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## **The Impact of Financial Distress, Firm Size, and Audit Quality on Earnings' Management Evidence from Companies listed in the Egyptian Stock Exchange**

### **Abstract**

The way through which financial distress impact companies is the core of the economy especially after the COVID 19 wave all over the world. The main aim of the paper is to test the impact of Financial distress, firm size, and audit quality on earnings management. The study is applied on a sample of 42 companies listed in the Egyptian stock exchange market from the period 2015–2017. The paper main contribution is to add to the accounting literature of the financial distress and earnings management in the Egyptian environment as one of the leading developing countries in MENA region. The main research objective is to examine the relation between the financial distress, firm size, and audit quality from one side and earnings management from other side. This can help in understanding the behavior of earnings management in practice regarding these stressful variables. The researchers used regression analysis to find out the specific causal relationship among the research variables. The research results show that financial distress and audit quality are significantly impacting earnings management practices meanwhile the study failed to find a significant effect for firm size on earnings management within the Egyptian companies listed in the stock exchange market. The regression model include both variables and excluding firm value showed a 48.6% explanation power for explaining the change in the dependent variable. The limitation of the research is related to the other variables not considered in the study and the time period that included only 2015–2017. The main recommendation of the researchers that this study to be extended to include larger sample and a recent period to include the financial distress resulted by COVID 19 pandemic.

**Keywords:** Earnings management, Financial distress, Audit quality, Firm size.

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## أثر التعثر المالي وحجم الشركة وجودة المراجعة علي إدارة الأرباح دراسة تطبيقية علي الشركات المقيدة بالبورصة المصرية

### ملخص

تعتبر الطريقة التي يؤثر من خلالها التعثر المالي علي الشركات جوهر الاقتصاد خاصة بعد اجتياح وباء كوفيد ١٩ جميع أنحاء العالم. لذلك يتناول البحث بالدراسة اختبار أثر كل من التعثر المالي، حجم الشركة، وجودة المراجعة علي إدارة الأرباح بالتطبيق علي ٤٢ شركة من الشركات المقيدة في سوق الأوراق المالية المصري من الفترة ٢٠١٥ الي ٢٠١٧ مستخدما في ذلك تحليل الانحدار الخطي.

ويضيف البحث الي الأدب المحاسبي والدراسات السابقة التي تناولت العلاقة بين التعثر المالي وممارسات ادارة الأرباح من خلال اختبار هذه العلاقة في البيئة المصرية التي تعتبر من الأسواق الرائدة في منطقة الشرق الأوسط وشمال أفريقيا مع إضافة متغيرين رئيسيين للعلاقة وهما حجم الشركة وجودة المراجعة. وقد تم قياس درجة التعثر المالي باستخدام مؤشر ألتمان والذي تم إعداده باستخدام نموذج الإنحدار الخطي المتعدد وقياس حجم الشركة من خلال اللوغاريتم الطبيعي لإجمالي أصول الشركة بينما تم اسخدام حجم مكتب المراجعة من خلال كونه من ضمن شركات المراجعة الكبيرة من عدمه كمؤشر لجودة عملية المراجعة في هذه الشركات.

وقد أوضحت نتائج الدراسة وجود تأثير جوهري لكلا من التعثر المالي وجودة المراجعة علي حجم إدارة الأرباح في العينة محل الدراسة، بينما لم تجد الدراسة أثرا جوهريا لحجم الشركة علي إدارة الأرباح، مما دفع الباحثان إلي استبعاد المتغير الأخير من نموذج الإنحدار والذي سجل زيادة في القوة التفسيرية للمتغيرين الآخرين والمتغيرات الرقابية من حيث تأثيرهم علي المتغير التابع المتعلق بممارسات الأرباح.

وتتمثل حدود البحث في المتغيرات التي لم يتضمنها النموذج بالإضافة الي الفترة الزمنية التي تم إجراء الدراسة خلالها. وبناء عليه يقترح الباحثان مد فترة الدراسة للفترات الحالية بحيث تتضمن الأثر لوباء كوفيد ١٩ علي التعثر المالي في الشركات.

**الكلمات المفتاحية:** ادارة الأرباح، التعثر المالي، جودة المراجعة، حجم الشركة

## 1- Introduction

The financial reporting process gains its importance from the important data it presents to the firm's executives that could be used as an input for financial decisions provided that management in these firms are competent and have the skills that enable them to analyze their problems and are capable to solve them in a professional manner (Scapens, 2006; Burns, 2003; Burns and Balvinsdottir, 2005), after ensuring verifiability of the reported data.

The perceived image of the firm's financial strength and success depends to a great extent on investors, creditors and other users' evaluation and their expectations of this firm's financial position and performance. (Lazaridis, 2004; Ryu 2019). Lots of research at the international level in the field of financial analysis aimed to early identify and explore the factors that could drive the firm to bankruptcy or failure (Vranas, 1991). The amount of cash the firm owns and retains is one of the factors that is highly recognized by all firms, regardless of their size, as a vital indicator for the firm's survival. (DeFranco and Schmidgall, 1998). That's why, researches carried on different sectors have emphasized the essential role of cashflows that it can be used to distinguish successful firms from their bankrupt counterparts (Bohannon and Edwards, 1993; Casey and Bartczak, 1985; DeFranco and Schmidgall, 1998; Epstein and Pava, 1994; Mills and Yamamura, 1998; Schmidgall, et al., 1993; Sylvestre and Urbancic, 1994 and Platt et al., 1994).

The pre-recognition of bankruptcy and likelihood of financial distress are highly required by different stakeholders, not only those involved in making financial decisions making. This also includes shareholders, creditors, auditors, credit rating agencies and various regulators (Lifschutz and Jacobi, 2010). The early prediction of bankruptcy cannot be overlooked and is greatly recommended during recession periods and financial downturns and at the same time it could be a source of vital information to authorities and regulators interested in the firm's development.

Models used in predicting bankruptcy provided evidence that poor financial management decisions is one of the important reasons for firm's bankruptcy. One of these models is Altman Z score introduced by Edward Altman based on a

multivariate analysis of the firm's financial statement's numbers. The model had started to attract attention since 1985 as a reliable technique that can be used in predicting the firm's volatility and in the assessment of its financial robustness. It had also used on a wide scale by current and potential investors, creditors, financial statements' and data base analysts, auditors and the various groups of stakeholders.

In addition, it can also be used in evaluating firm's eligibility for loans (Ally and Bwana 2019), through the excellent tool it offers in assessing the financial robustness of the firm. This is done using a comprehensive score of the firm's performance that includes values for its liquidity, operating profitability, leverage, solvency, efficiency and longevity. This could help in providing high reliability and credibility to decision makers' opinion for the firm's financial health with the least judgment and biasness. The model has gained its acceptance from its credibility in predicting the probability of firm's bankruptcy . This could be of prime importance to all parties interested in evaluating the going concern of the firm and its continuity or existence in general especially with the presence of high uncertainty surrounding business environment.

