The Moderate Effect of Audit Committee Independence on the Board Structure and Real Earnings Management: Evidence from Jordan

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Abstract: The current study aimed to explore the moderate effected of independence of the audit committee on the connection between board structure (i.e. size, independence and CEO duality) and real earnings management (REM) in listed companies in Jordan. The current study covered 910 firm-year observations of the industrial and service sector listed companies in the Amman Stock Exchange (ASE) from 2009 to 2018. Using the Fixed Effect approach, the results of the data analysis show a negative and significant impact of board size and CEO duality on REM. There was, however, a significant positive correlation between board independence and REM. In general, the findings showed that the structure of the board is a determinant of REM. In the case of the moderate effect, found the audit committee independence have moderately affected the relationship between board structure and REM. In short, the findings of this study indicate that the moderate effect of audit committee independence weakens the effect of board size and CEO duality on the determination of REM while increasing the effectiveness of board independence to control of REM. Furthermore, the findings of the current study have significant implications for audit practitioners, policymakers, investors and regulators in their efforts to limit REM activities and increase the quality of Jordanian firms' financial reporting.

Keywords: Real earnings management, audit committee independence, board structure.

INTRODUCTION

The board structure plays an important role in maximizing organizational performance by setting strategic priorities for the company (Fama & Jensen, 1983; Chouaibi, Harres, & Brahim, 2018). Moreover, the board is an important internal corporate governance mechanism (CG) to improving financial reports quality (Haji & Ghazali, 2013), and plays a vital role in reducing the agency issue, therefore the effectiveness of the board depends on the characteristics of the board of directors (Dakhlallh, Rashid, Abdullah, & Dakhlallh, 2019).

Financial reporting is an important responsibility and a central element of a corporate structure, since financial reporting acts as the primary means of communication between companies and stakeholders (Zgarni, Hlioui, & Zehri, 2016). The aim of financial reporting is therefore to give reliable information on the financial situation and the company's performance (Barth, Landsman, & Lang, 2008). Therefore, financial reports are often frequently deformed or even deceptive (Blanco, Lara, & Tribó, 2014). In the meantime, earnings management is one of the reasons why financial reporting is not of a standard, so it may hamper successful decision making by a firm's investors and other stakeholders in the process (Mishra & Malhotra, 2016).

Management of earnings (EM) acts as a strategic method that management uses on the basis of optimizing a company's productivity and reducing risks (Bala & Kumai, 2015). Consequently, the manipulation of earnings is intended to conflict with the financial reporting process in order to achieve a personal advantage or for the organisation. In addition, EM manipulate by real earnings management (REM) activities, as tracking REM practices compared to accrual-based earnings management (AEM) is more difficult for auditors and supervisory bodies (Cohen & Zarowin, 2010; Ewert & Wagenhofer, 2005). Given the stringent steps that force companies to not engage in AEM practices (Chi, Lisic, & Pevzner, 2011), companies turn to REM.

In the Jordanian context, several academic studies, documents and official statements have indicated that the listed businesses, especially non-financial firms, participate in EM. Such activities were due to the drawbacks of the existing CG and also due to the lack of accounting regulations. In addition, Al-Ghazzawi & Alsoboa (2016) indicated that up to 50 per cent of Jordanian firms conduct EM from 2005 to 2013. Another Jordanian study has suggested that the problem of EM has caused many Jordanian companies to collapse (Cossiga, 2018). Jordan ranks high among the 39 countries sampled for the ranking-based study, according to Enomoto, Kimura, &

Yamaguchi (2015), and indicates that Jordan is among the most active countries in REM. Furthermore, Dakhlallh, Rashid, Abdullah, Qawqzeh, & Dakhlallh (2020), pointed out in a modern study that the Jordanian companies manipulate earnings through real activities and discretionary accrual. As a result of that, scandals and malpractice have resulted in a substantial decline an infringement of the confidence of Jordanian investors, particularly after the conversion of five public shareholders companies to compulsory liquidation in 2017 (Dakhlallh, Rashid, Wan Abdullah, & Al Shehab, 2020).

