
Depressing earnings management in Palestinian corporations: the role of audit quality, audit committee, and accounting conservatism

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Abstract: The influence of audit quality, the existence of an audit committee, and accounting conservatism in depressing earnings management (EM) were examined in this study while controlling for board characteristics, financial leverage, and client's company size. A regression model on a sample of 184 firm-year observations of 34 companies listed on Palestine Exchange (PEX) between 2011 and 2016 was employed. Based on the results, the independent variables demonstrated negative association to discretionary accruals, measured by four modified versions of Jones model, as a proxy for EM; in other words, the variables were effective in depressing EM and consequently, in enhancing the financial statement quality. A similar negative association was also demonstrated by board size and chief executive officer (CEO) duality. Meanwhile, financial leverage and EM showed a robust positive association suggesting that Palestinian corporations employed EM mainly to influence creditors' decisions. Policy makers should consider the results presented in this study to improve regulations related to reporting and governance.

Keywords: earnings management; audit quality; accounting conservatism; audit committee; Palestine.

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1 Introduction

In an attempt to achieve specific gains, firms may use earnings management (EM) to influence financial reports (Schipper, 1989). EM does not reflect true financial data; hence its practice may lead to wrong decisions being made as misleading information and low-quality reports are presented as true. The reasoning behind the implementation of EM by management differs across firms and financial periods (Ebrahim, 2001). As explained by Becker et al. (1998), EM may be applied because of explicit and implicit contracts where reported earnings play a significant role in agreements such as compensation plans, meeting debt agreements, management buyouts, and proxy contests among others. Therefore, constraining the activities of EM is a main goal of investors and policy makers.

Auditing is liable for providing an independent judgment on the fairness of financial statements (IFAC, 2009). Therefore, enhancement of audit quality will improve the financial reporting quality. As a monitoring tool, auditing restricts managerial reporting discretion and decreases the risk of substantial misstatements in audited financial reports due to error or fraud. Choi et al. (2018) argued that avoiding litigation risk is the key to maintain high audit quality, as it is pertinent for information quality. Many researchers argued that the information asymmetry between managers and shareholders reduces with higher audit quality. A higher information risk perceived by shareholders will therefore demand a higher audit quality (Wooten, 2003; Lin and Hwang, 2010; Chen et al., 2011; Alhadab and Clacher, 2018; Choi et al., 2018). A well-qualified auditor can positively affect the reliability of financial reporting and consequently the users' decisions (Schauer, 2002; Zgarni et al., 2012). On the other hand, an audit committee provides assistance to directors in monitoring the reporting procedures to reduce opportunistic EM and facilitates external audit tasks. An effective audit committee should be able to inhibit EM practices (Klein, 2002; Xie et al., 2003; Sharma et al., 2009).

There have been plenty of research that examine the extent to which accounting conservatism may mitigate the use of EM (Ball et al., 2000; Chen et al., 2007; Khan and

Watts, 2009; Aminu and Hassan, 2018; Li et al., 2018). Chen et al. (2007) claimed the existence of a trade-off in practicing conservatism. Adopting the principle of conservatism may result in more noise in the accounting reports and reduces the value of stewardship role. On the other hand, adopting this principle may lessen the practice of EM. Nonetheless, Chen et al. (2007) claimed that under reasonable conditions, the reduction in EM is more than enough to offset the noise caused by accounting conservatism.

This study aimed to investigate the role of audit quality, the existence of an audit committee, and the practice of accounting conservatism in depressing EM in Palestinian corporations. Board characteristics, financial leverage, and client's company size were used as controlling variables. In addition, four versions of the Jones model were used to measure discretionary accruals as a proxy for EM. Generally, the study findings indicated that audit quality, accounting conservatism, and audit committee have partial success in depressing EM. Furthermore, the board size, and CEO duality are negatively related to EM while leverage is positively related to EM. The results of this study may impact the regulations set by professional bodies, academia, researchers, and policymakers.

This investigation extends extant literature to an underdeveloped country with political instability and a weak role of law context by examining a new case from Palestine. Given that accounting standards and their flexibility are one of the EM faces, this study is unique since it provides evidence from a pure International Financial Reporting Standards (IFRS) and International Standards on Auditing (ISA) environments without any previous accounting and auditing traditions. Since 1967, Palestine is under full occupation; there were no operating banks, stock market, investors in securities, or corporations except for the very few that trade in personal transactions. Although the Palestinian land is still under occupation, the Palestinian Authority (PA) has gained some autonomy in the economic, education, health, and other civil affairs since 1994. Before that, no actual reporting for businesses and corporations in Palestine since there was no demand for such services. Even the Israeli income tax collection was based entirely on judgments and refused any reports. Accordingly, accounting and auditing professions were absent. The 1990s saw many banks and other companies began to operate in Palestine. Furthermore, the PA established the Palestine Exchange (PEX) in 1997 and the Palestine Capital Market Authority (PCMA) in 2004. These two establishments require all listed companies to use the IFRS in preparing financial statements and require auditors to use the ISA in auditing these statements without any previous accounting and auditing traditions.

This study is structured into five sections. Section 1 introduces the problem, while Section 2 reviews the concepts of EM, audit quality, audit committee, and accounting conservatism and develops research hypotheses. The methodology is presented in Section 3. Meanwhile, Section 4 presents and discusses the results. Finally, conclusions and recommendations are evaluated in Section 5.

2 Background of study and the development of hypotheses

2.1 Earnings management

EM is an interference in a financial reporting process for personal or private gain (Schipper, 1989). Gunny (2005) classified EM faces into three distinct types. The first

type is fraudulent accounting which involves accounting selections that interrupt the adopted accounting system. Secondly, accruals management involves the utilisation of the flexibility that exists within the applicable framework. The third type is real EM in which suboptimal practices are used to manipulate accounting reports and earnings quality.

Alternatively, Commerford et al. (2016) classified EM into two types. The first type is called 'accounting EM' which is based on the use of accruals, accounting estimates, and policies. EM is important here to understand accounting accruals and their influence in the measurements of the firm's performance (Schipper, 1989). The second type is managing earnings through strategic timing of investing, financing, and operating decisions called 'real EM'. One of the real EM practices is related to revenue management. According to Mulford and Comiskey (2002), revenue is a significant factor in determining the financial performance of a firm. Revenues reported in the financial statements provide a firm's success indication; it directly affects the earnings reported and the firm's earning power. Therefore, timing the revenue generating activities and reporting is a strong tool for practicing real EM.

Motivations for practicing EM are varied. Burirovich and Kattelus (1997) argued that companies use it to smooth earnings, raise share prices, restrain debt covenant, negotiate with labour union, management buyout, increase management wealth, bonus plans, and import relief. Meanwhile, Oberholzer-Gee and Wulf (2012) listed compensation plans, the value of executives' stock and stock options, and future career uncertainties of executives as main incentives for EM.

2.2 *Audit quality*

The audit profession is born out of the division between ownership and management. Auditors are obliged to validate the fairness of financial statements prepared by the company by examining their conformity with the adopted accounting standards based on the accumulated evidence. The fair presentation exists when the financial reports do not present any material misstatements. The quality of audit is a significant feature that affects the credibility of financial information (Zgarni et al., 2012) and hence, reduces information asymmetry between executives, shareholders, and external investors. According to Balsam et al. (2003) and Schauer (2002), high audit quality enhances financial reports accuracy, leading to more informed economic decisions.

Audit quality is not a recent concept, but it still has various definitions (see Chadevani, 2011; Bing et al., 2014 for details). Hussein and Hanefah (2013) cited the explanation of Sutton (1993) who attributed the absence of agreement on audit quality definition to the existence of different players in the audit market (users, clients, and auditors), with different conflicting rules. Moreover, Lin and Hwang (2010) attributed differences in audit quality definitions to the different general concepts provided by auditing standards. The accounting literature contains numerous definitions for audit quality. A well-cited definition stated that it is "the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach" [DeAngelo, (1981), p.186]. While the first perspective is a matter of competence, the latter is a matter of independence (Piot and Janin, 2007). Apart from that, Duff (2004) asserted the importance of both technical and service quality for the quality of auditing.

The relationship between audit quality and EM has been addressed extensively by existing studies with different outcomes. Becker et al. (1998) attempted to investigate if such a relationship exists using discretionary accruals as a measure for EM and the type of audit firm (whether being one of the big N or not) as a proxy of audit quality. They found that companies that were audited by one of the big audit firms were inclined to record a lower income and higher discretionary accruals. It was noted by Huang and Liang (2014) that the size of audit firms did not affect the constricting firms' discretions over earnings. A similar insignificant relationship was presented by Al-Mousawi and Al-Thuneibat (2011). Chi et al. (2011) claimed that clients under higher audit quality relied on real EM since they had become more constrained in using accrual EM.

The negative association between audit quality and EM was confirmed by Ebrahim (2001). The study argues that extended auditor tenure was helpful in detecting and preventing the application of EM techniques. The study explained that a longer audit firm tenure increased the auditor's familiarity and comprehension of the client's operational and accounting environment. Ebrahim's results indicated that an audit firm's independence, integrity, and process efficiency were not affected by the client's interests.

Apart from that, Kouaib and Jarbou (2014) indicated that the influence of audit quality on EM depended on the firm's industry. They discovered that EM in manufacturing firms was influenced significantly by audit quality, but the impact was insignificant in commercial companies in Tunisia. Moreover, industry specialist audit firms have higher capability in constraining income that increases discretionary accruals than non-industry specialist audit firms (Huang and Liang, 2004). This is supported by Chi et al. (2011), who discovered that taking into account both real and accrual EM, the overall EM was associated with the city-level audit firm, industry expertise, and audit firm size.

Moving on, Burilovich and Kattelus (1997) demonstrated that income-decreasing discretionary accruals were significantly affected by the audit firm size, reflecting strong association between the choice of an audit firm and the intention to use EM. Furthermore, audit firms with larger market share seem to permit more discretion to the client in determining accruals. Van Tendeloo and Vanstraelen (2008) found that private firms audited by one of the big audit firms engaged less in EM practices. Accordingly, the following hypothesis was constructed:

H1 Audit quality is negatively related to EM in Palestinian corporations.

2.3 Accounting conservatism

Accounting conservatism is the practice in which the entity selects accounting policies that allow slower recognition of revenues and gains, faster recognition of expenses and losses, understatement of assets, and overstatement of liabilities (Gökmen, 2013). According to Aminu and Hassan (2018), accounting conservatism has two components – conditional and unconditional accounting conservatism. While the first is an ex-post conservatism (news dependent), the second is a balance sheet conservatism.

The implementation of accounting conservatism depends highly on a firm's unique characteristics, i.e., firm size, industry, growth rates, and financial results (Louis et al., 2012). Moreover, accounting conservatism's empirical properties can be affected by return on assets (ROAs), non-operating accruals rates, firm's litigations, and information asymmetry (Khan and Watts, 2009). According to Ball et al. (2000), regulatory

framework affects the adoption of accounting conservatism. Consequently, accounting conservatism is frequently used in common law countries, where equity stakes are higher and valuation is highly dependent on accounting earnings. The commonality is in contrast to code law countries, where concentrated ownership exists. The strength of conservatism also depends on the adopted financial reporting system and the investor's legal protection (Li et al., 2018).

