations of the Jordanian Corporate Governance Code in terms of board size, board independence, and audit committee independence. These violations call for more effective monitoring procedures by the regulatory authorities responsible for such oversight.

Regarding ownership structure, with low managerial ownership and the current institutional ownership levels, it can be concluded that other important

ownership types prevail in the Jordanian environment, mainly individual ownership. Identifiable groups own the majority of the banks, either directly or indirectly through relatives, or via control of investment companies that invest in bank shares.

Audit committee characteristics were not significantly related to EM, and the result suggests that the existing characteristics do not have a mitigating effect on EM. This result represents a call to the regulatory authorities to improve the audit committee role in mitigating EM practices. As an example, one suggested procedure is changing the audit committee members every two years, since the study observations indicate slight or no change in the audit committee members from year to year. Thus, the banks could benefit from different experience and varied expertise.

Based on the previous discussion, with the assumption that the banks do not violate the financial reporting standards (e.g. IFRS), the current financial standards show a range of flexibility that allows managers to take advantage of them to engage in EM activities.

## **6.2 Limitations**

Limitations encountered while conducting this study may affect the overall generalizability of the study results. A summary of these limitations follows:

- Sample Size:

The sample size is considered small compared to those of other studies conducted in the same field. However, the study span (6 years) is longer than those of most of previous studies that have been conducted in Jordan (the majority of which are equal to or less than 5 years). Furthermore, the sample could be broadened by having additional banks from other countries in the same region, especially from those

countries which have the same or similar cultural structure or political stability (e.g. Morocco).

- Basel III Adoption:

The new CG requirements or recommendations were adopted over the study span (2013-2018) through a two-stage process. Therefore, other factors other than the CG mechanisms could affect the results of the study. For instance, corrections or adjustments needed to meet the new requirements, and/or, the differences in the requirements (if they exist) between the two stages' periods could affect the results.

- Other Factors:

Other factors or reasons could motivate managers to engage in EM practices. For example, political instability in the MENA region and its economic consequences could influence managers' conduct in this area.

### **6.3 Future research**

These findings and limitations present a number of possibilities for future research:

- Other Models:

Using other models to measure EM could be more effective in explaining the association of EM and CG factors.

- Pre- and Post-Basel III:

Examine the periods pre- and post-Basel III and compare them to evaluate the effectiveness of the new requirements of Basel III in mitigating EM.

- Qualitative Methods:

Although using qualitative research methods may create generalizability issues, the integration of qualitative and quantitative methods may uncover other factors, such as cultural ones, and motivations for engaging in EM and increase thereby our understanding of the situation in Jordan.

- Additional Factors:

Future studies could examine other factors and their relation to EM, such as other ownership structures (e.g. individual and board of directors), boards characteristics (e.g. board meetings), or board committees (e.g. compensation committee).

- Other or More Control Variables:

For the possibility of having a more powerful model or more consistent results with related theories, based on data availability, other control variables could be included in the study (e.g. leverage, growth rate, year fixed effects, and political uncertainty).

Thus, given the paucity of research undertaken in the Jordanian banking sector, this study has provided some perceptions about the role of CG in mitigating EM in Jordan, which is generalizable, to a certain extent, to some emerging markets and the MENA region. Furthermore, this study is considered a foundation stone of the literature on CG in banks in this region, especially after the financial crises and the adoption of Basel III.

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