The modern studies show that good CG may mitigate manipulation of earnings and because the board of directors is a significant mechanism for CG, in addition to the function of the audit committee as an intermediary between the external audit and the board of directors to improve its oversight in the process of financial reporting. We examine whether the independence of the audit committee has a moderate impact on the relation between the board of directors and REM. Nonetheless, the current study highlights the board structure that plays a significant role in mitigating REM activities, as well as the independence of the audit committee as a moderator variable.

The contribution of the current study is through: First, this paper is to investigate the impact of the board of directors structure on the limitation of REM. Secondly, following the introduction of the Jordan Corporate Governance Code (CGC) in 2009, this study is the first to explore the effect of board structure on limiting REM with the effect of audit committee independence as a moderator variable. Third, the results of this study are valuable to policymakers and regulators trying to formulate strategies for CG. The present research thus bridges the relevant gap by analyzing how the board of directors influences the REM of non-financial Jordanian firms and how the audit committee independence influences this connection.

The rest of this paper is organized as follows: Section 2 provides a summary of the literature review and the development of hypotheses. Section 3 describes the method of the study and collection of the samples. Section 4 offers a summary of the findings and the concluding in the final section.

LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESIS
Real Earnings Management
EM is a topic that was examined extensively in prior accounting and financial researches (Healy & Wahlen, 1999). Managers may exploit earnings by exercising control discretion over accounting (Beasley, 1996; Burgstahler, Hail, & Leuz, 2006), or direct management by participating in real-manipulation practices (Degeorge, Patel, & Zeckhauser, 1999), cash flow manipulation (Glaum, Lichtblau, & Lindemann, 2004), and EM by manipulating real operations (Roychowdhury, 2006) to delude certain stakeholders.

The evidence shows managers favour the REM approach compared to AEM managing (Graham et al., 2005). While Gunny (2005; 2010) indicated the management of real practices is much more costly to companies and their shareholders and less costly for managers. Actually, REM imposes high long-term costs on shareholders as compared with AEM (Cohen, Dey, & Lys, 2008; Cohen & Zarowin, 2010; Roychowdhury, 2006). Additionally, Cohen et al. (2008); Zang (2012); Roychowdhury (2006); Graham et al. (2005) pointed out that REM strategies do not help the growth and competitive characteristics of firms because of their long-term impact on overproduction, income manipulation and discretionary cost reduction.

Since manipulating real activities leads to adverse economic consequences, understanding how to reduce this opportunistic behaviour is a critical issue, especially after the study by Graham et al. (2005) discovered that REM activities are a common practice. Therefore, in this paper, we employ operating cash flow, expenditures of discretionary, and costs of production to estimate a measure of overall REM, according to Roychowdhury (2006) that firms may provide a price discount to raise revenue, overproduction to report a higher gross profit margin ratio, and discretionary expenditure to reflect inflated earnings can be reduced.

Board Structure and Real Earnings Mmanagment
Empirical research has identified many of the CG mechanisms for reducing agency issues resulting from EM and has shown that REM or AEM is constrained by some of the mechanisms of CG such as structure of the board (Adams, Hermalin, & Weisbach, 2010; Kang & Kim, 2012; Sitthipongpanich & Polsiri, 2013).

Accounting literature puts great emphasis on the board as the management team's control mechanism. In this context, Fama & Jensen (1983) considered the board of directors is a mechanism of governance that performs a key role of firm' monitoring. Several researchers attribute the significance to the forces the companies have made available to the board (Johnson, Daily, & Ellstrand, 1996). In addition, Godard & Schatt (2000) claim that the efficacy of the board in carrying out its duties depends on certain mechanisms.

Board Size
The theory of the agency would suggest a major role for the board structure in reducing or mitigating the problem of agency. Board size may also play a significant function in raising the efficacy of controlling decisions on EM. Similarly, Sun, Stewart, & Pollard (2011) suggested that big boards should use their time and resources to conduct supervisory functions to alleviate the agency issue, whereas small boards may fail to discover earnings management activities. As a result, the board has carried out several board-sized related works as an internal management effectiveness method (Beasley, 1996; Yermack, 1996). Such inquiries led to contradictory conclusions.