Financial information is a vital input in the investment decision making process. However, managers may manipulate accounting numbers through earnings management practices. According to Healy and Wahlen (1999) p.6, "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers".

Firms' managers face the pressure of meeting earnings' targets because achieving the planned levels of earnings and decreasing the firm's cost of capital are reflected in high reputation for those managers (Kaszniak & McNichols, 2002; Brown & Caylor, 2005). If report earnings are lower than the targeted figures, their interests are negatively affected (Skinner & Sloan, 2002) as this could be reflected in a reduction of their compensation (Matsunaga & Park, 2001). So, managers might manipulate the earnings figures to meet their required objectives

especially if their compensations or bonus schemes are tied to their reported numbers (e.g. Watts and Zimmerman, 1978; Healy, 1985). Reducing cost of capital is one other reason that might motivate managers to manipulate earnings for. This is because it is used for making most of the financing decisions (Jalali et al., 2014) such as capital budgeting decisions, capital structure and working capital management decisions, etc. (Basirat et al., 2014).

Meeting market expectation has been one of the most common reasons that might motivate managers to follow the accounting methods that window dress the firm's financial reports (e.g. Friedlan, 1994; Erickson and Wang, 1999). This could be done to avoid the negative impact on the firm's stock prices when the income numbers reported by the firm fall below analysts' expectations. Managers might also manipulate earnings' numbers to smooth the firm's earnings' patterns and reduce stock volatility from one period to the other which in turn provides a better image in the stock market regarding the firm's stability (Barnea et al., 1976). Finally, management might adopt accounting practices that could help the firm overcome governmental intervention or investigations (e.g. Jones, 1991; Haw et al., 2005).

Earnings management can be performed either through the false reporting of discretionary accruals (DAC) or the false reporting and presentation of real activities. From the two types of accruals available, managers have no control on non-discretionary accruals (NDAC) for delaying or deleting any transaction (Mashayekhi et al., 2006) but discretionary accruals (DAC) is a type of accruals which managers can influence by reporting the earnings near to their desired earnings for getting better incentives in the form of return from the top management (Dechow et al., 1995; Shuto, 2007).

Prior research indicated that earnings management practices is adopted by firms that are financially distressed for different reasons among which is improving their negotiation ability in contracts and hide the fact that they are financially distressed (e.g. DeAngelo et al., 1994; Burgstahler and Dichev, 1997; Rosner, 2003). Shareholders of public enterprises and governments had always been concerned with the issue of financial distress. This could result from weak manage-

ment practices in addition to other factors that negatively affect the financial performance of the enterprise and drive it to bankruptcy resulting in major losses for the firm's capital providers mainly shareholders and creditors in addition to the severe impact on the society as a whole. Managers also suffer in periods of distress. For example, their bonuses will be reduced or even cut, they can be substituted, or even their reputation in the market might be lost because of their poor management practices (Liberty and Zimmerman, 1986; Gilson, 1989).

The issue of the timing and the reasons that could motivate managers to engage in practices that manipulate financial statement numbers whether by overvaluing or undervaluing reported earnings is an important issue that had been raised in literature several times (Collier and Gregory, 1995; Pavlatos and Paggios, 2009; Barjaktarovic and Barjaktarovic, 2010) El Deeb 2012, Lin et al., 2014; in addition to a well-recognized stream of research that was interested in investigating earnings' management behavioral patterns in firms suffering financial distress (e.g. Chen and Yuan, 2010; Haw et al., 2005, Chen and Hong, 2006; Yu et al., 2006; Liu and Lu, 2007). Part of these studies were concerned with the presence of earnings management practices in financially distressed firms versus other firms not suffering financial distress problems. Other studies were interested in the degree or magnitude of manipulation and the methods by which it is performed along the years. Accordingly, this research paper aimed to raise the following question: Do financially distressed firms are greater involved in earnings management activities. The research adds other two dimensions that are expected to greatly affect earnings management practices which are firm's size and the quality of its audit.

The research paper is organized as follows: The study's hypotheses are formulated and presented in section 2. Section 3 discusses the research design and the measurement of variables, Section 4 presents the empirical results and the discussion of these results, and finally the last section in the paper is concerned with the conclusions and implications for future research.

## **2. Literature Review and formulation of Research hypotheses**

### **2.1 Earnings management<sup>1</sup>**

According to Davidson et al., (1987), the management of earnings involves adopting accounting methods within the accounting standards' framework using the flexibility allowed to the firm's management by the applied framework to achieve a pre-set objective. Schipper (1989) also defined earnings management as the intended involvement in the numbers reported by the firm in its financial statements aiming to realize special interests for the firm or its management. This could result from the discretion available to managers in selecting accounting principles or the choice between different accounting methods for recording inventory or depreciation and the subjective valuation of estimates used in measuring depreciation and setting provisions. In addition, managers could influence earnings numbers by taking some decisions that could affect accounting outcomes results presented to the firms' stakeholders DeGeorge et al., (1999). This include actions such as cutting the research budget or reducing spending on advertising, rescheduling of investments or changing financing methods Stolowly and Breton (2003) with all these actions intending to shift results towards a certain direction to match management intended incentives.

Earnings Management practices can take different forms (Scott 2014): the first of which is Clearing accounts (big bath accounting); through which management disclose large losses in the financial statement that is uncommon with the firm's economic performance. This could happen in a period of stress such as change of managers, where the new manager adopt policies that significantly reduce the firm's operating income in the first year making it easier for him to show better operating results in the subsequent year. Accordingly, this allows the new manager to write off any losses or expenses associated with the predecessor manager and preserve his reputation (Murphy and Zimmerman,1993). Big bath accounting is also conducted with the aim of minimizing (but not necessarily making negative) the reported results including political costs, namely reducing tax costs.

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<sup>1</sup> The research focuses only on the earnings management accounting measures and not the real activities measurements nor the accounts classification measures.

Earnings management practices could be also conducted with the aim of maximizing results as overestimating the firm's reported results compared to its real value. This is done opportunistically: to mask the visibility of a deteriorated performance or to avoid a contractual clause or to maximize profitability. (Skinner, 1993; Gupta, 1995; Pfeiffer, 1998). Another important incentive for earnings management is smoothing performance results: it is not about choosing a direction at the evolution of the published results but an evolution rhythm. More precisely, results are considered smoothed when the earnings management results in reducing the variance of the published results. The results' fluctuations are reduced by transferring sums from one reporting period to another. The generated profits follow a regular growth curve. This results in the reduction of the informative value of the disclosed numbers. (Chalayer, 1995)

The roots of earnings management can be attributed to the positive accounting theory introduced by Watts and Zimmerman (1990) that is based on three hypotheses: the bonus plan hypothesis, the debt covenant hypothesis and the political cost hypothesis. Nezha (2019) believes that the positive accounting theory allows "the understanding of the companies' accounting choices from the agency's relationships and political costs». It extends the models from the agency theory and the economic regulation theory. The company's political and contractual obligations, such as the debt contracts, the remuneration system of its employees and the potential political costs can bring the managers to manage the results.