Accounting conservatism has been regarded as a qualitative characteristic of accounting for a long time (Basu, 1997). Nonetheless, conservatism is not considered among the qualitative characteristics of accounting information under the joint conceptual framework project between the Financial Accounting Standards Board (FASB) and the IASB (FASAC, 2004). According to Aminu and Hassan (2018), accounting conservatism may enhance the quality of economic profit, act as a monitoring device on top management practices, limit the problems caused by information asymmetry, and provide a better estimate of future cash flows.

To date, many researchers have addressed the association between accounting conservatism and EM. Chen et al. (2007) evaluated EM by comparing two accounting systems – one is objective and bias-free while the other is conservative. They reported less EM in the conservative systems than it was in the bias-free systems. They argued that under conservative systems, the marginal benefit of using EM practices was low compared to its marginal cost.

In China, Li et al. (2018) examined if the applicable accounting standards, whether local standards or the IFRS, affected the impact of accounting conservatism on EM. They focused on studying the two major accounting reforms of 2001 and 2007 in the process of convergence to IFRS. The researchers observed that the 2001's reform increased the influence of accounting conservatism on EM, and vice versa for the 2007's accounting reform. Nevertheless, they stated that accounting conservatism was rebounded after the financial crises in 2007. Moreover, the conservatism's ability to mitigate EM differed based on the strength of investor's legal protection.

Finally, Nahandi et al. (2012) showed a significant negative association between accounting conservatism and EM in Iran between 2001 and 2008. They concluded that accounting conservatism was capable of mitigating opportunistic financial reporting to produce fairer financial reports. They suggested that accounting conservatism was an efficient tool for resolving agency costs. Following these arguments, the following hypothesis was constructed:

H2 Accounting conservatism is inversely related to EM in Palestinian corporations.

2.4 Audit committee

The agency theory states that there are information asymmetry and conflicting interest between a firm's management and shareholders. Accordingly, the judgment in financial reporting made by the management may be used to misguide investors or other stakeholders pertaining to the firm's performance (Healy and Wahlen, 1999). The audit committee assists in reducing EM practice and boosting financial reports quality in firms by influencing both audit quality and management discretion (Van der Zahn et al., 2008). Interactions between the audit committee and external audit will test auditors' honesty and objectivity in inhibiting EM (Abdeljawad et al., 2020). Therefore, increasing the efficiency of audit committee will mitigate EM (Lin and Hwang, 2010). In addition, audit

committee can improve the board's supervisory efficiency and decrease agency costs through the monitoring of financial reporting quality (Archambeault et al., 2008). An audit committee may support internal and external auditors with any conflicts pertaining to accounting issues with the management.

Existing research has mixed results pertaining to the nexus between audit committee and EM. Peasnell et al. (2005) did not demonstrate a significant relationship between the existence of audit committee and the EM practice in the US. Their results were echoed by Geraldes Alves (2011) in Portugal and Velte and Stiglbauer (2011) in Germany. In contrast, a negative relationship was demonstrated in Australian environment by Davidson et al. (2005). Their results were reflected by Piot and Janin (2007) in France, and Ernstberger et al. (2012) in Germany. Based on these studies, the following hypothesis was constructed:

H3 There is a negative association between the existence of an audit committee and the practice of EM.

3 Methodology

This section demonstrates the data, variables measurement, models, and estimation methods in this research.

3.1 Data

Data used in this study were manually collected from annual financial statements of corporations listed on PEX between 2011 and 2016. Although 48 firms were listed on PEX, only 34 firms were included in this study sample since 14 financial firms are excluded consistent with prior studies (e.g., Zgarni et al., 2012). In total, 184 firm-year observations in unbalanced panel were included in the empirical analysis due to few missing observations.

3.2 Variables measurement

3.2.1 Earnings management

Following most extant studies, this study employed discretionary accruals to measure EM (Burirovich and Kattelus, 1997; Becker et al., 1998; Fields et al., 2001; Gunny, 2005; Fan et al., 2010; Chen et al., 2011; Oberholzer-Gee and Wulf, 2012; Zang, 2011; Tang, 2012; Huang and Liang, 2014; Ewert and Wagenhofer, 2015; Shawn et al., 2016; Alhadab and Clacher, 2018). Oberholzer-Gee and Wulf (2012) advocated the application of discretionary accruals in existing literature by arguing that a true measure of earnings manipulation was conceptually similar to discretionary accruals.

Jones model and its variations [the Jones (1991) model, the cross-sectional Jones model (DeFond and Jiambalvo, 1994) and the modified Jones model (Dechow et al., 1995)] are widely used to measure discretionary accruals. Dechow et al. (1995) sought to assess the different accrual-based models for identifying EM using several samples and assumptions. According to the study, the modified Jones model was the best model in detecting EM. This model was further modified by Kothari et al. (2005) and Kasznik

(1999). To sum up, four versions of Jones model family were used in estimating discretionary accruals in this study. The first is the cross-section Jones model (DeFond and Jiambalvo, 1994) is represented by:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 [(\Delta REV_{it}/A_{it-1})] + \alpha_3 (PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (1)$$

The second is the modified Jones model (Dechow et al., 1995), represented by:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 [(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \alpha_3 (PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (2)$$

The third model is suggested by Kothari et al. (2005) who added the ROAs as an additional regressor to the modified Jones model to control for performance differences. The setting is:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 ((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \alpha_3 (PPE_{it}/A_{it-1}) + \alpha_4 ROA_{it} + \varepsilon_{it} \quad (3)$$

The final model was suggested by Kasznik (1999), which controlled the performance of the company by adding the change in operating cash flow to the modified Jones model. His model is represented as follows:

$$TA_{it}/A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 [(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \alpha_3 (PPE_{it}/A_{it-1}) + \alpha_4 (\Delta OCF_{it}/A_{it}) + \varepsilon_{it} \quad (4)$$

where

- TA_{it} is the total accruals of firm i in year t
- OCF_{it} is the amount of cash flow from operations of firm i at year t
- A_{it-1} is the total assets of firm i at the end of year $t - 1$
- ΔREV_{it} is the change in revenues of firm i between years t and $t - 1$
- ΔREC_{it} is the change in receivables of firm i between years t and $t - 1$
- PPE_{it} is the total of property, plant, and equipment of firm i in year t
- ROA_{it} is the net income to total assets of firm i in year t
- ε_{it} is the residual, which represents the discretionary portion of total accruals of a firm.

As for total accruals, it is the difference between net income before extraordinary items and the net cash flow from operating activities (OCF).

$$TA_{it} = NI_{it} - OCF_{it} \quad (5)$$

where

- TA_{it} is the total accruals of firm i in year t
- NI_{it} is the net income of firm i at year t
- OCF_{it} is the amount of cash flow from operations of firm i at year t .

Following previous research, the four models were applied by employing pooled ordinary least square (OLS) without a constant. The error terms from these regressions were the estimations of the discretionary accruals. As a proxy for EM, the absolute value of the error term from these models was employed since EM may include both increasing and decreasing choices of income.

3.2.2 Audit quality

There are some disagreements on how to measure audit quality. Many previous studies such as Kilgore (2007), Chadevani (2011), and Hussein and Hanefah (2013) indicated the absence of a particular accepted proxy for audit quality. Kilgore (2007) mentioned the two approaches that were used to capture audit quality by empirical work – the direct and indirect approaches.

The direct approach refers to an ex-post measure of audit quality. It assumes that the features and outcomes of audit engagements may include discovered and reported breaches such as errors made by audit firms. This approach implements self-reviewing by auditors and thus threatens the independence and objectivity of engagements teams' members. On the other hand, the indirect approach is an ex-ante measure of audit quality. This approach is commonly used in literature as it takes into account the correlation between audit quality and factors associated with it instead of directly observing audit quality. Hussein and Hanefah (2013) confirmed the advantage of indirect approach in measuring audit quality, citing the significance of the features associated with audit quality.

While accounting literature measures audit quality by several proxies, the size of the audit firm is the most common variable that is considered. DeAngelo (1981) argued that the motivation of an audit firm to pursue audit quality and behave less opportunistically increased in larger firms. Larger firms perform better in audit engagements since they have more reputation at stake. Furthermore, larger firms possess additional resources at their disposal; they can specialise, innovate, and attract more competent employees compared to smaller audit firms. Bigger firms also possess higher independence compared to smaller firms. As explained by Hussein and Hanefah (2013), larger firms were more capable of using sophisticated and effective methods in auditing, which positively affected their audit quality. This argument was widely agreed in prior studies (e.g., Becker et al., 1998; Wooten, 2003; Chi et al., 2011; Huang and Liang, 2014). Those who disputed this view claimed that audit reports produced by bigger firms were only perceived to be of higher quality based on their reputation (Wooten, 2003).

The auditor tenure – the duration of an auditor's relationship with a client – is another proxy used in accounting literature to measure audit quality. According to Hakim and Omri (2010), there were two conflicting arguments on the influence of auditor tenure on audit quality. The first argument claims that longer tenure decreases the independence and objectivity of the auditor. Therefore, auditor rotation, either mandatory or voluntary, is encouraged. In contrast, the second argument claims that longer audit tenure allows auditors to be more familiar with clients' operations and accounting issues, hence increasing audit quality. The two contrasting arguments are aptly concluded by Wooten (2003), argued that an audit tenure was related to the audit team's factors and independence; excessively short or long tenures had a higher probability to end in failure. Shorter tenures may prevent an auditor from having a comprehensive understanding of

the clients and risks missing material misstatement, while longer tenures may affect the auditor's independence.

Audit quality is also measured based on audit fees (e.g., Chi et al., 2011), industry specialisation (e.g., Wooten, 2003; Kilgore, 2007; Meyer, 2009; Huang and Liang, 2014), and auditor's litigation (e.g., Bannister and Wiest, 2001). Nonetheless, since the data for these proxies were not properly disclosed within the Palestinian context, they were not used in this study.

To conclude, two proxies were used in this study to measure audit quality. The first (audit firm size) was a dummy variable – the variable was equalled to 1 if the firm was one of the big 4, and was equalled to 0 otherwise. The second proxy (audit firm tenure) was also a dummy variable that was equalled to 1 if the audit firm was retained by a client for the past four years, and was equalled to 0 otherwise.

3.2.3 Accounting conservatism

With regards to Givoly and Hayn (2000) and Givoly et al. (2007), the negative accruals, dependent on the relationship between total accruals and operating accruals, were used to measure accounting conservatism in this study. This measure was a dummy variable that was valued to 1 if the non-operating accrual was negative, representing financial reporting to be conservative and was valued to 0 if the non-operating accrual was positive. Non-operating accruals were calculated as follows:

$$\begin{aligned} \text{Non-operating accruals} = & \text{total accruals before depreciation} \\ & - \text{operating accruals} \end{aligned} \quad (6)$$

where

$$\begin{aligned} \text{Total accruals before depreciation} = & (\text{net income} + \text{depreciation}) \\ & - \text{cash flows from operations} \end{aligned} \quad (7)$$

and

$$\begin{aligned} \text{Operating accruals} = & \Delta \text{accounts receivable} + \Delta \text{inventories} \\ & + \Delta \text{prepaid expenses} - \Delta \text{accounts payable} \\ & - \Delta \text{taxes payable} \end{aligned} \quad (8)$$

3.2.4 Audit committee

Except for banks and other financial institutions that were already excluded in this study, establishing an audit committee is still voluntary in the Palestinian setting. Thus, the existence of audit committees may be an indicator of stronger monitoring. A dummy variable was therefore used, representing whether an audit committee exists (1) or absent (0).

3.2.5 Control variables

Existing literature in accounting established that EM may be affected by several factors, with some associated with the company such as board characteristics, size, and leverage.

These variables were used to control firm-level variations and to reduce omitted variable bias.

Board characteristics that are commonly used to understand the behaviour of EM are board-size and CEO duality. Xie et al. (2003) found a negative association between EM and the size of the board in the USA. Consistently, Yu (2008) indicated that EM had a lower probability to be detected by smaller boards. Habbash (2010) supported this notion and demonstrated that the potential of constraining EM was higher by larger boards in the UK. In short, board monitoring capacity improves with the increase of its size (John and Senbet, 1998). It is worth noting that board size is measured by the number of members on the board.

According to agency theory, the chair of the board should be independent. Cornett et al. (2008) argued that CEO duality combined an authoritative power that may cause management carelessness. As such, separation of power between a CEO and the chair of the board may improve monitoring efficiency, particularly as a CEO with excessive authority tends to increase EM. Despite these observations, there was no relationship found between duality and EM in Malaysia (Abdul Rahman and Ali, 2006). According to Rashid (2009), CEO duality is common in less developed countries, reducing board chairman accountability. As a control variable in this study, CEO duality was a dummy variable that was equalled to 1 if the CEO is the chairman of the board and 0 otherwise.

Following the work of previous studies (e.g., Becker et al., 1998; Piot and Janin, 2007; Zgarni et al., 2012), a client's firm size and financial leverage were also applied as control variables. A client's size, measured using the logarithm of total assets, may relate negatively to EM through its relationship with audit quality. A larger firm is more attractive to new investors, increasing the likelihood for the firm to employ one of the big N audit firms. A firm's size also impacts its ability to afford audit fees, which is highly related to audit quality (Simunic, 1980). Therefore, bigger firms were expected to have lower EM.

In this study, financial leverage is measured by total liabilities over total assets. There seemed to be a negative association between financial leverage and audit quality, and between financial leverage and firm's disclosure quality (Ghasem et al., 2014). Lower audit quality and disclosure may promote EM and reflect a positive relationship between EM and financial leverage. As explained by Warfield et al. (1995), EM was expected in firms with greater financial leverage. Table 1 summarises the variables, their definitions and proxies.

3.3 Models and estimation method

The main argument of this study was that EM practiced by the Palestinian companies was depressed by audit quality, audit committee, and accounting conservatism. To investigate these hypotheses, the following model was proposed:

$$\begin{aligned}
 |DA| = & \beta_0 + \beta_1(\text{audit quality})_{it} + \beta_2(\text{accounting conservatism})_{it} \\
 & + \beta_3(\text{audit committee})_{it} + \beta_4(\text{board size}) + \beta_5(\text{CEOD})_{it} \\
 & + \beta_6(\text{firm size})_{it} + \beta_7 FL_{it} + \varepsilon_{it}
 \end{aligned} \tag{9}$$

where $|DA|$ is the absolute value of discretionary accruals. Other variables are defined in Table 1. Generalised least square (GLS) estimation was used to overcome the heteroscedasticity and autocorrelation problems of the model.

Table 1 Variables, definitions and proxies

<i>Variable</i>	<i>Proxy</i>	<i>Definition</i>
Earnings management	Discretionary accruals (DA)	The residual term from four modified versions of Jones model [see equations (1), (2), (3) and (4) for definitions].
Audit quality	Audit firm size	A dummy variable takes 1 if the audit firm is one of the big 4 and 0 otherwise.
	Auditor tenure	A dummy variable takes 1 if the audit firm is not replaced within the previous four years and 0 otherwise.
Accounting conservatism	Accounting conservatism	A dummy variable takes 1 if the firm is considered to be conservative and 0 otherwise [using Givoly et al. (2007) model].
Audit committee	Audit committee (AC)	A dummy variable takes 1 for firms that have audit committees, 0 otherwise.
Control variables	Board size (BS)	The number of members sitting on the board
	CEO duality (CEOD)	A dummy variable takes 1 if the CEO is also the board chairman, 0 otherwise.
	Firm size	The logarithm of total assets of the company.
	Financial leverage (FL)	Total liabilities to total assets.

4 Results

This section demonstrates the impact of audit quality, accounting conservatism, and audit committee on EM, which was measured by discretionary accruals. In this study, board characteristics, firm's financial leverage, and firm size were controlled. Table 2 presents the descriptive pooled indicators of the variables.

Referring to Table 2, the mean of absolute discretionary accruals ranges from 5.9% to 6.3% for the four proxies used. This result is consistent with many previous studies. Sánchez-Ballesta and García-Meca (2007) found the absolute value of DA to be 5.7% in Spanish firms, while Wang (2006) found the absolute value of DA to be 5.6% in S&P firms. On the other hand, Klein (2002) found the absolute value of DA to be 11% in a different time period S&P sample. Alzoubi (2016) demonstrated that the absolute value DA was 9.3% in Jordanian firms, and Khalil and Ozkan (2016) found it to be 9.5% in Egyptian firms.

Moving on, 47.5% of companies in the sample have audit committees. This result is justified as an audit committee is not mandatory for non-financial Palestinian companies, as explained earlier in this study. The results also indicate that on average, there were 9 members sitting on the board at the time this study was conducted. While the number of board members must be between 5 and 11 (Corporate Governance National Committee, 2009), the results demonstrate that some companies exceeded the recommended number up to 15. Having the same person in both CEO and board chairperson positions is also reflected in 14.8% of the companies. This is against the Corporate Governance National Committee (2009) recommendation, as board members should be free from any executive responsibilities. In addition, the average leverage ratio of Palestinian companies is 30.5%,

while 68.3% of non-financial companies listed on PEX employed one of the big 4 as an external auditor.

The correlation matrix for the variables in this study is presented in Table 3. As shown, all the proxies of discretionary accruals are highly correlated. This observation validates the measurement approaches of the dependent variable of the study. The correlations among independent variables are generally low, with a maximum correlation coefficient of 48% between board size and firm size. Asteriou and Hall (2007) claimed that correlations of less than 0.9 do not cause a serious multicollinearity problem in the regression analysis.

Furthermore, the correlation coefficients in Table 3 demonstrate a positive univariate relationship between financial leverage and all proxies of discretionary accruals. On the other hand, the variables of accounting conservatism, audit firm size, auditor tenure, audit committee, the board size, firm size, and CEO duality are negatively related to discretionary accruals. Other notable relationships between independent variables are the positive relationships between firm size with the existence of audit committee, audit firm size, board size, and financial leverage. There is also a positive relationship between audit firm size and the availability of an audit committee.

Table 2 Descriptive indicators for the variables considered in the analysis

	<i>Mean</i>	<i>Median</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Std. dev.</i>	<i>Observations</i>
ABSDAJONES	0.062	0.039	0.518	0.000	0.074	183
ABSDAMODJONES	0.062	0.039	0.511	0.000	0.074	183
ABSDACFO	0.059	0.043	0.356	0.000	0.063	152
ABSDAROA	0.063	0.041	0.498	0.000	0.069	183
AC	0.475	0	1	0	0.501	183
Accounting conservatism	0.568	1	1	0	0.497	183
Audit firm size	0.683	1	1	0	0.467	183
Auditor tenure	0.197	0	1	0	0.399	183
BS	8.721	9	15	5	2.249	183
CEOD	0.148	0	1	0	0.356	183
Firm size	7.308	7.282	9.009	5.955	0.666	182
FL	0.305	0.301	0.780	0.008	0.194	183

Notes: ABSDAJONES stands for absolute discretionary accruals using Jones model.

ABSDAMODJONES stands for absolute discretionary accruals using modified Jones model. ABSDACFO stands for absolute discretionary accruals using Kasznik (1999) model. ABSDAROA stands for absolute discretionary accruals using Kothari et al. (2005) model. Other variables are defined in Table 1.

The estimation results are presented in Table 4. Discretionary accruals are estimated using the following four models; the cross-section Jones model, modified Jones model, Kothari et al. (2005) model, and Kasznik (1999) model. The absolute value of the error term from estimating each of these models is used as a dependent variable with two specifications for each dependent, resulting in eight models that are presented in Table 4. The first specification used with each dependent variable included audit firm size and the second specification included auditor tenure to proxy for audit quality with each dependent variable.

Table 3 Correlations between all variables included in the analysis

<i>Variables</i>	<i>ABSDAJONES</i>	<i>ABSDACMODJONES</i>	<i>ABSDACFO</i>	<i>ABSDAROA</i>	<i>AC</i>	<i>Accounting conservatism</i>
ABSDAJONES	1.00					
ABSDACMODJONES	0.99 (0.00)	1.00				
ABSDACFO	0.86 (0.00)	0.86 (0.00)	1.00			
ABSDAROA	0.93 (0.00)	0.94 (0.00)	0.79 (0.00)	1.00		
AC	-0.18 (0.03)	-0.17 (0.03)	-0.24 (0.00)	-0.21 (0.01)	1.00	
Accounting conservatism	-0.14 (0.09)	-0.13 (0.10)	-0.15 (0.06)	-0.14 (0.08)	-0.01 (0.90)	1.00
Audit firm size	-0.08 (0.34)	-0.07 (0.41)	-0.11 (0.16)	-0.09 (0.29)	0.37 (0.00)	0.19
Auditor tenure	-0.09 (0.28)	-0.10 (0.21)	-0.13 (0.10)	-0.12 (0.15)	-0.24 (0.00)	0.02 0.90
BS	-0.16 (0.05)	-0.15 (0.06)	-0.16 (0.05)	-0.05 (0.57)	0.05 (0.55)	0.03 0.76

Notes: ABSDAJONES stands for absolute discretionary accruals using Jones model. ABSDAMODJONES stands for absolute discretionary accruals using modified Jones model. ABSDACFO stands for absolute discretionary accruals using Kasznik (1999) model. ABSDAROA stands for absolute discretionary accruals using Kothari et al. (2005) model. Other variables are defined in Table 1. Correlation coefficients are in bold while the p-values are between parentheses.

Table 3 Correlations between all variables included in the analysis (continued)

Variables	ABSDAJONES	ABSDACMODJONES	ABSDACFO	ABSDAROA	AC	Accounting conservatism
CEOD	-0.09 (0.28)	-0.06 (0.47)	-0.17 (0.04)	-0.08 (0.36)	-0.01 (0.92)	-0.04 0.65
Firm size	-0.10 (0.22)	-0.10 (0.24)	-0.10 (0.22)	0.05 (0.52)	0.44 (0.00)	-0.06 0.45
FL	0.05 (0.56)	0.06 (0.46)	0.04 (0.65)	0.08 (0.33)	0.13 (0.11)	0.00 0.99
Variables	Audit firm size	Auditor tenure	BS	CEOD	Firm size	FL
Audit firm size	1.00					
Auditor tenure	-0.20 (0.01)	1.00				
BS	0.31 (0.00)	-0.07 (0.40)	1.00			
CEOD	-0.17 (0.04)	-0.16 (0.05)	0.01 (0.92)	1.00		
Firm size	0.42 (0.00)	-0.28 (0.00)	0.48 (0.00)	0.17 (0.04)	1.00	
FL	0.12 (0.15)	-0.01 (0.88)	0.18 (0.03)	0.17 (0.03)	0.23 (0.00)	1.00 -----

Notes: ABSDAJONES stands for absolute discretionary accruals using Jones model. ABSDAMODJONES stands for absolute discretionary accruals using modified Jones model. ABSDACFO stands for absolute discretionary accruals using Kasznik (1999) model. ABSDAROA stands for absolute discretionary accruals using Kothari et al. (2005) model. Other variables are defined in Table 1. Correlation coefficients are in bold while the p-values are between parentheses.

Table 4 Estimation of results using alternative specifications

Independent variables	DA from Jones model		DA from modified Jones model		DA from Kothari et al. (2005) model		DA from Kasznik (1999) model	
	ABSDAJONES		ABSDAMODJONES		ABSDAROA		ABSDACFO	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Accounting conservatism	0.0038 (0.79)	0.002 (0.59)	0.0037 (0.92)	0.002 (0.63)	0.0056 (1.46)	0.003 (0.69)	-0.0067 (-3.24)***	-0.005 (-0.96)
Audit firm size	-0.0113 (-1.33)		-0.0124 (-1.77)*		-0.0246 (-2.44)**		-0.0055 (-0.54)	
Auditor tenure		-0.007 (-1.06)		-0.008 (-1.09)		-0.008 (-0.96)		-0.010 (-1.37)
AC	0.0036	0.002 (0.40)	0.0038 (0.96)	0.002 (0.46)	-0.0096 (1.84)*	-0.005 (1.08)	-0.0159 (4.45)***	-0.018 (6.99)***
BS	-0.0036 (-2.72)***	-0.004 (-2.87)***	-0.0030 (-2.43)**	-0.003 (-2.67)***	-0.0015 (-1.03)	-0.002 (-1.73)*	-0.0018 (-2.59)**	-0.002 (-1.66)*
CEOD	-0.0143 (-1.65)*	-0.014 (-1.60)	-0.0114 (-1.40)	-0.011 (-1.33)	-0.0211 (-3.52)***	-0.021 (-2.95)***	-0.0202 (-2.93)***	-0.024 (-2.88)***
Firm size	0.0016 (0.26)	-0.002 (-0.33)	0.0009 (0.16)	-0.003 (-0.64)	0.0141 (3.23)***	0.005 (1.10)	-0.0040 (-1.09)	-0.009 (-3.50)***
FL	0.0373 (4.29)	0.040 (4.07)***	0.0402 (3.45)***	0.043 (3.45)	0.0366 (3.79)***	0.044 (4.58)***	0.0418 (4.59)***	0.047 (5.10)***

Notes: All models are panel estimated GLS with cross-section weights. Independent variables are defined in Table 1.

Table 4 Estimation of results using alternative specifications (continued)

Independent variables	DA from Jones model		DA from modified Jones model		DA from Kothari et al. (2005) model		DA from Kasznik (1999) model	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Constant	0.0607 (1.52)	0.081 (2.29)**	0.0600 (1.66)*	0.084 (2.64)***	-0.0392 (-1.69)*	0.019 (0.815)	0.0807 (4.56)***	0.115 (5.05)***
R-squared	0.1073	0.103	0.1091	0.105	0.1714	0.141	0.1397	0.179
Adjusted R-squared	0.0714	0.066	0.0733	0.069	0.1381	0.107	0.0976	0.139
Durbin-Watson stat	1.4067	1.397	1.4412	1.438	1.4892	1.429	1.0318	0.902
F-statistic	(2.9886)***	(2.839)***	(3.0444)***	(2.913)***	(5.1422)***	(4.087)***	(3.3165)***	(4.446)***
Total panel (unbalanced) observations	182	182	182	182	182	182	151	151

Notes: All models are panel estimated GLS with cross-section weights. Independent variables are defined in Table 1.

It was observed that the results are not straight-forward. In models 3 and 5, audit quality based on the size of the audit firm has a negative effect on EM, but the effect is insignificant in other models. The negative results are in agreement with Becker et al. (1998), Chi et al. (2011), and Van Tendeloo and Vanstraelen (2008), who stated that firms audited by the big 4 engaged less with EM. This situation may be because larger firms have higher reputational stake during auditing process. They are also in possession of additional resources at their disposal, able to specialise, innovate, and to attract highly competent staff, compared to smaller audit firms. Meanwhile, the insignificant relationship of other specifications can be referred to Wooten (2003) and Al-Mousawi and Al-Thuneibat (2011). Auditor tenure, the other proxy for audit quality, is insignificant for all models.

Apart from that, accounting conservatism is negatively associated with EM in Palestinian corporations in model 7, while other models exhibit an insignificant relationship with the variable. Chen et al. (2007) echoed this observation, claiming that EM is less used in a conservative system compared to a bias-free system. Li et al. (2018) and Nahandi et al. (2012) also supported this notion based on their observations of a significant negative association between accounting conservatism and EM. In short, accounting conservatism can mitigate opportunistic financial reporting, producing fairer financial reports. Accounting conservatism is also efficient in resolving agency problems.

Moreover, the audit committee existence is inversely related to EM in models 5, 7, and 8, and is insignificant in remaining models. Peasnell et al. (2005), Davidson et al. (2005), Piot and Janin (2007), Archambeault et al. (2008), Lin and Hwang (2010) and Ernstberger et al. (2012) demonstrated similar negative relationship, while the insignificant relationship is also observable in Geraldés Alves (2011) in Portugal and Velte and Stiglbauer (2011) in Germany. Both studies did not observe any relationship between the existence of audit committee and EM. In Palestinian environment, the results demonstrate that audit committees are indeed used by Palestinian companies to strengthen monitoring function and to reduce agency cost, though the implementation of the committee is not mandatory by regulations.

Board size is negatively associated with EM in all models except model 5. This relationship is consistent with John and Senbet (1998), Xie et al. (2003), Yu (2008) and Habbash (2010) who observed that EM is less common in companies with larger boards. Smaller boards may have less human capital to efficiently identify and control EM.

Apart from that, CEO duality demonstrates a negative relationship with EM in models 1, 5, 6, 7, and 8, and is insignificant in the remaining models. As discussed earlier, the chair of the board should be independent. In contradiction to the results of this study, an unconnected CEO may offer effective monitoring (Cornett et al., 2008). Nevertheless, Abdul Rahman and Ali (2006) observed an insignificant relationship between duality and EM in Malaysia. It is worth noting that CEO duality is common in less developed countries, weakening chairman's power of accountability (Rashid, 2009). This observation is consistent with stewardship theory; if the ownership stake of chairman and the board is high, they have better control over their firm when the CEO is also the chair of board.

Moving on, firm size is positively associated with EM in model 5 and negatively associated with EM in model 8. An insignificant relationship is observed in remaining models. Earlier in this study, a positive relationship between firm size and audit quality is expected, as bigger firms with new investors are more likely to employ one of the big N audit firms. Bigger firms can also afford a higher audit fee, which is typically significant

for better audit quality (Simunic, 1980). Therefore, a negative relationship between firm size and EM was expected. It should be considered that Palestinian firms rarely attempt to attract new equity investors in a public issue. Therefore, the observed negative relationship is not directly caused by the implied relationship with audit quality. Note that the results of the relationship with firm size are mixed and not robust and no single conclusion can fit all these results.

With the previous discussion in mind, the most consistent and robust result in this study is the positive relationship between leverage and EM. This relationship is positive irrespective of the proxy of EM or the specification used. This result is in agreement with Ghasem et al. (2014), who proved that while financial leverage had a negative impact on audit quality, it is positively related to EM; more EM is employed with higher financial leverage (Warfield et al., 1995). According to Tian et al. (2018), the positive relationship between leverage and real EM suggested that highly levered firms with lower accounting flexibility tended to resort to real activities to manage earnings upward.

The importance of the previous relationship should be noted. Most Palestinian corporations need debt financing; hence they use EM to influence the decision and terms of debt financing that they are highly in need of from banks. In addition, Palestinian corporations rarely engage in external equity financing as they prefer to use their retained earnings or debt financing from banks. To reiterate, corporations use EM to influence a bank's decision.

5 Conclusions and recommendations

This study aimed to investigate whether audit quality, the existence of audit committee, and accounting conservatism can depress EM practices in non-financial companies listed on the PEX. A panel regression model of 184 firm-year observations of 34 companies listed on PEX between 2011 and 2016 was used. Audit quality, existence of audit committee, and accounting conservatism were the independent variables in this study. In addition, four versions of the Jones model were used to calculate discretionary accruals as a proxy for EM. Board characteristics, financial leverage, and client's company size were employed as controlling variables.

From the results, EM was found to relate negatively to audit quality, accounting conservatism, audit committee, the board size, and CEO duality. While the relationships with these variables were not significant for all specifications, they indicated partial success of these variables in depressing EM. With regard to firm size, the results were mixed and not robust, preventing a single conclusion to be made. The results indicated a strong and clear positive association between leverage and EM. Palestinian companies seemed to use EM to influence creditors' decision and to enhance their chances to be granted with debt financing from banks.

The findings in this study are beneficial for auditors, the Palestinian Exchange (PSE), the Board of Auditing Profession (BOPA), and the Palestinian Association of Certified Public Accountants (PACPA). Depressing EM practices to improve the quality of financial reporting can be done with the assistance of higher quality external auditing, establishing of audit committees, and practicing of conservative accounting. The characteristics of the board of a company, such as its size and CEO duality, are pertinent

in depressing EM as bigger board size and CEO duality negatively affect EM. These observations can be considered in regulation setting for Palestinian corporations.

Despite the in-depth analysis, this study only employed a small sample size that may affect its generalisability to a broader context. This study also lacks more robust proxies that were present in previous literature, such as audit fees to proxy for audit quality, due to the absence of data. Related parties are recommended to provide more disclosure and information to allow more avenues for research in the future.

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