Many authors advocate for a large board of directors, a board consisting of a large number of members demonstrates greater competency resulting from the breadth skills and know-how of their members in different fields (Van den Berghe & Levrau, 2004). In accordance with this view, Carcello, Hollingsworth, Klein, & Neal (2006) find that abnormal discretionary expenditures are improved as the board size increases. In addition, the findings of a study by Talbi, Ali Omri, Guesmi, & Ftiti (2015) show a favourable correlation between the board's size and REM. Also, Kharashgah, Amran, & Ishak (2019) presented proof of 721 firm-year findings of 2001-2017 from non-financial Jordanian companies and concluded that the size of the board improves REM.

Concerning the reduced size of the board, Sáenz González & García-Meca (2014) discovers that the board size causes problems of communication and collaboration between members, leading to a reduction in the control of the top management and thus to a raise in the EM. Several studies have established that the size of the board to adversely affect EM (Iraya, Mwangi, & Muchoki, 2015; Patrick, Paulinus, & Nympha, 2015; Amran, Ishak, & Abdul-Manaf, 2016). Similarly, Chouaibi et al. (2018) reported that the board's size could curb the manipulation of sales of 29 listed Tunisian companies over the period 2009-2013.

At the other side, Garven (2015) did not record any influence of the board size on REM activities. Likewise, Al-haddad & Whittington (2019) failed to demonstrate a connection for the size of the board with REM in Jordanian companies for the period 2010-2014. Accordingly, the hypothesis is proposed as follows:

H1: The effect of board size on REM is a significant

Board Independence

Most of the preceding empirical studies indicate that the board of directors must consist of independent directors (Shleifer & Vishny, 1997; Dalton, Daily, Ellstrand, & Johnson, 1998). Fama (1980) and Fama & Jensen (1983) suggest in this regard that independent members are improving the Board's efficacy as a control mechanism. However, Forker (1992) suggested that the managers would be required to demonstrate compliance with the expectations of shareholders. Based on agency theory, the board's independence mainly relates to the number of independent directors.

Empirical studies findings examining the link between the REM and independence of the board were mixed. Hsu & Wen (2015) reported that the board's independence is positive and significantly impacted to REM. Likewise, Al-haddad & Whittington (2019) suggested that the board's independence inflated the REM of 108 Jordanian public firms.

Contrary, Talbi et al. (2015) discovered a negative relevance of the board independence on discretionary expense and abnormal cash flow, whereas a positive with the abnormal cost of production. Liu & Tsai (2015) have pointed out that strengthened independence of the board leads to greater suppression of REM proxies in Taiwanese companies. Furthermore, Chouaibi et al. (2018) confirmd that board independence limits the sales manipulation of 29 companies listed in Tunisia over the period from 2009 to 2013. In recent research by Rajeevan & Ajward (2019) for the period 2015 to 2017, it was discovered that board independence contributes to a reduction in real practices in EM.

Sun, Lan, & Liu (2014) have reported that there is no impact of the board independence on REM. In the same vein, Swai (2016) reported an insignificant relationship for the influence of independence of the board on REM proxies in a study of 44 non-financial companies listed in East African security markets from 2004-2013. Similarly, in non-financial Jordanian companies, Kharashgah et al. (2019) failed to find an effect of board independence on the REM. Based on explaining above, the hypothesis was as a following:

H2: The effect of board independence on REM is a significant

CEO duality

The duality was the topic of much controversy throughout the literature, especially between the institutional theory and agency theory. Proponents of the theory of the agency advocate for a separation of control roles and decisions, they propose that splitting the two positions allows the business to have two employees with different skills (Cornett, Marcus, & Tehranian, 2008; (Fama & Jensen, 1983). Conversely, those who promote institutional theory embrace duality. The dual CEO and Chairman role enable the company's management to be united based on consistency and continuity. The stability, therefore, increases the board's functioning (Godard & Schatt, 2000).

Existing research have published conflicting results about the duality of CEOs and the relationship of REM. Ge & Kim (2014) pointed out a significant and positively of CEO-duality on REM. In addition, Kharashgah et al. (2019) concluded that the duality of CEOs improves REM in 721 firm-year findings in Jordanian non-financial companies from 2001 to 2017. Similarly, Al-haddad & Whittington (2019) found that duality as CEO exaggerates 108 Jordanian public corporations' REM.

Contrary, Liu (2012) has reported that a higher percentage of CEO duality lowers activities in earnings management. Further, the results of Visvanathan (2008) reported that CEO duality has an insignificant connection with REM, likewise, Garven (2015) did not document any association. In the same vein, Chouaibi et al. (2018) failed to find an influence of CEO duality on REM of 29 Tunisian-listed companies. Therefore, we suggested the hypothesis as below:

H3: The effect of CEO duality on REM is a significant.

The Moderating Effect of Independence of the Audit Committee

In recent decades significant reforms have been implemented to boost the audit committees' performance. Reform to improve the transparency of audit committee focuses on the audit committee's independence members. Because the audit committee is one of a sub-committee of the board of directors containing non-executive members who are concerned with audit and internal control matters and with preparing financial reports (Spira, 1998), the audit committee acts as an intermediary among external and internal auditors and the board of directors to the supervisory role for the process of the financial reporting (Reinstein & Weirich, 1996).

Additionally, the audit committee must be independent of the administration to be able to exercise effective oversight (Zgarni et al., 2016). Accordingly, prior empirical evidence indicates that the independence of members of the audit committee will help balance the conflicting opinions of external auditors and management in delivering high-quality financial information. In Jordanian case, two-thirds of the members of the audit committee must be independent and non-executive, as set out in the CGC of 2009. As just that, audit committees are formed by boards of directors to supervise the financial activities of management and serve as a link between external auditors and management (Vanasco, 1994; Bukit & Nasution, 2015).

The audit committee's position represents the concept of theory of agency and the require to restrict the ability of managers to receive special benefits from the business (Badolato, Donelson, & Ege, 2014). The independent audit committee should also monitor management effectively and minimize its opportunistic behaviour. Khalil & Ozkan (2016) further claimed that the influence of board structure on EM activities attach on the composition of the audit committee. While Klein (2002) shows that companies with boards and audit committees with fewer independent directors would have more unnatural entitlements. Besides, Siagian & Tresnaningsih (2011) indicated that substantially EM is lower after the firms meet the independence criteria, this implies that the board of directors independence and the audit committee independence have a negative and significant association with EM. Furthermore, Abata & Migiro (2016) provided empirical proof from Nigeria that the board of directors independence and independent audit committee are insignificantly associate with EM.

Similarly, Davidson, Goodwin-Stewart, & Kent's (2005) findings indicate that power over earnings is lower whenever the bulk is independence members for the audit committee and board of directors. In addition, after the mandatory implementation of IFRS, the audit committee and board's independence perform a key role in curbing EM (Marra, Mazzola, & Prencipe, 2011). As well, Kapoor & Goel (2017) claimed that the independence of the audit committee had a major negative influence on EM. Consequently, we may conclude that the board members' independence and audit committee members' independence are successful in enhancing the quality of earnings by reducing the EM practice.

On the other hand, Garven (2015) pointed out that the board performs a restricted role in the case of REM, while no influence of audit committee to control over managers' behaviours. In addition, Talbi et al. (2015) showed that, at traditional rates, the impact of audit committee independence on the overall REM proxy is negligible. Whereas, Habbash (2019) points out to an insignificant effect of the audit committee independence and EM' indicator. In the same vein, in a recent study by Rajeevan & Ajward (2019) during the period 2015 to 2017, the audit committee's independence an insignificant effect on REM' proxies. Thus, we present the following hypothesis:

H4: The effect of board structure on REM when the audit committee independence is a significant.

DATA AND METHODOLOGY

Sample and Data

Data combination of current study comprises of the public firms listed on the Amman Stock Exchange (ASE) over the period 2009 to 2018 for ten consecutive years. The present study was carried out primarily in the industrial and service sector, comprising 48% of the total companies listed on ASE. The financial sector has been excluded from the study sample due to strict instructions are given by the Central Bank of Jordan to this sector and to ensure the robustness of the analysis and to understand the roles of corporate governance frameworks in relieving REM activities and enhancing the transparency and reliability of recorded earnings.

In 2018 the total number of companies listed was 190. 99 Financial companies have been removed from the study; therefore, the final sample comprises 91 firms, which are 46 service firms and 45 industrial firms consecutive of observations of 910 firm-year.

The current research data set includes financial and non-financial information for the selected companies. Financial information was obtained from the available data released from the DataStream database for REM. As regards, non-financial information for board independence and audit committee independence were collected manually from the available annual reports published on the ASE website.

Variables Measurement

Real Earnings Management measurement

We use Cohen & Zarowin (2010) and Roychowdhury (2006) models to measure a total estimate based on operating cash flows of abnormal (CFO), production costs of abnormal (PROD) and discretionary expense of abnormal (DISEXP) to calculate the manipulation of real operations.

Cash flow from operations

This approach can enhance the current period's earnings and sales volume, dissembling a positive margin. In addition, saving price discounts and credit terms will further reduce the permissive current-period cash flow producing in operating cash flow of abnormal. Operating cash flows of abnormal value will decrease owing to sales manipulation so that actual earnings management will be poor if the cash flows from abnormal value operations are high. The follows of the estimates:

$$CFO_{it}/A_{it-1} = a0 + a1(1/A_{it-1}) + a2(S_{it}/A_{it-1}) + a3(\Delta S_{it}/A_{it-1}) + \varepsilon_{it} \qquad (1)$$

Where $CFO_{i,t}$ Cash flow operation, $A_{i,t-1}$ total assets of firm i at the end of period t, $S_{i,t}$ is the Sales of firm i during period t, $\Delta S_{i,t}$ change of sales ($\Delta S_{i,t} = S_{i,t} - S_{i,t-1}$). Abnormal CFO obtained residual value from equation (1).

Discretionary expenses
Corporations may reduce expenses of discretionary such as general management, expenditure related to development and research, advertisement, and sales. This scenario can improve current period earnings and cash flow with the risk of reducing future period cash flows. Reduction in discretionary load would reduce discretionary expenses with an abnormal value, thus, if the amount with abnormal discretionary expenses was high, REM would reduction. Hence, we estimate discretionary expenses are following:

$$DISX_{it}/A_{it-1} = a0 + a1(1/A_{it-1}) + a2(S_{it}/A_{it-1}) + \varepsilon_{it} \qquad (2)$$

Where $DISX_{i,t}$ is firm' discretionary expenditure i in period t, (amount of sales and general expense, the expense of advertising and expense of development and research), $S_{i,t}$ is previously sales. Discretionary expenses of abnormal acquired residual value from equation (2).

Production cost
Companies should generate more good units than necessary in order to increase earnings so that operations would reduce the cost of the products sold. Due to the overproduced, that minimize the sold goods' cost is induced by the perversion of the costs of fixed overhead by a greater number of units. Furthermore, if management manipulates earnings through overproduction, it may result in an abnormally rise production costs' level. Therefore, the production cost is the change in inventory and the number of goods sold (Sun et al., 2014; Roychowdhury, 2006)

$$PROD_{it} = COGS_{it} + \Delta INV_{it} \qquad (3)$$

Where $COGS_{i,t}$ are goods sold cost of the firm i in period t, $\Delta INV_{i,t}$ is the inventory' change of firm i in period t. We estimate the following regression model to calculate production costs of abnormal ($PROD_{i,t}$):

$$PROD_{it}/A_{it-1} = a0 + a1(1/A_{it-1}) + a2(S_{it}/A_{it-1}) + a3(\Delta S_{it}/A_{it-1}) + a4(\Delta S_{it-1}/A_{it-1}) + \varepsilon_{it} \qquad (4)$$

Where $PROD_{i,t}$ Production cost, $\Delta S_{i,t-1}$ sales' changing. Abnormal cost of production acquired residual value from equation (4). REM's final estimate is abnormal costs of production, calculated by equation's residual value (4). A large $PROD_{i,t}$ value, shows high REM due to overproduction contributes to a higher value of elevated production costs.

Total Real Earnings Management
To estimate the REM percentage. Residual values of equation (1) and (2) are combined by (-1) such that the real cash flow from operations and real expenses of discretionary are smaller than the cash flow operations and the expected expenses of discretionary when managing expenses of discretionary and/or sales. This measure is the sum of all three proxies residual operations to transform changes in different processes into one unit (Chi et al., 2011; Cohen & Zarowin, 2010; Cohen et al., 2008). The bigger the result, the higher the degree of manipulation of real activities exploited by a corporation. We follow the equation to calculate REM:

$$REM_{it} = -(ABCFO_{it}) - (ABDISX_{it}) + (ABPROD_{it}) \qquad (5)$$

Board structure measurement
We research the effect of the board structure on REM and utilize the size of the board, independence and CEO duality to estimate the structure of the board. Therefore, size of the board is total directors of the board in the firm during the accounting year, while the independence of the board is a non-executive directors' proportion, the duality of CEO measured as a duma variable (equals 1 if the role of chairman and CEO are combined, and 0 otherwise).

Audit committee independence measurement
We plan to examine the moderating effect of audit committee independence on the association between board structure and REM, thus, we employ the proportion of non-executive members of the Audit Committee as a measure of independence.

Regression model
To test our hypotheses, we perform balanced panel data. Balanced panel data are more much better to provide factors difficult to estimate in the study of pure time-series or pure cross-sectional (Sheikh & Wang, 2012). For independent and moderator variable, we use lagged values to monitor possible endogeneity between independent directors and the exploitation of real activities. Ultimately, the Fixed Effect techniques method was used to analyze the data to determine the link among the selected components and REM. The model used in this particular study is as follows, based on the above description:

$$REM_{it} = \text{a0} + \text{a1}AZ_{it} + \text{a2}ACI_{it} + \text{a3}CEO_{it} + \text{a4}Az*ACI_{it} + \text{a5}ACI*ACI_{it} + \text{a6}CEO*ACI_{it} + \varepsilon_{it} \qquad (6)$$

EMPIRICAL RESULTS AND DISCUSSIONS

Descriptive statistics

Table 1 provides descriptive statistics for all chosen variables to be used in the current analysis. REM in Jordan ranges from -3.91 to 3.53, while the mean is 2.2E-12, meaning Jordanian industrial and service firms are widely practised REM, this results in confirming Enomoto's et al. (2015) findings that Jordan is among the countries with the most active REM practices. The abnormal operating cash flow from ranges from -0.69 to 0.84.

Table 1: Summary of Descriptive Statistics

Variable	Mean	Maximum	Minimum	Std. Dev	Skewness	Kurtosis	Probability
Real Earnings Management Variables							
REM	2.20E-12	3.530315	-3.909329	0.468420	2.199423	26.16245	0.000000
ABCFO	-9.67E-12	0.835218	-0.688776	0.118844	0.547187	9.203609	0.000000
ABDISX	5.49E-13	1.122650	-0.178923	0.097013	3.798912	29.82707	0.000000
ABPROD	-2.20E-12	3.673516	-3.612941	0.402450	4.123519	45.33200	0.000000
Board Structure Variables							
BZ	7.923077	13.00000	3.000000	2.344062	0.492513	2.507238	0.000000
BI	0.405986	0.909090	0.000000	0.230841	-0.016296	2.230500	0.000013
CEO	0.191209	1.000000	0.000000	0.393469	1.570445	3.466298	0.000000
Moderating Variable							
ACI	0.793387	1.000000	0.000000	0.349811	-1.433374	3.491573	0.000000

In addition, the abnormal discretionary expenditure ranges from -0.18 to 1.12, while the abnormal cost of production ranges from -3.61 to 3.67, which is a high percentage, meaning that Jordan's industrial and service firms depend on the abnormal cost of production to manipulate earnings.

For board structure variables, Table 1 discovered that the BZ mean is 8.09, while the BI mean is 0.41, indicating that just under half of the Jordanian companies are largely consistent with recommendations of ASE which are one-third members at least should be independence. The mean CEO duality is 0.19, indicating that about 81% of Jordanian companies obey the duality-related ASE recommendations. Table 1 also indicates that the mean of the moderate variable (ACI) is 0.79, indicating that most Jordanian companies comply with ASE recommendations related to audit committee which are two-thirds of them to be independent.

Stability of the model

During the analytical times, the stability of the parameters is investigated using the Cumulative sum of recursive residuals (CUSUM) established by (Brown, Durbin, & Evans, 1975). Such tests are significant since calculated coefficients can differ in the dates of the time series if a model is described as a misspecification. In addition, the graphical analysis of CUSUM was shown in Figure 1. Straight lines display major boundaries from the graph at a modest 5 per cent point. The results demonstrate the consistency of the parameters as the test plot is within acceptable limits at a rational 5 per cent point, i.e. the regression coefficients are constant over time (Shahbaz, Lean, & Kalim, 2013).
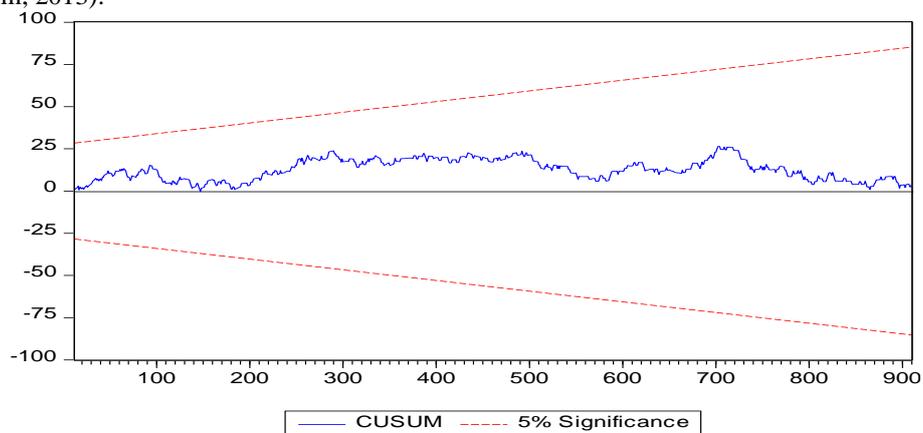

Fig.1: CUSUM test

Regression analysis

The model regression results are reported in Table 2. Columns display the results each of the proxy (ABCFP, ABDIS, ABPROD and REM_All) respectively serve as the dependent variable. The findings are reported from

the regression analyzes. In all model variants, the board size has a negative and significant coefficient, suggesting that high-size boards in Jordan are curb of participating in REM, the reason being that large boards succeed in finding and reducing REM practices in companies. That result is consistent with (Amran et al., 2016; Obigbemi et al., 2016; Chouaibi et al., 2018) and is not in line with (Talbi et al., 2015; Kharashgah et al., 2019; Al-haddad & Whittington, 2019).

Table 2: Summary of Fixed Effect Model

	ABCFO		ABDISX		ABPROD		REM_ALL	
Variable	Coeff	t-Statis	Coeff	t-Statis	Coeff	t-Statis	Coeff	t-Statis
BZ	-0.013	-5.490*	-0.001	-6.750*	-0.047	-8.011*	-0.028	-3.239*
BI	0.133	2.820*	0.004	2.879*	0.237	3.345*	0.272	2.970*
CEO	0.102	5.081*	0.029	3.275*	-0.275	-4.331*	-0.118	-2.730*
ACI*BZ	0.019	8.016*	0.002	2.250**	0.009	2.604*	0.156	16.196*
ACI*BI	-0.154	-3.058*	-0.017	-0.895	-0.247	-3.274*	-0.251	-2.584**
ACI*CEO	-0.078	-3.239*	-0.030	-2.952*	0.064	1.645	0.125	2.478**
Cons	-0.038	-3.621*	-0.000	-0.042	-0.044	-2.832*	-0.053	-2.603*
R-squared	0.637388		0.599829		0.478995		0.499459	
Adj R-sq	0.637041		0.599802		0.478841		0.499376	
P(F-stat)	0.000000		0.000000		0.000000		0.000000	
Durbin- Watson	1.677065		1.609442		1.548630		1.583892	
Notes: *, ** and *** Indicates the dismissal of the null hypothesis at the rates of 1% and 5%, and 10% level.								

As shown in Table 2, the independence of the board has a positive and significant coefficient in all model variants which means that independent boards are more likely to participate in REM in Jordan. That result is in line with (Hsu & Wen, 2015; Al-Haddad & Whittington, 2019) and inconsistent with (Talbi et al., 2015; Rajeevan & Ajward, 2019; Kharashgah et al., 2019). Reason for the positive relationship is that independent directors may be insufficiently independent and the Jordanian demand for independent directors may also be immature. Additionally, the directors can lack the complexity of the accounting required to detect REM. This results in a situation that is not in line with the theory of agency, which implies that external board members will minimize the EM activities and strengthen the CG structure.

Furthermore, the duality of CEO reveals a negative and significant relationship with ABPROD and REM_ALL, whereas with ABCFO and ABDISXP have a positive impact. The finding supports the Liu (2012), which reported that duality lowers REM activities and is not compatible with (Al-Haddad & Whittington, 2019; Kharashgah et al., 2019). The negative result shows that CEO duality is the most important board function element that determines REM. This finding in the Jordan context implies that non-separation between CEO/chairman roles tends to eliminate or mitigate ABPROD and REM_ALL. While this finding implies that duality in the CEOs and Chairmen's roles has a positive impact on enhancing ABCFO and ABDISXP practices in Jordanian listed firms. Based on the findings of Table 2 regarding the moderator variable, we integrate independence of the audit committee into the board structure variables in the study equation to check the moderating impact of independence of the audit committee on the relationship between board structure and REM. The result of Table 2 shows that the coefficient for ACI*BZ is positive and implies that the independence of the audit committee weakens the influence of board size in order to curb all REM proxies practices in Jordanian companies. As shown in table 2, the coefficient for ACI*BI is significantly negative and indicates that the independence of the audit committee increases the effect of board independence to curb all REM proxies, except the coefficient for ABDISX being insignificant, which implies no moderate impact of audit committee independence on the relationship between board structure and discretionary expenses management. Furthermore, the coefficient for ACI*CEO for REM_ALL is positively significant and implies that the audit committee independence enhances the effect of CEO duality to practised of REM, while ACI*CEO coefficient for ABDISX and ABCFO is negatively significant and implies that audit committee independence increases the effect of CEO duality to curb of discretionary expenses and cash flow from operations activities, moreover, the ABPROD coefficient is insignificant, which indicate no moderate effect of audit committee independence on the relationship between CEO duality and manipulation of production cost.

CONCLUSION
The current paper examined the influence of board structure on REM and moderator effect of the audit committee independence on their link. There are three forms of REM under consideration. The board size, board independence and CEO duality are tested for board structure variables. Using panel data from public companies in Jordan for the period 2009-2018, the empirical findings show that the board structure affects the decisions of companies to manipulate reported earnings. All REM proxies are limited by the board size. In contrast, board

independence exaggerates the incidence of all REM proxies, although CEO duality only exaggerates CFO and DISX but restricts PROD and REM_ALL.

With regard to the moderate variable, it was found that the independence of the audit committee weakens the influence of the board size to curb all REM proxies and that the independence of the audit committee enhances the effect of the independence of the board to curb all REM proxies, except DISX. Meanwhile, it was found that the independence of the audit committee enhances the impact of CEO duality on curbing DISX and CFO, while the independence of the audit committee enhances CEO duality to the practice of REM_ALL and no moderate effect of independence of the audit committee on the relation between CEO duality and PROD. In short, the results from this study show that the moderate impact of independence of the audit committee decreases the influence of the board structure on REM determination.

Our findings offer valuable information for policymakers and regulators. Contrary to the guidelines of the 2009 JCGC, the findings of this study indicate that independent directors worsen rather than decrease the prevalence of opportunism.. Whereas the merge of the audit committee's independence with the board's independence leads to a limitation of opportunistic EM practices. Policymakers do need also to consider the institutional characteristics setting before introducing further CG reforms. Probably the proportion of independent directors is too soft to control the board, their expertise being insufficient or doubtful in terms of independence. Jordan's results can also extend to other developing countries. Concerning board size, government and regulators must concentrate on this mechanism to reduce REM activities and allow businesses to increase their company's number of directors. CEO duplication is seen as increasing PROD and REM_ALL and reducing of CFO and DISX activities, which contradicts JCGC's 2009 guidelines on separation or duality of CEO.

The current study contributed to the literature by providing evidence of the moderating effect of the audit committee independence on the relationship between the board structure and REM proxies in the Jordanian environment. Eventually, for future studies, consideration must be taken the developed and developing countries to examine this relationship in order to explain the findings from a different viewpoint. Furthermore, further studies are required to examine the relationship between other board structure mechanisms (such as education, remunerations, meetings, and gender). In addition, researchers may also use manipulation of accrual-based to estimate different proxy of earnings management.

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