The bonus plan hypothesis extends the agency theory introduced by Jensen and Meckling (1976). They assumed that shareholders (the principal) delegate the management function to managers (the agents) in exchange for transparency of their actions and performance. However, management might abuse this relationship taking benefits from the information asymmetry between them and outsiders and prioritize their own interests at the expense of others and manipulate accounting choices and techniques that manage earnings towards management's intended outcomes and maximize their benefits resulting in an agency conflict. This conflict would be maximized when managers' bonus plans are based on ac-

counting numbers. In this case, they will select the accounting principles that raise their compensations and secure their interests.

The debt covenant hypothesis argues that when the firm's debts to equity ratio increases, the greater the firm's exposure to tighter debt covenants constraints which puts the firm under more pressures of technical default. This might motivate managers to benefit from the discretion in accounting principles and choose the accounting methods that help in releasing the debt constraints and reduce the probability of being viewed as financially distressed.

Finally, the political cost hypothesis is derived from the theory of economic regulation developed by Posner (1974), it postulates that the political process is viewed as a competition between parties in order to maximize their interests. This theory assumes that regulations aim to transfer wealth and earnings-based accounting is used as a technical argument to achieve this objective. Earnings management practices in large companies can be interpreted by this theory as the "political visibility" of these companies make them more exposed to these types of political decisions which is translated into political costs. Large companies tend to minimize these costs by managing their outcome in a manner that does not attract too much attention from the legislators and politicians. This theory adopts the following postulate: the managers, the shareholders, the regulators, and the politicians are rational and try to maximize their usefulness. That usefulness is directly tied to their remuneration, and therefore to their wealth (Belkaoui,1992).

## **2.2 Financial distress**

The business life functioning in tempestuous environment is very volatile. The business life can last for centuries or can end within very short period. The business activities are the main determinates of its life. where the business that achieves its objectives in generating profit and paying its liabilities will last for a longer period. The financing activities of the business are the main backbone for the survival of organization. The business is called bankrupt when its total liabilities are higher than its fair value of its assets in the market (Sautner and Vladimirov, 2018). Parkinson (2018), defines the financial distress as the probability of

bankruptcy that depends on the magnitude of current assets and level of credit worthiness. Due to the complexity of financial distress there is no exact definition that can be used for that term. Moreover, the factors and causes of the financial distress are various and cannot be listed exclusively.

Financial distress can be generally defined as the firm's failure to satisfy its obligations in the short run. In other worse scenarios, the company may go bankrupted or subject to restructuring. Other definitions added that financial distress happen when the company fail to fulfil its creditors commitments and its operations are nearly to stop (Binti and Ameer, 2010; Kamaluddin et al., 2019). Moreover, other common indicators of financial distress are the debt ratio and times earned ratio. Whenever the debt ratio is larger than 1 or the times interest earned ratio is less than 1; it can be concluded that the company are facing problems in meeting its cashflow requirements and by default facing high level of insolvency (Hu and Ansell 2005; Fallahpour et al., 2017).

The measurement of financial distress is not an easy process. The sources of financial distress are wide and it includes shortage of cashflow, management malpractices and external factors whether its global or national. These facts are matching the financial theory, where it states that the factors causing financial difficulties can be endogenous (internal risk factors) or exogenous (external risk factor). The internal risk factors are to affect specific firm or firms in the same industry and external risk factors are affecting all the companies in the market. The specific risk factors are depending on the results of the empirical studies done in different markets (Karugu et al., 2018; Kamaluddin et al., 2019).

The most common forms of poor management are fraud, nonefficient use of resources and inadequate communication among different levels of management within the organization. These forms are all to be considered as internal risk factors that may lead to financial distress. On the other hand, there are other external risk factors that are out of the firm's management control like pandemic, worldwide recession and political troubles (Binti and Ameer, 2010; Karugu et al., 2018).

According to Idrees and Qayyum, (2018) and Lee et al., (2017), the most highlighted reason for financial distress is the high level of leverage resulted from the poor performance of management and then come the weak industry performance. As high level of leverage resulted from the lack of cashflow available for running the operations of the business and that prevent the business from paying their commitments and that lead to window dressing activities.

Karugu et al., (2018), mention that most of the financial distress cases are in the developing or transitional economies countries where they face insolvency, low liquidity and lack of cash flow. He related the financial distress cases with the high leverage level of companies with no future plans to handle this issue. On the other hand, he illustrated that even in the developed and flourishing economy, certain financial distress cases occurs because of wrong management decisions to finance their projects through debt rather than equity.

There are two possible consequences of the financial distress that can happen to any business. First, lack of cash flow to cover the company liabilities. Second, high debt on the liabilities side of the statement of financial position. In this case, companies start to negotiate their debt terms with creditors by restructuring the debt conditions and payments. Meanwhile, the company faces problem in raising capital to finance its operations due to the lack of trust in its ability to repay (Lee et al., 2017).

Many papers addressed the financial distress issue and its causes and determinants. The firm characteristics are proved to be among the most important factors affect the financial distress of company. Firm size, leverage level, audit quality and firm profitability are the most famous characteristics that have been consider in the literature. It was proved that firm size and leverage level has a positive correlation with the financial distress (Alfaro et al., 2019). On the other side, audit quality and firm profitability are inversely correlated to the financial distress (Du and Lai, 2018).

To sum up, the current section of the study presented different definitions of earnings management in accordance to Davidson et al., (1987), Schipper (1989),

DeGeorge et al 1999, Stolowly and Breton (2003) which all agrees that earnings management practices involves the use of flexibility and discretion to management in selecting the accounting treatments and policies that could satisfy their incentives. This could take various forms such as reporting abnormal large losses in a current year so that the future financial statements show better performance compared to this current year in addition to obtaining tax reductions in the year where large expenses are disclosed (Murphy and Zimmerman,1993 and Scott 2014). In contrast, earnings management practices could involve the maximization of reported income numbers (Skinner, 1993; Gupta, 1995; Pfeiffer, 1998) or smoothing the income figures to reduce the riskiness of the firm (Chalayer, 1995). Prior studies attempted to present different theories that could explain the underlying reasons beyond the firms' earnings management practices such as bonus plan hypothesis, debt covenant hypothesis and the political cost hypothesis (Watts and Zimmerman, 1990), Nezha, 2019, Jensen and Meckling, 1976, Posner, 1974 and Belkaoui,1992). Then the literature moved to defining financial distress and how it can affect firms' performance. Most prior studies agreed that there is no one single definition for financial distress but simply it can refer to the probability that the firm can have difficulties in paying its debts and cash flow requirements which raises their likelihood of getting bankrupt (Sautner and Vladimirov, 2018), Parkinson (2018), (Binti and Ameer, 2010; Kamaluddin et al., 2019, Hu and Ansell 2005; Fallahpour et al., 2017). This could be mainly attributed to poor management performance as indicated by Idrees and Qayyum, (2018) and Lee et al., (2017) or due to factors that exceed management control like pandemic, worldwide recession and political troubles (Binti and Ameer, 2010; Karugu et al., 2018). The researchers noticed that regardless of the reasons beyond financial distress, firm characteristics The firm characteristics are proved to be among the most important factors affect the financial distress in a firm such as firm size, leverage level, audit quality and profitability are the most famous characteristics that have been consider in the literature and accordingly the next section will develop the hypotheses needed to examine the effect of these characteristics on the firms earnings' management practices.

### **3. Hypotheses Development**

#### **3.1 Earnings management and financial distress**

Ignatov (2006) had defined distress by company's failure to satisfy its obligations in the short run which could shift the company to a later stage of bankruptcy or reorganization. (Ghazali et al 2015). Binti & Ameer (2010) had also described financial distress by a situation where the firm is not able to fulfill its debt covenants, or their credit terms being agreed upon with creditors. Studies had provided mixed evidence of how financial distress can affect earnings management. Bisogno & De Luca (2015) used a sample of 200 observations of Italian firms and found that managers in small firms could adopt earnings management practices that boost earnings upward during periods of financial distress to preserve bank loans (Muljono and Suk 2018). Charitou et al 2007 added other reasons in this respect as avoiding the violations of debt covenants, overcoming bankruptcy or raising their bonuses or compensations or to hide their poor performance practices (Beneish et al., 2001). From the other side, Charitou et al 2007 found that new managers might adopt earnings management practices that reduce current year earnings during periods of financial distress and before bankruptcy to highlight the poor performance of prior management. Also, auditors could exert pressures on new managers to follow conservative earnings practices.

Agrawal and Chatterjee (2015) examined the impact of the firm's financial situation on earnings management using a sample of 150 Indian firms suffering financial distress. Their study showed that earnings management practices are affected by the phase through which the firm is in financial distress. In other words, at the early stages of financial distress, firms follow earnings practices that manage earnings upwards. Joosten (2012) reached the same findings using a sample of companies in Europe explaining that companies with low distress levels could be engaged in real earnings management practices to achieve targeted earnings. This is because at this stage those companies are capable to deal with negative impact resulting from these practices

At latter stages of distress, Agrawal and Chatterjee (2015) argued that companies tend to adopt earnings management practices that reduce earnings being more conservative to better be able to negotiate for better financing conditions with creditors. In contrast, Kim et al. (2011), Campa (2015) found that during the periods of high financial distress preceding bankruptcy, management may conduct earnings management practices that increases earnings to reduce the probability of going bankrupt or technical defaults. Zang (2012) was more concerned with how the distress level affects the type of earnings management practices. He found that firms with low distress levels, are more engaged in real earnings management practices in contrast to accruals earnings management practices because at this stage has the discretion that enables it to shift the right decisions in the future. On the other hand, companies at advanced stages of financial distress are more likely to be involved in accrual-based earnings management to achieve their planned goals.

Ghazali et al. (2015) further clarified this issue believing that in the early stages of financial distress, management of these companies have been involved in practices that manage earnings upward and accordingly they exploited all the means to raise the firms' earnings in the prior periods. Now in the later stages of distress they have no other option but to get involved in earnings management practices that decrease the firms' income levels. Based on the above argument it can be concluded that prior studies had provided evidence that financial distress affect earnings management practices within the firm. However, studies had provided mixed results with respect to the direction of this effect as being positive or negative. Accordingly, the current research hypothesis could be stated as follows:

**H1: There is a significant relationship between financial distress and earnings management**

### **3.2 Firm Size and Earnings Management**

Studies showed mixing evidence with respect to the effect of firm's size on earnings management. Kim et al., (2003) argued that the size of the firm can reduce earnings management practices. This could be due to the ability of large firms to establish more effective internal control structures, better corporate gov-

ernance mechanisms and higher more qualified internal auditors relative to small sized firms which lowers their probability of being involved in earnings management and increase the quality of the firm's financial disclosure. In addition, firms large in size have the financial capabilities that allow them to contract with Big-N auditors and allocate more budgets to the audit process (Kim et al 2003). Big-N audit firms have highly competent auditors who are capable to uncover earnings manipulations and permit lower levels of earnings management compared to non-Big N audit firms (Gore, et al. (2001). Becker, et al., 1998; Francis, et al., 1999; and Payne and Robb, 2000) believed that firms audited by Big N audit firms intend to report smaller levels of discretionary accruals compared to non-Big N audited firms although the first group of firms could have more total accruals compared to the latter firms to reduce the litigation risk associated with high levels of discretionary accruals (Heninger 2001). Finally, Large sized firms may be less reluctant to manipulate their earnings is their concern about their reputations and the financial reporting credibility they established over long periods of time among their shareholders and which they risk losing through earnings manipulations

In contrast, Kim et al (2003) argued that firms large in size could be much more involved in earnings management practices than smaller firms due to several reasons; the first is management desire in these firms to satisfy analysts' forecasts (Thu and Khuong, 2018 ). Second, large firms can better negotiate with their auditors who in turn could allow them some earnings management practices compared to their small sized counterparts (Thu and Khuong, 2018 ). Finally, although firms large in size have effective internal control structures, management in these firms may be more powerful to override the structure as a whole and manipulate earnings to achieve predetermined outcomes.

This positive relationship between firm size and earnings management could be explained by the political cost or size hypothesis introduced by Watts and Zimmerman (1986) which argues that firms larger in size have more tendency to select the accounting treatment that decreases its earnings levels for example by shifting current period revenues to the next period, aiming to decrease political

costs that could be associated with more government intervention directed towards reducing the firm's revenues, This could be done by reducing their prices or imposing penalties on firms proved to breach anti-trust laws and so these large firms can be more involved in earnings management practices to mitigate the political risk and costs associated with it (Mikhailova 2010 and Amertha et al., 2014). Jensen and Meckling & Jensen (1976) argued that the greater the firm's size, the higher the agency costs. This is because managers of large firms enjoy better discretion due to the increasing complexity of transactions and operations in these firms compared to smaller ones, making it more difficult for investors and other outside parties to reveal the nature of such sophisticated operations which by turn gives managers more space to select the accounting methods that satisfy their interests increasing the likelihood of earnings management practices in these firms (Kim et al., 2003). In addition, larger firms are more capable to negotiate and bargain with their auditors, which could better allow them to conceal any earnings management practices in the financial reports disclosed by these firms (Nelson et al., 2002). These contradicting views raises concerns as to whether large firms are more likely to adopt earnings management practices than small firms and leads to formulate the second research hypothesis in the study.

## **H2: There is a significant relationship between firm size and earnings management**

### **3.3 Audit Quality and Earnings Management**

Auditing plays an effective role in reducing the agency cost caused by the information asymmetry between firm management and outside shareholders (Thu and Khuong (2018)). Auditors are engaged to add credibility to the firm's financial reports and provide a reasonable level of assurance that these reports fairly represents the firm's results of operations and financial position which is considered an important input for investors and creditors' decisions (Alhadab and Clacher 2018). Therefore, more competent and experienced auditors add to the credibility of the firm's financial reporting process. This in turn could avoid the damage of their reputation and any consequent litigation problems that might

arise later on which can limit earnings management practices to a great extent (Hogan et al., 1997, ElDeeb 2015)

Prior research showed contradicting views regarding the effect of audit quality on earnings management; Alzoubi, 2017; Becker et al., 1998; Ghosh and Moon, 2005; Gul et al., 2009; Krishnan, 2003; Rusmin, 2010) had provided evidence that a negative relationship exists between audit quality and earnings management practices.

The quality of audit has been proxied in different studies by the size of the audit firm as being a Big 4 or non Big 4 firm. Big 4 audit firms are capable to provide higher quality audit relative to non Big 4 audit firms due to different factors, the first of which is the desire of these multinational firms to protect their reputation and avoid any problems that could negatively affect their clients (Behn et al., 1997; Krishnan, 2003). This causes these audit firms to be more cautious and do not allow for any earnings management practices. Yasser and (2018) further elaborated on this point arguing that revenues of big N audit firms are generated from large number of clients, this gives them more independence and allows for greater discretion in rejecting clients with manipulative earnings (Thu and Khuong (2018)). Second, Big N audit firms are able to deploy more financial and operational resources to the audit process (Yasser and Soliman 2018) so they can better train their staff members and invest in technologies that increase the competencies and experiences which by turn enhance their abilities to uncover earnings management practices (Alzoubi, 2017; Becker et al., 1998; Rusmin, 2010) and Yasser and Soliman 2018). Consistent with these finds several studies found a negative relationship between earnings management and audit quality measured by the size of audit firm as Soliman and Ragab (2014), Kordelas (2012) and Inaam et al., (2012) where discretionary accruals are used as a measure for earnings management

In contrast, a considerable stream of research failed to find a significant relationship between audit quality and earnings management, other studies found that audit quality is positively correlated with the extent of earnings management practices. This could be explained by the institutional setting in the country

(Jeong & Rho 2004). In other words, if the institutional settings do not motivate auditors to mitigate the earnings management practices and enhance the quality of audits, auditors from Big 4 audit firms won't have the incentive to provide high quality audits relative to non-Big 4 audit firms as provided by (Yasar 2013 and Ajekwe and Ibiamke, 2017) who found that high quality audits are positively correlated with higher earnings management. Accordingly, the research hypothesis could be formulated as follows:

**H3: There is a significant relationship between audit quality and earnings management**

## **4. Research design and measurement of variables**

### **4.1 Sample Selection and data collection**

To examine how the level of financial distress can affect earnings management practices inside the firm, a sample of companies listed in the EGX during the period of 2014 to 2016 after excluding banks and financial institutions from the sample. Firms in the financial sector had their own assets and capital structure which reduces their comparability to firms in other economic sectors (Gunathilaka 2014). This results in a sample of 231 firm year observations

### **4.2 Measurement of variables**

#### **4.2.1 Measurement of earnings management**

Throughout the literature, most of the models studying the theory of earnings management which is one of the most common indicators for accounting information focus on accruals justifying that accruals are more easily managed relative to profits and firm's cash flows (Yurt and Ergun 2015). Gomez, Okumura and Kunimura (2006) argued that the flexibility allowed to management by financial reporting standards in recording and disclosing accruals might motivate management to use this discretion in manipulating accounting information. Jones (1991) believed that earnings management practices will be reflected in the accruals part of earnings not the cash part. This part reflects the discretionary power of the firm management and is a very strong indicator of earnings management; which

entails the decomposition of total accruals to discretionary or abnormal component and non-discretionary or normal component (cited in Yurt and Ergun 2015).

Healy 1985 and De Angelo 1986 were the first to predict earnings management using abnormal or discretionary accruals. However their models had been criticized as being too simple and for assuming that non discretionary accruals are systematic and that any changes in the firm's accruals are interpreted as an existence of discretionary accruals which could not be accepted due to changes in the economic conditions affecting the business. To overcome this problem, Jones (1991) modified the models introduced by De Angelo 1986 assuming that non discretionary accruals are not constant by introducing changes in revenues and the property, plant and equipment to the model to control for the changes in non discretionary accruals resulting from changes in the firm's financial position.

Dechow and Dichev (2002) added another aspect to the Jones model (1991) which is the amount and timing of cash flows of accruals as they believed that the model should incorporate whether the accruals will be converted to cash or not in the subsequent year. This model predicts discretionary accruals as the residual from the regression of changes in working capital on past, present and future cash flows (Shi and Zhou 2012). The relationship between working capital and operating cash flows indicated the quality of accruals as both reflects the main operations of the firm. Working capital accruals includes current assets and current liabilities expected to be converted to cash during the current year. So the error term from the regression model attributed to changes in working capital on one hand and changes in operating cash flows for the past, present and subsequent period on the other is a measure of the errors in estimating accruals not related to cash flows (Yurt and Ergun 2015)

The current study used the Dechow and Dichev model (2002) which had also been used by many prior studies as Francis et al., (2005), Biddle and Hillary (2006), Biddle et al (2009), Givoly et al., (2009), Ecker, Olson and Schipper (2012), McInnis and Collins (2011), Dhaliwal, Khurana and Pereira (2011) Veenman (2012).

Shi and Zhou (2012) argues that the model is criticized for one limitation is that future cash flows required in the model would not be available when using the model for estimating current year accruals and accordingly they suggested a modification to the model which is substituting cash flows for the subsequent year by forecasted cash flows. However, the current research study is not affected by this limitation as the data included in the sample are all historical from 2014 to 2016 and accordingly, any future cash flows required by the model is available to the researchers.

$$TA_{i,t} = \alpha_{i,t} + \beta_1 CF_{i,t-1} + \beta_2 CF_{i,t} + \beta_3 CF_{i,t+1} + \beta_4 \Delta Rev_{i,t} + \beta_5 PPE_{i,t} + \epsilon_{i,t}$$

Where

$TA_{i,t}$  = total accruals equal to earnings before extraordinary items minus cash flow from operation lagged by total assets;

$CF_{i,t-1}$  : Are cash flows for the year t-1 scaled lagged by total assets

$CF_{i,t}$  : Are cash flows for the year t lagged by total assets

$CF_{i,t+1}$  : Are cash flows for the year t+1 lagged by total assets

$\Delta Rev$  : the annual change in revenues from t-1 to t lagged by total assets.

$PPE_{i,t}$ : net property, plant and equipment lagged by total assets

The residuals from the regression model represent the estimation errors in the current accruals that are not associated with operating cash flows and that cannot be explained by the change in revenue and the level of PPE. The absolute value of the error term is used as a measure of discretionary accruals

#### 4.2.2 Measurement of financial distress

Gunathilaka (2014) tested the financial distress on a sample of companies from various sectors in the economy using Altman Z score model. The model provided accurate results in identifying default firms compared to other models used by the researcher and was able to predict bankruptcy for the sampled firms one year ahead before they were actually distressed. The model by different research studies all around the world in different areas related to capital structure and strategic management (Allayannis et al., 2003; Molina, 2005; Calandro, 2007).

Investment decisions (Sudarsanam and Lai, 2001; Lawson, 2008), asset and credit risk estimation (Kao, 2000; Griffin and Lemmon, 2002; Ferguson and Shockley, 2003; Jayadev, 2006), distressed securities (Marchesini et al., 2004, Gerantonis et al. 2009), and financial failure of publicly traded companies (Lifschutz and Jacobi, 2010).

Even with the introduction of other models to predict financial distress as logit analysis, recursive partitioning algorithm and neural networks, the Altman Z score showed superior results and was better able to distinguish distressed firms from non-distressed firms ones a year in advance before their bankruptcy (Carson 1995).

Consistent with prior research as Diakomihalis (2012) and Lakshan and Wijekoon (2013) who used Altman Z score in predicting bankruptcy and all agreed on the robustness of the model in providing accurate results over other models, the current research study will measure the independent variable which is financial distress using the Altman Z score model.

The model is based on a multivariate discriminant analysis (MDA) as Altman provided evidence that firms facing financial difficulties show different values for a set of financial ratios compared to the corresponding counterparts who are not suffering financial distress problems before their failure by one year. The model consists of five ratios measuring different aspects of the firm's performance based on income statement and balance sheet data rather than using an individual measure as indicator of the firm's performance: First is Net working capital/total assets (a measure for liquidity) where working capital is computed by subtracting current liabilities from current assets, Second: Retained earnings to total assets (an age indicator measuring the proportion of retained earnings accumulated as a proportion of total assets), Third: Earnings before interest and taxes to total assets (a measure of the efficiency by which the firm uses its assets), Forth: market value of equity to book value of total liabilities (this is the reciprocal measure of the firm's financial leverage used shows how much the assets of a firm can be reduced in value before the liabilities become higher than assets turning the firms

into an insolvency status). and finally, annual sales to total assets (a measure of the firm's competitiveness and its crisis management ability).

Using a multiple discriminant analysis, each of the ratios mentioned above will take a different coefficient resulting in an equation that can best be used to predict a value for financial distress for the firm. The following z model was used to predict financial distress for the sampled firms by multiplying each ratio with its corresponding coefficient and sum the multiplication products:

$$Z = -0.004 X_1 + 0.825 X_2 + 0.215 X_3 + 0.229 X_4 + 0.374 X_5$$

Where Z is Altman value for predicting distress,  $X_1$  is working capital to Total Assets,  $X_2$  is Retained Earnings to Total Assets,  $X_3$  Earnings before Interest and Taxes to Total Assets,  $X_4$  Market Value of Equity to Total Liabilities and  $X_5$  is Sales to Total assets

This resulting value is a Z-statistic that can fall into one of three groups classified by the company: those receiving a Z-score above an upper threshold are healthy companies expected to survive; those receiving a Z-score below a lower threshold are distressed firms expected to go bankrupt; and the third group of companies lies in the middle between the above two values known as the grey zone.

### 4.2.3 Measurement of Audit Quality

Last decades had witnessed great concern for examining how can higher quality audits affect the ability of auditors to uncover errors or fraud in the firm's financial reports. The term audit quality can be defined by the extent to which the auditing process has been able to detect and report material misstatements in the firm's financial statements whether resulting from error or fraud (Issa, 2008) in addition to its success in reducing the degree of information asymmetry between the firm's management and external shareholders (Reyad, 2012), reduce earnings management practices inside the firm which in turn could enhance the financial reporting quality (Paulo et al 2013 and Lu and Ma 2016).

Prior studies had used various measures for audit quality as most of them agreed that there can be no one single measure for audit quality (Francis 2004,

Lu and Ma 2016). This include the type of audit opinion, size of the audit firm, he magnitude of audit fee (Balsam et al 2003; Lu and Ma 2016), the client retention period and audit tenure, the degree to which the auditor is specialized in the industry and finally the auditors' qualifications (Piot and Janin, 2005).

Many studies had used size of the audit firm as a measure for audit quality which is proxied by whether the firm belongs to one of the Big 4 audit firms or not. This could be attributed to the fact that Big 4 audit firms hire more competent auditors and can afford more operational resources, better able to preserve their financial independence which in turn could better enhance their abilities to accept any aggressive accounting treatments from their clients (Paulo et al., 2013). In support to this view, Almarayeh et al., (2020) found that firms audited by one of the Big 4 audit firms reported more conservative earning numbers compared to their counterparts who were not audited by Big 4 audit firms

According, size of audit firm proxied by being Big 4 or non-Big 4 is used as a measure for audit quality (Lu and Ma 2016) where this variable equal 1 if the auditor belongs to one of the Big Four audit firms or 0 otherwise (Lu and Ma 2016).

#### **4.2.4 Measurement of Firm Size**

Studies that use firm size as one of their variables, used the natural log of total assets (Kim, Liu and Rhee (2003), Ismael (2013), Amertha et al., (2014) and Muigai and Muriithi (2017) as a proxy for this variable.

#### **4.2.5 Control Variables**

The control variables selected by the researchers for this study were picked out of the previous literature review publication. The literature is not providing enough evidence on the combined effect of the Leverage, profitability and the conservatism as control variable within the relationship between the financial distress and earnings management the following is illustrating the most important studies in relation to these variables; Accounting conservatism, profitability (ROA) and leverage level.

Teymouri and Sadeghi (2020), state that inadequate level of conservatism and level of debt (leverage) are of the key causes of financial distress risk. The study investigates the effect of conservatism on financial distress in Tehran stock exchange market. The results of the study showed that accounting conservatism and level of debt (leverage) have a positive significant impact on the financial distress risk level of companies.

Yusnaini (2019), test the impact of financial distress on conservatism using the leverage as a moderating variable on the listed companies in Indonesia stock exchange market. The study results show that financial distress is significantly affect the conservatism in a positive direction and that leverage is not significantly affecting this relationship as a moderating variable.

Suleiman (2019) investigate the effect of the firm characteristics proxied through profitability and leverage on the accounting conservatism using data form Nigerian listed companies for the period 2011–2017. The study results show a significant positive association between the leverage and accounting conservatism and on the other hand, the results how that there is significant negative association between profitability and accounting conservatism.

El-habashy (2019), investigated the effect of corporate governance on the accounting conservatism level on companies listed in the Egyptian stock exchange market covering period from 2009 to 2014. The study reached a conclusion that that board independence as a proxy of corporate governance has a positive significant association with the level of conservatism in the Egyptian companies.

Jacoby and Liu (2019), test the relationship between the financial distress and earnings management using profitability and leverage as control variables. The results of the study show that companies with high level of financial distress has negative relationship with the leverage and profitability as the higher negative value of the financial distress results in a higher level of profitability and leverage.

Xu and Ji (2016), examined how earnings management and financial distress are related to each other on top listed Chinese companies using the firm characteristics as control variables. The firm characteristics included leverage, size prof-

itability and growth. The results of the study indicate that the leverage and profitability have a significant impact on the earnings management of the companies tested.

## **5. Empirical results**

This part of the research includes the statistical analysis results. The researchers used group of statistical analysis like, Descriptive analysis, person correlation analysis and regression analysis

### **5.1 Descriptive analysis**

Table (1) indicates the descriptive statistics for the research variables. The total observations is 231 collected from 77 companies over the period 2015–2017. The statistics show minimum, maximum, mean and standard deviation for all variables. The financial distress shows a minimum of -24.79 and maximum of 105.96 with a mean of 6.5760 and standard deviation of 17.04. the earnings management shows a minimum of -0.52 and maximum of 2.16 with a mean of 0.0938 and standard deviation of 0.34. leverage shows a minimum of 0.02 and mximum1.63 with mean of 0.4923 and standard deviation of 0.25. firm size shows a minimum value of 1.12 and maximum value of 1.63 with mean value of 17.16 and standard deviation of 6.54. Return on assets shows a minimum and maximum values -0.48 and 2.16 respectively with mean and standard deviation values 0.07 and 0.25 respectively. Conservatism (MVE\_BVE) has a minimum value of -13.74 and maximum value 14.52 with mean and standard deviation values of 1.35 and 2.66 respectively. Audit quality is a dummy variable measured by 0 and 1 values referring to the existence and absence of the variable with a mean and standard deviation values of 0.38 and 0.486 respectively.

**Table (1): Descriptive statistics for the research variables**

<b>Descriptive Statistics</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Fin_Distress	231	-24.79	105.96	6.5760	17.04135
Third_INFQ_3b_residual	231	-.52	2.16	.0938	.34131
Leverage	231	.02	1.63	.4923	.25003
Firm_size	231	1.12	24.74	17.1622	6.54724
ROA	231	-.48	2.16	.0782	.25201
MVE_BVE	231	-13.74	14.52	1.3525	2.66193
Audit_quality	231	0	1	.38	.486
Valid N (listwise)	231				

The descriptive analysis helps the researchers in understanding the nature of the data collected and to give an overview about the nature of each variable. From the statistical analysis results, it can be concluded that the earnings management is tending toward inflating the income of the companies than understating the income. Furthermore, financial distressed companies have a higher leverage ratios and bigger firm size and that lead to the high profitability ration of these companies. The conservatism also, shows a higher value with the highly distressed companies that can help in reducing the earnings management practices by management.

## **5.2 Correlation matrix**

Table (2) presents the correlation matrix of the research variables. The results show that there is a significant positive correlation between the earnings management and financial distress, firm size and profitability with significant level less than 0.01. In addition, earnings management has a significant positive correlation with audit quality and leverage level with significant level higher than 0.05. on the other hand, there is negative insignificant correlation between conservatism and earnings management. Financial distress has a significant positive relationship

with the leverage level at significant level less than 0.01 which is very sound results at the higher the company depending on financing its operations through debt the higher the probability of the financial distress.

In the same time, financial distress has a positive significant correlation with conservatism at a significant level less than 0.05. the conservatism are one of the main accounting concepts that try to take into consideration the worst case scenario in selecting the accounting policies which at the end can make the company avoiding the financial distress and that is on the contrary to the results of the correlation matrix that states that the higher the conservatism the higher the financial distress. The financial distress has a significant negative correlation with audit quality at a significance level less than 0.01. This means that the higher audit quality can reduce the probability of the financial distress as it provides an assessment of the going concern of the company. So, when the audit to be done with high quality this will help the company to avoid the bankruptcy risk.

**Table (2): Pearson correlation matrix**

	EM	Fin_Distress	Firm_size	Audit_quality	Leverage	ROA	MVE_BVE
EM	1						
Fin_Distress	.250**	1					
Firm_size	.173**	.169*	1				
Audit_quality	.158*	-.178**	.043	1			
Leverage	.141*	.259**	.211**	.004	1		
ROA	.622**	-.012	.120	.179**	.027	1	
MVE_BVE	-.022	.137*	.116	.069	.145*	.162*	1

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

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

From the person correlation matrix in table (2), researchers can conclude that there is a significant relationship among the study variables. These results validate the hypotheses of the research as three main variables of the study are significantly correlated with the earnings management. This mean that whenever the company has higher financial distress, bigger firm size and higher audit quality level

there will be a high level of earnings management. These results are consistent with Yasar 2013, Ajekwe et al., 2017 results and it can be justified that maybe in developing countries the legal institutions that are responsible of the listed companies in the country are not emphasizing on preventing the earnings management practices.

### 5.3 Regression analysis

The Linear multiple regression analysis has been used to illustrate the coefficients of each of the independent variables (Financial distress, audit quality and firm size) and their impact on the dependent variable (Earnings management). The results in table (3), indicate that the earnings management are affected by financial distress, Profitability, conservatism and audit quality with coefficients of 0.006, 0.851, -0.024 and 0.034 respectively with significant level less than 0.01 and 0.05. on the other hand, Earnings management is affected by leverage, and firm size with coefficients of 0.093 and 0.003 with insignificant level higher than 0.05. The model has  $R^2=48.6\%$ , which means that it explaining 48.6% of the variability in the dependent variable (earnings management). The overall model is significant at level less than 0.01 and with F value 37.235.

**Table (3): Multiple linear regression**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F
	B	Std. Error	Beta			
(Constant)	-.099	.052		F	.060	37.235
Fin_Distress	.006	.001	.275	5.445	.000	
Leverage	.093	.068	.068	1.362	.174	
1 Firm_size	.003	.003	.054	1.104	.271	
ROA	.851	.066	.628	12.857	.000	
MVE_BVE	-.024	.006	-.185	-3.781	.000	
Audit quality	.073	.034	.104	2.131	.034	
<b>R<sup>2</sup>=41.6%</b>						

The Linear multiple Regression model can be illustrated as follows:

$EM = -0.099 + 0.006 \text{FinDistress} + 0.093 \text{Leverage} + 0.003 \text{Firm size} + 0.066 \text{Profitability} - 0.024 \text{Conservatism} + 0.073 \text{Audit quality}$

The results of the regression analysis provided a base for the researchers to validate the hypotheses of the research. the model shows that the most significant variables that affecting the earnings management are financial distress, profitability (ROA) and Conservatism (MVE\_BVE), while it shows insignificant impact of leverage and firm size on earnings management. The researchers decided to go further to apply stepwise regression to indemnify the most powerful model combinations of variables.

### **5.4 Stepwise regression**

The stepwise regression analysis is one type of the statistical technique that used to elect the most influential and significant independent variables that are impacting a specific independent model. the researchers used the stepwise analysis to find out if the explaining power of the model can be enhanced through eliminating some of the variables form the model. Table (4) illustrate the results of the regression model after excluding leverage and firm size. The model achieved a  $R^2=48.6\%$  which show an increase from the previous linear regression  $R^2$  by 7%. The overall model is significant at level less than 0.01 and with F value 54.532. The VIF values are indicators for the presence of multicollinearity. As shown in table (4), VIF values are all less than 5 which means that there is no collinearity problem among the model variables (Ring et al., 2015).

The new model shows that the financial distress, audit quality, conservatism and profitability as independent variables are more influential and have a higher impact on the earnings management with all the independent variables are significant less than 0.01.

**Table (4): Stepwise regression**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
(Constant)	-.012	.023		-.524	.601	54.532		
ROA	.859	.066	.634	12.996	.000		.936	1.069
Fin_Distress	.006	.001	.302	6.180	.000		.875	1.143
MVE_BVE	-.022	.006	-.174	-3.564	.000		.936	1.068
Audit_quality	.077	.035	.110	2.237	.026		.929	1.076
<b>R<sup>2</sup>=48.6%</b>					Sig.	.000		

The new model show that the financial distress, audit quality, conservatism and profitability as independent variables are more influential and have a higher impact on the earnings management with all the independent variables are significant less than 0.01.

**Table (5): Stepwise regression**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F
	B	Std. Error	Beta			
4 (Constant)	-.012	.023		-.524	.601	54.532
ROA	.859	.066	.634	12.996	.000	
Fin_Distress	.006	.001	.302	6.180	.000	
MVE_BVE	-.022	.006	-.174	-3.564	.000	
Audit_quality	.077	.035	.110	2.237	.026	
<b>R<sup>2</sup>=48.6%</b>					Sig.	.000

The new Linear multiple Regression model can be illustrated as follows:

$$EM = -0.012 + 0.006 \text{FinDistress} + 0.859 \text{Profitability} - 0.022 \text{Conservatism} + 0.077 \text{Audit quality}$$

The results of the stepwise regression showed that the firm size and leverage are not among the most influential variables that affect the earnings management.

## 6. Conclusion

The financial distress and earnings management are among the most crucial problems that face companies nowadays. The paper tried to tackle this issue by identifying the impact of different companies' characteristics on the level of earnings management practices by companies in Egypt as one of the rising developing economies. The paper examined the impact of audit quality, firm size and financial distress on the earnings management practices. The study collected data covering period from 2015–2017 and used control variables to enhance the overall goodness of the model. The empirical study indicated a positive significant relationship among the study variables and the earnings management practices. This means that the financially distressed companies are much more motivated to practice earnings management to enhance the image of the company in the eyes of investors and creditors even if the audit quality is high and with bigger size companies. The regression analysis showed that firm size and leverage have an insignificant impact on the earnings management practices among other variables. The stepwise regression results showed that the most influential variables that yielded highest explanation power are financial distress, profitability, conservatism and audit quality. It can be concluded that the exclusion of leverage and firm size enhanced the explanation power of the model from 41.6% to 48.6%.

The results of the study are giving insight into the current world situation of financial crisis due to the Corona virus in most of the countries all over the world. The paper results can help companies to avoid the manipulation of management to enhance the image of the companies during the coming period financial statements. The results also, shed a light on the importance of the audit quality in reducing or even eliminating the earnings management practices within the affected companies.

Accordingly, the previous results provide implications for future research studies. For example, researchers recommend that future studies extend the study period to include the periods affected by the pandemic so that financial distress caused by Covid 19 can better be measured and its consequent effect on earnings

management practices in firms can better be studied. More informative results could be obtained by using interim financial reports as this could help to extend the size of the sample and measure the effect of financial distress in a detailed manner. Also, future research studies can extend the sampled firms to include banks, financial institutions and insurance companies. The study could also be replicated on different sectors in the economy as industries are differently affected by the pandemic effects. Comparative analysis between the different sectors could provide fruitful insights to investors and the different stakeholders in the firm.

## References

- Agrawal, K., & Chatterjee, C. (2015). Earnings management and financial distress: Evidence from India. *Global Business Review*, 16 (5\_suppl), 140S-154S.
- Ajekwe, C. C.; Ibiameke, A., & Silas, M. F. (2017). Loan Loss Provisions, Earnings Smoothing and Capital Management Under IFRS: The Case of Deposit Money Banks in Nigeria. *American Journal of Management Science and Engineering*, 2(4), 58-64.
- Alfaro, L.; Asis, G.; Chari, A., & Panizza, U. (2019). Corporate debt, firm size and financial fragility in emerging markets. *Journal of International Economics*, 118, 1-19.
- Alhadab, M., & Clacher, I. (2018). The impact of audit quality on real and accrual earnings management around IPOs. *The British Accounting Review*, 50(4), 442-461.
- Allayannis, G.; Brown, G. W., & Klapper, L. F. (2003). Capital structure and financial risk: Evidence from foreign debt use in East Asia. *The Journal of Finance*, 58(6), 2667-2710.
- Ally, O. J., & Bwana, K. M. (2019). Testing financial Distress of Manufacturing Firms in Tanzania: an Application of Altman z-score Model. *Business Education Journal*, 1(1).

- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The journal of finance*, 23(4), 589–609.
- