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AUDIT PARTNER CHARACTERISTICS AND REAL EARNINGS MANAGEMENT PRACTICES IN JORDAN[4]

The financial scandals that occurred of late have raised concerns on the effectiveness of external audit in restricting earnings management. Also, audit failure in the capital market has led to augmented concerns towards audit quality. In addition, an external audit considers an external monitoring mechanism in which "independent" auditors carry out audits on a firm's internal controls and financial reports and provide their opinions to the company's owners. Besides that, the external audit is expected to deter the management from managing earnings. Thus, this study explores the effect of the individual attributes of the audit partner on real earnings management practices in Jordan. To do so, data from 58 ASE-listed companies were analysed for six years, i.e., from 2013 to 2018. The results indicated that audit partner tenure and REM are positively and significantly related. Furthermore, audit partner affiliation was found to be negatively and significantly associated with REM. Meanwhile, audit partner age and educational background were shown to have no effect on REM. The findings of the current study have implications on investors, regulators, and market participants by affording a considerable indication that the attributes of audit partners are very crucial in explaining the REM activities.
Keywords: External audit; Audit partner characteristics; Real earnings management; Jordan; Amman stock exchange.
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1. Introduction

The downfall of respectable firms such as Enron in 2001 and WorldCom and Arthur Andersen in 2002 has drawn attention to the accurate and fair presentation of financial

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statements and monitoring (Leventis, Dimitropoulos, 2012). In this regard, reliability is crucial because financial information offered by financial reports is a significant source of decision-making for investors, while financial scandals have robbed the confidence of investors towards the accuracy of the information provided by listed companies (Liu, 2012; Alsraheen, Saleh, 2017). Within such context, earnings management is interpreted as any activity purposely conducted by managers of the company to disclose accounting results that are not in line with those actually obtained for opportunistic or informative purposes (Bermejo-Sánchez, Rodríguez-Ariza, Martínez-Ferrero, 2015; Osma, Noguer, Clemente, 2005).

Users of financial statements are frustrated by the many global accounting scandals caused by auditors' mistakes (Nawaiseh, 2015). The Jordan Institute of Certified Public Accountants (JACA) pointed out in a report released in 2014 that Jordan's audit quality is weak, and that there is a clear increase in tax evasion cases involving many Jordanian companies (Alsmairat, Yusoff, Salleh, 2018). Furthermore, in 2018, JACPA dismissed nine external auditors because of manipulations in issuing audit reports and tax evasion cases in many listed Jordanian companies (Khaberni, 2019). Nevertheless, the external auditor is in charge of ensuring that financial reports are issued in compliance with accounting standards and that the actual financial condition and the operating results of these statements are reflected (Nawaiseh, 2016). Thus, a high-quality audit is anticipated to limit opportunistic earnings management, and highlight hazards in financial statements such as material misstatements or exclusions (Alzoubi, 2016).

Therefore, financial scandals that occurred of late have raised concerns about the effectiveness of external audit in restricting earnings management. In addition, these scandals in Jordan and other regions all over the world have highlighted the importance of corporate governance for monitoring and controlling the work of corporate managers. In addition, external auditing is a mechanism of external governance in which an 'independent' auditor examines a company's internal controls and financial statements and presents an opinion to the owners. Thus, the risks and any errors that the auditor must notify the shareholders in the financial statement serve as the controlling mechanism for the company's management. In short, external audit is expected to deter the management from managing earnings (Rajpal, Jain, 2018).

Researchers have started to concentrate on business-related interactions of audit partners based on the amount of knowledge, experience and expertise of audit partners working with customers in a particular sector (Chi, Pevzner, 2011). Additionally, many researches on the conduct of individual auditors revealed that differences between auditors and their distinct characteristics affect their cognitive behaviour and audit quality (Liu, 2017).

2. Background and hypotheses development

The agency theory underpins the function of external auditing in enhancing the processes of financial reporting (Kharuddin, 2015). An external audit is a critical tool for monitoring activities so as to maximise company value (Jensen, Meckling, 1976). In particular, an external audit reduces information asymmetry between the shareholders and the managers

and enhances the credibility of financial information provided to shareholders, therefore limiting opportunistic management behaviours such as earnings management (Kharuddin, 2015; Lin, Hwang, 2010; Watts, Zimmerman, 1990). In addition, auditors are primarily responsible for fostering transparency in financial reporting systems, resulting in high-quality accounts. Thus, stockholders and creditors rely on the external auditor to ensure that a firm's financial statement is not deceptive (Abu siam, Hidayah, Khairi, 2014; Saleem, Alifiah, Tahir, 2016).

Previous literatures indicated a number of variables that could influence the ability of the external auditor to reduce earnings management activities. These include the reputation of an external auditor, the tenure of the external auditors, industry specialisation, external auditor opinions, and a change of the external auditor (Mariani, Tettamanzi, Corno, 2010; Al-khabash, Al-Thuneibat, 2009; Piot, Janin, 2007; Al-Hayale, Lan, 2005). However, many researches have shown that audit partners with shorter tenure are related to lesser earnings quality compared to audit partners with longer tenure (e.g., Van Johnson et al., 2002; Myers et al., 2003; Ghosh, Moon, 2005; Litt, Sharma, Simpson, Tanyi, 2014; Lennox, Wu, Zhang, 2014).

Furthermore, previous studies have also suggested that higher-quality auditors lead to a decrease in the practices of EM (Becker, Defond, Jiambalvo, Subramanyam, 1998; Van Johnson, Khurana, Reynolds, 2002; Balsam, Bartov, Marquardt, 2002). In contrast, Nawaiseh (2016) examined the auditor's tenure and EM relationship for Jordanian banking firms. He found that audit tenure had a negative relationship with earnings management. Meanwhile, Garcia-Blandon and Argiles-Bosch (2017) investigated the influence of audit partner tenure on audit quality using discretionary accruals as audit quality proxy. Using data for a Spanish firm from 2005 to 2011, the findings showed that audit partner tenure is not significantly related to the determinants of audit quality. Based on the arguments above, this study postulates the following hypothesis:

H1: A relationship exists between the tenure of audit partners and real earnings management in Jordanian companies listed on the ASE

Many researches have used auditor affiliation to Big 4 audit firms as a proxy for the quality of audit. Generally, results showed that Big 4 auditors had many opportunities to perform high-quality audits, including protecting their clients and reputations. A big auditing firm will have more motivation to detect management fraud because a Big 4 company's credibility would suffer if an audit goes horribly wrong (Vander Bauwhede et al., 2003; Rusmin, 2010). Hence, auditors affiliated with Big 4 firms will want to be operative in mitigating the practices of earnings management to protect their credibility and evade legal liability (Alzoubi, 2016).

More recent evidence has also shown that Big 4 audit firms oblige earnings management (Habbash, Alghamdi, 2017). Also, the literature review shows that companies audited by Big 4 audit firms have better quality accounting information than those audited by low-level audit firms and are less likely to manipulate earnings (Lee, Lee, 2013). This is because high-performance audit firms detect and constrain earnings management activities (Rusmin, 2010; Al-Dhamari, Chandren, 2017).

Some studies have revealed that Big 4 audit firms help to mitigate EM practices. For instance, Lin and Hwang (2010) found that Big 4 auditors are significantly and negatively related to EM. Jordan et al. (2010) examined whether audit quality, measured by auditor size, could limit the practices of EM. They revealed that earnings manipulation was less likely to occur in firms audited by Big 4 auditors, while non-Big 4 clients showed signs of manipulation (Habbash, Alghamdi, 2017).

In the Jordanian context, Alzoubi (2016) showed that for Big 4 audit firms, the association of auditor quality with EM was negative and significant. He concluded that the level of earnings control for companies employing Big 4 auditors was significantly lower relative to companies hiring non-Big 4 auditors. In contrast, Nawaiseh (2016) found that affiliation with big international auditing firms had a significant and positive relationship with earnings management. In contrast, Habbash and Alghamdi (2017) found that the relationship between auditors affiliated to Big 4 audit firms and EM is insignificant. Due to the previous results, this study posits the following hypothesis:

H2: A relationship exists between audit partners affiliation (with Big 4 and non-Big 4 firms) and real earnings management in Jordanian companies listed on the ASE

Furthermore, theoretical studies have indicated that workers' job interests are increasingly feebler as they become older, rendering older workers to expend less effort (Holmstrom, 1999). Thus, a negative relationship between partner age and audit quality was documented by Sundgren and Svanstörm (2014). Likewise, Goodwin and Wu (2016) exposed that EM is related to older partners. The results are in line with the argument that older partners provide lower quality audits.

In addition, Widiarta (2013) clarified that the individual factor of age influences the professionalism of auditors. Moreover, Wirosari and Fanani (2017) demonstrated that it becomes more conservative to obtain evidence to lower the risk when the auditor gets older. In contrast, Yudi and Rahayu (2019) found that the age of the auditor does not affect the quality of audit reports. Due to the previous argument and the limited research on this issue, this study posits the following hypothesis:

H3: A relationship exists between the age of audit partners and real earnings management in Jordanian companies listed on the ASE.

Moreover, the audit literature examination on the relationship between the partners' educational characteristics (like accounting major and degree level) and audit results revealed inconsistent findings (Lennox, Wu, 2017). In this context, researchers are encouraged to investigate the relationship between the knowledge of the individual auditor and the quality of an audit (DeFond, Zhang, 2014). It was found that auditors who are more knowledgeable about the tasks are more effective after the effort was reduced. Still, they may find more errors and are more willing to incorporate new knowledge, such as those about test procedures (Che, Langli, Svanström, 2017).

Gul, Wu and Yang (2013) and Knechel, Vanstraelen and Zerni (2015) found that auditors with varied risk preferences, educational qualifications and skills, and these personal characteristics may have major effects on the outcome of an audit engagement. Recently, Che et al. (2017) linked the education background of the audit partner to audit quality and

found that Chinese auditors holding a post-graduate degree reported more vigorously than others without.

In contrast, Setyaningum (2012), Cahan and Sun (2015), Li et al. (2017) and Yudi and Rahayu (2019) found that education or educational background does not affect audit report quality. The review demonstrated mixed results. This current study aims to investigate this relationship to find new evidence about this issue. Thus, due to the mixed findings, the current study posits the following hypothesis:

H4: A relationship exists between the educational background of audit partners and real earnings management in Jordanian companies listed on the ASE

3. Methodology

3.1 Sample and Data

The Amman Stock Exchange listed companies are categorised into three sectors namely the service, industrial and financial sectors. As of 2019, the service sector consists of 47 listed companies, while the industrial and financial sectors consist of 48 and 96 listed firms, respectively (ASE, 2019). This study focuses on the service and industrial sectors and firm-year observations of six years (2013-2018). Hence, the total size sample in this study is 570 observations (95 firms multiplied by 6 years). This study excluded the financial sector because it is bounded to the regulations set by the Insurance Commission and Central Bank of Jordan. Moreover, firms without cost of goods sold and inventory, as well as firms with missing data, were also removed from the study. Hence, the final firm-year observation in this study involves 348 firms (15 service firms and 43 industrial firms multiplied by 6 years).

The data used in this study are secondary data which were manually collected from the annual reports to achieve the objectives of the current study. The audit partner characteristics data were collected by e-mail from JACPA.

3.2 Variables Measurements

3.2.1 Dependent Variable (REM)

This study measured REM following the model introduced by Zang (2012), which entails abnormal production cost, i.e., increasing income costs by dropping the overproduction costs for inventory, and abnormal discretionary expenses, i.e. decreasing discretionary expenditures, which include a total of administrative expenditures, advertising, sales and R&D. This study also measured REM by estimating the residual values of PROD and DISEXP for each year and industry. The REM model was used in this study to detect the manipulation of real activities by the managers. Roychowdhury (2006) developed the REM measurement, which reflects the economic impact of manipulating real activity. According to Zang (2012), managers engaged in inventory overproduction in order to reduce the cost of goods sold by increasing excess investment. Managers may also use their discretion to reduce discretionary expenses in order to boost earnings.

This study follows the study of Zang (2012) in estimating the normal level of production costs which is the sum of the cost of goods sold (COGS) and changes in inventory. The model is as follows:

$$COGS_{it} / Assets_{it-1} = \alpha_0 + \alpha_1 [1/Assets_{it-1}] + \beta [Sales_{it}/Assets_{it-1}] + €_{it} \quad (1)$$

Then, the changes in inventory are estimated as follows:

$$\Delta Inv_{it} / Assets_{it-1} = \alpha 0 + \alpha 1 [1/Assets\ it\text{-}1] + \beta\ 1 [Sales\ it/Assets\ it\text{-}\ 1] + \beta\ 2 [\Delta\ Sales\ it/Assets\ it\ \text{-}1] + €_{it:} \quad (2)$$

Where Δ Inv is the changes in inventory in period t. Using equation 1 and 2, the normal level of production is estimated as follows:

$$PROD_{it}/Assets_{it-1} = \alpha_0 + \alpha_1 [1/Assets_{it-1}] + \beta_1 [Sales_{it}/Assets_{it-1}] + \beta_2 [\Delta Sales_{it}/Assets_{it-1}] + \beta_3 [\Delta Sales_{it-1}/ Asset_{it-1}] + €_{it} \quad (3)$$

Where PROD is the sum of the cost of goods sold in year *t* and the change in inventory from the previous year ($t - 1$) to the current year (t); $Assets_{it-1}$ is the total assets in the previous year ($t - 1$); $Sales_{it}$ is the net sales in the current year (t); and $\Delta\ sales_{it}$ is the change in net sales from the previous year ($t - 1$) to the current year (t).

The measurement of PROD (abnormal production cost level) is the residual of equation (3) as stated above. The higher PROD indicates real activity manipulation through overproduction, resulting in a reduction of the cost of goods sold.

In addition, following Zang (2012), the normal level of discretionary expenditures is estimated as follows:

$$DISEXP_{it}/Assets_{it-1} = \alpha_0 + \alpha_1 (1/Assets_{it-1}) + \beta_1 (Sales_{it-1}/Assets_{it-1}) + €_{it} \quad (4)$$

Where $DISEXP_{it}$ is the sum of selling, general, and administration expenses in year *t*; $Assets_{it-1}$ is the total assets in the previous year ($t - 1$); $Sales_{it}$ is the net sales in the current year *t*; and $\Delta\ sales_{it}$ is the change in net sales from the previous year $t - 1$ to the current year (t).

The residual error of the regression estimate is used to measure the abnormal discretionary expenditure (DISEXP). The residuals are multiplied by -1 so that the higher values indicate that the company deducts more discretionary expenses to increase reported earnings. In this study, REM is calculated as a summary measure of real activities manipulation. The calculation method is an abnormal discretionary expense (DISEXP) multiplied by -1 plus abnormal production cost (PROD) (Zang, 2012).

3.2.2 Independent Variables

While the measure of the dependent variable was shown in the previous section, a detailed discussion of the measure of the independent variable used in this study is discussed in this section. As revealed in Table 1, the independent variables are audit partner tenure, audit partner affiliation (Big 4 firm or not), audit partner age and audit partner educational background, while the control variables used in the current study are FSIZE, FINLEV, MTB, ROA and SGRWTH.

Table1

Table of Measurements

Variable	Measurement	Source
Dependent variable		
REM	REM= PROD + DISEXP * -1	Roychowdhury, 2006; Zang, 2012
Independent variables:		
Audit partner tenure (APTEN)	Measured by the number of consecutive years a foundation has been audited by the same auditor	González-Díaz, García-Fernández, López-Díaz, 2015; Ellis, Booker, 2011
Audit partner affiliation (APAFF)	measured by one if the audit partner is working in a Big 4 audit firm if otherwise 0	Azibi, Rajhi, 2013
Audit partner age (APAGE)	measured by one if the audit partner ≥ 49 years old, and 0 if less	Sundgren, Svanström, 2014
audit partner educational background (APEDUB)	measured by one if the audit partner has a post-graduate degree in accounting, and 0 if otherwise	Ocak, Ntim, 2018; F. A. Gul, Wu, Yang, 2013; Che et al., 2017
Control variables		
Firm size (FSIZE)	measured as the natural logarithm of total assets	Becker et al., 1998; Myers et al., 2003, Ashbaugh et al., 2003; Nagy, 2005; Abbott et al., 2006
Financial leverage (FINLEV)	measured by dividing long-term debt by total assets at the ending of the year	Mao, Qi, Zhang, 2017
The market-to-book ratio (MBVALUE)	measured by the market value of equity at the end of the fiscal year divided by the book value of equity at that date	Zhang, Aerts, 2015
Return on assets (ROA)	Measured as the ratio of net income to total assets	Gounopoulos, Pham, 2018
Sales growth (SGRWTH)	annual sales growth (current year sales – prior year's sales)/prior year's sales	Al-rassas, Kamardin, 2017; Absy, Ismail, Chandren, 2019

3.2 Model of the Study

In this research, the following regression model was developed and used to meet the research objectives:

$$REM = \beta0 + \beta1\ AUDPARTEN_{it} + \beta2\ AUDPARAFF_{it} + \beta3\ AUDPARAGE_{it} + \beta4\ AUDPAREDUB_{it} + \beta5\ FSIZE_{it} + \beta6\ LEV_{it} + \beta7\ MTB_{it} + \beta8\ ROA_{it} + \beta9SGRWTH_{it} + \varepsilon_{it}$$

Where: REM = real earnings management, I = firm, t = year, β0 = the intercept, Ɛ = the error term, β1, β2, β3, β4…= the coefficients, AUDPARTEN = audit partner tenure, AUDPARAFF = audit partner affiliation, AUDPARAGE = audit partner age, AUDPAREDUB = audit partner educational background, FSIZE = firm size, MTB = market to book value, LEV = leverage, ROA = return on assets, SGRWTH = sales growth.

4. Empirical Results

4.1. Descriptive Statistics

Displayed in Table 2 and Table 3 are the total observations mean, standard deviation, minimum, and maximum values for all the employed variables. As displayed in Table 2, the mean value of PROD is 0.000, and this value is considered highly comparable to 0.001, which was the mean value documented in Huang, Roychowdhury and Sletten (2019), with -0.662 as the minimum value and 0.383 as the maximum value. For DISEXP, the obtained mean value is 0.000, and this value is regarded as highly comparable to the value of 0.004 documented in Huang, Roychowdhury and Sletten (2019), with -0.33 as the minimum value and 0.67 as the maximum value.

Besides that, REM scored a mean value of 0.000, and this value is highly comparable to the mean value of 0.004 documented in Huang, Roychowdhury and Sletten (2019), with -0.781 as the minimum value and 0.452 as the maximum value.

Table 2

The Descriptive Statistics of the Dependent Variable

Variable	Obs	Mean	Std.Dev.	Min	Max
PROD	348	0.000	0.122	-0.662	0.383
DISEXP	348	0.000	0.088	-0.33	0.67
REM	348	0.000	0.175	-0.781	0.452

Note: CFO = cash flow from operations, PROD = production cost, DISEXP = discretionary expenses, REM = real earnings management.

Table 3 presents the mean value of the audit partner's tenure, which is 3.04, with a maximum of 17 years and a minimum of one year. This result indicates that the average for AUDPARTEN is three years which is a shorter duration than the maximum audit partner tenure in the Jordanian Corporate Governance code, i.e., 4 years. Such a result is closely related to the mean of 3.17 reported by (Garcia-Blandon, Argiles-Bosch, 2017).

Moreover, according to Table 3, the mean value of audit partner affiliation is 0.454, indicating that 45% of audit partners in the study sample were affiliated with Big 4 audit firms. Comparatively, the value is lower than the mean value found by Alzoubi (2018) in the context of Jordan, i.e. 0.726. The reason for the lower mean score is that Alzoubi (2018) only emphasised on listed industrial firms and used a different period, i.e. from 2006 to 2012.

Table 3 also shows the maximum value of the audit partner's age, which is 85 years, while the minimum value is 34. Moreover, the mean of the audit partner's age is 53.376. Such a result implies that the average AUDPARAGE for the sampled firms is about 53 years. The result is higher than the mean of 45.558 documented in Goodwin & Wu (2016). Finally, Table 3 reveals that the mean of audit partner educational background variable is 0.664, indicating that about 67% of the audit partners of the sampled firms were post-graduate degree holders. This result is higher than the obtained mean of 0.193 recorded in Ocak and Ntim (2018) and 0.100 found by Che et al. (2017).

Table 3

The Descriptive Statistics of the Independent and Control Variables

Variable	Obs	Mean	Std.Dev.	Min	Max
AUDPARTEN	348	3.04	2.405	1	17
AUDPARAFF	348	0.454	0.499	0	1
AUDPARAGE	348	53.376	10.474	34	85
AUDPAREDUB	348	0.664	0.473	0	1
FSIZE	348	17.144	1.411	13.14	20.904
LEV	348	0.864	4.112	0.004	48.743
MTB	348	1.295	1.382	0.133	14.088
ROA	348	-.025	.848	-15.7	.605
SGRWTH	348	-0.028	0.265	-0.618	0.775

Note: AUDPARTEN = audit partner tenure, AUDPARAFF = audit partner affiliation, AUDPARAGE = audit partner age, AUDPAREDUB = audit partner educational background, FSIZE = firm size, LEV = leverage, MTB = market to book value, ROA = return on assets, SGRWTH = sales growth.

4.2 Main results

Prior to the experiment, the current research investigated if the model employed to explore the impact of audit partner characteristics on REM practices has econometric problems. When the correlations between the independent variables are greater than 0.90, the issue of multicollinearity arises (Hair et al., 2010; Tabachnick, Fidell, 2007). The multicollinearity issues were identified using Pearson's correlation (correlation matrix) in the current research. Table 4 displays that the highest value of correlation was between AUDPARAFF and AUDPAREDUB, with a coefficient of 43 percent. As a result, there was no issue with multicollinearity in the dataset used in this study's model.

Table 4

Correlations Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) REM	1.000									
(2)AUDPARTEN	0.084	1.000								
(3)AUDPARAFF	-0.195	-0.189	1.000							
(4)AUDPARAGE	0.086	0.221	-0.263	1.000						
(5)AUDPAREDUB	-0.062	0.044	0.429	0.072	1.000					
(6) FSIZE	-0.054	-0.082	0.263	-0.278	0.098	1.000				
(7) LEV	0.084	-0.051	0.100	-0.043	0.095	0.371	1.000			
(8) MTB	-0.227	-0.024	0.287	-0.077	0.195	0.272	0.256	1.000		
(9)SGRWTH	0.004	-0.055	-0.051	0.076	-0.075	-0.031	0.077	0.003	1.000	
(10) ROA	-0.283	0.046	0.122	-0.127	-0.001	0.082	-0.332	0.310	0.038	1.000

Note: REM = real earnings management, AUDPARTEN = audit partner tenure, AUDPARAFF = audit partner affiliation, AUDPARAGE = audit partner age, AUDPAREDUB = audit partner educational background, FSIZE = firm size, LEV = leverage, MTB = market to book value, SGRWTH = sales growth.

The results for the Driscoll–Kraay regression are shown in Table 5. The results show that the R^2 values of 0.127 for the model are fairly small when compared to the R^2 of 0.21 reported in Alqatamin, Aribi and Arun (2017), while the R^2 value of the current study is too close to

the value of 0.139 reported in Alhadab, Abdullatif and Mansour (2020) in the Jordanian context. However, the values appear to be greater than the R^2 of 0.071, as documented in Ocak & Can (2018) among firms operating in Turkey. As can thus be stated, the overall model is fit in explaining the level of variability between the dependent and explanatory variables.

In Table 5, the results show that audit partner tenure has an association with REM, i.e. a significant and positive relationship (2.18, $p<0.1$). Therefore, H1 is supported. This result means that a longer tenure of the audit partner will increase REM. A possible explanation for this result is that the extension of the tenure of the audit partners in the same company will mean a closer relationship with the senior management, which means that auditors are less willing to challenge the decisions of the managers, making them less vigilant. This phenomenon can motivate the top management to be engaged in EM practices because the close relationship will give them the idea that the auditor will not detect their REM practices.

This result agrees with that of Litt, Sharma, Simpson and Tanyi (2014) and Lennox, Wu and Zhang (2014), but contradicts the agency theory, which suggests that the external auditor is among the most vital tools for monitoring the activities of decision-makers, which can limit REM practices. The possible reason behind this finding is that the long tenure of the CEO in this sample means that the Jordanian firms did not comply with the terms of the JCGC concerning the maximum tenure of the audit partner, i.e., 4 years.

Table 5 reveals a significant and negative relationship between audit partner affiliation and REM ($t = -4.34$, $P < 0.01$). Hence, H2 is supported. The negative coefficient means that the audit partner of the firm, which is controlled by Big 4 firms, might decrease REM practices. The result indicates that the decision-makers of the firms that are audited by Big 4 audit firms are less likely to engage in REM practices, as these firms anticipate that the high audit quality by the Big 4 audit firms may lead to the detection of any REM practices. Furthermore, Big 4 audit firms would have a greater level of incentives to detect management manipulation as they will be punished if an audit fiasco arises in the companies that they audit (Vander Bauwhede et al., 2003; Rusmin, 2010; Watts & Zimmerman, 1986). Big-firm auditors hence have more effectiveness in decreasing EM as it is important for them to preserve their reputation and avoid legal liability.

The result of the current study is in line with the context of Jordan as in Alzoubi (2016), who found that the degree of EM in firms that utilise the services of Big 4 auditors is significantly lower than in those that employ non-Big 4 auditors. As well, the result is in line with studies in other countries such as Singh, Singh, Evans (2019) and Che, Hope and Langli (2020). Such a result is in agreement with the agency theory, which stipulates the external auditor as among the most vigorous tools for monitoring the activities of decision-makers, which can put a limitation on the practice of REM.

Moreover, Table 5 indicates that there is an insignificant relationship between the audit partner's age and REM. Therefore, H3 is rejected. The possible explanation for this result is that REM is more mysterious and thus harder to detect (Cohen, Zarowin, 2010; Kothari et al., 2012). Therefore, due to REM's complexity and the sophisticated practices of PROD and DISEXP, the experience and skills that the audit partners obtained over their life may not be sufficient to detect such practices of REM. Another explanation as to why the audit partner's

age did not relate to REM practices is because the ability to identify such practices depends on superior skills and specific techniques, which could be gained through vocational training or professional certificates regardless of the age of the auditor.

This result contradicts the agency theory, which argues that the external auditor is among the essential tools for monitoring the activities of decision-makers that can mitigate REM practices. The finding is in line with Yudi and Rahayu (2019), who found that the age of the auditors is not associated with REM.

Furthermore, Table 5 reveals an insignificant relationship between the audit partner's educational background and REM. Therefore, H4 is rejected. The possible reason for this result is that REM is more impermeable and hence violations of financial reporting and accrual manipulations are more difficult to detect (Cohen, Zarowin 2010; Kothari et al. 2012). Therefore, due to REM's complexity and the complicated techniques of PROD and DISEXP, the knowledge that the audit partners gained from their educational background may not be enough to mitigate REM practices by the decision-makers of the firms. As previously stated, the auditor's ability to identify REM activities should be measured by his or her ability to think creatively and create alternate audit procedures in order to detect potential audit fraud (Yudi, Rahayu, 2019). Furthermore, the audit partner's educational background appears not to have any linkage to REM practices because the ability to detect such practices requires superior skills and specific techniques which could not be gained through post-graduate degrees.

This result contradicts the agency theory, which presumes that an external auditor is an indispensable tool for monitoring the activities of decision-makers which in turn can limit the practices of REM. This result is consistent with that of Cahan and Sun (2015) and Yudi and Rahayu (2019), who found that the educational background of the auditor is not associated with REM.

Table 5

Results of the Linear regression

REM	Coef.	t-value	p-value
AUDPARTEN	0.006	2.180	0.033**
AUDPARAFF	-0.045	-4.340	0.000***
AUDPARAGE	0.015	0.120	0.902
AUDPAREDUB	0.004	0.390	0.698
FSIZE	0.003	0.930	0.356
LEV	0.046	1.080	0.286
MTB	-0.019	-1.810	0.075*
SGRWTH	0.000	1.430	0.158
ROA	-0.433	-8.160	0.000***
Constant	-0.055	-0.330	0.740
Number of obs	348		
R-squared	0.1266		
Prob > F	0.000		

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Note: REM = real earnings management, AUDPARTEN = audit partner tenure, AUDPARAFF = audit partner affiliation, AUDPARAGE = audit partner age, AUDPAREDUB = audit partner educational background, FSIZE = firm size, LEV = leverage, MTB = market to book value, SGRWTH = sales growth.

5. Conclusion

This study examined the effects of four characteristics of the audit partner, namely tenure, affiliation (Big 4 firm or not), age, and educational background. Moreover, to understand the impact of the audit partner characteristics, two theories were used, namely the Agency Theory and the Stewardship Theory. Next, to test the assumptions of the current study and analyse the hypothesised relationships, the Driscoll–Kraay regression analysis using STATA software Version 15 was used.

The results that emerged from the present study indicated a significant and positive relationship between audit partner tenure and REM, which implies that a long tenure of the audit partner will increase REM. In relation to audit partner affiliation, the findings revealed that it is associated with REM negatively and significantly. This means that when the audit partner of the firm is affiliated with Big 4 audit firms, the decision-makers of the firms will be less likely to engage in REM practices.

Additionally, the result of the present study specified that there is an insignificant relation between the audit partner's age and REM. The results also revealed an insignificant relationship between the audit partner's educational background and REM. The explanation for the insignificant results is that the ability to identify such practices depends on superior skills and specific techniques that could be gained through vocational training or professional certificates regardless of the age or educational background of the auditor.

The findings of the current study offer a considerable indication that the characteristics of the audit partner are rudiments in explaining REM activities. Hence, the current study revealed that longer audit partner tenure leads to higher REM practices, whereby firms audited by the same audit partner for an extended period are more likely to have more REM practices. Thus, this study recommends for policymakers to pay attention to the commitment of Jordanian firms to audit partners with maximum tenure.

With respect to audit partner affiliation, the results reported that if the audit partner of the firm was affiliated with Big 4 audit firms, the prevalence of REM practices would decrease. Consequently, these results are beneficial to the users of financial statements in realising that firms audited by audit partners affiliated with Big 4 audit firms will have fewer REM practices.

Furthermore, the findings of the current study are significant for the academic community and researchers because of the lack of literature addressing the real earning management in the Jordanian context or in other developing countries. Thus, the current study improves the growing empirical research and body of knowledge on real earning management and motivates further studies on the relationship between the characteristics of audit partners and REM.

The results of this study are practical in finding a starting point for additional empirical investigations on the significance of the characteristics of the audit partners in listed Jordanian firms. The findings are also valuable for academic researchers in examining related issues, including earning reporting quality and corporate governance. Nonetheless, this study's findings are limited to non-financial businesses. As a result, more research should be

done on the financial sector, which is becoming increasingly important for emerging economies, especially Jordan. Besides that, the current study opens up an opportunity for future researchers to perform similar studies regarding the effect of other characteristics of audit partners on REM, such as gender, religion, and ethnicity.

Despite the contributions made by the present research, it is still subjected to several limitations. Specifically, a common and predictable deficiency is in the objections concerning the impeccable model for measuring earning management practices. To date, there is no perfect model generally accepted by scholars and practitioners. Hence, the models by Roychowdhury (2006) and Zang (2012) used in this study might not have captured all the streams of earning management. In addition, this study is limited to listed non-financial firms; consequently, due caution must be exercised in generalising the findings to all listed companies because other firms such as those in insurance, banking, and other regulated sectors had been excluded.

Nonetheless, the above limitations do not diminish the quality and contributions of the present study. Hence, the appropriate and precise method has been applied to accomplish the objectives of the study.

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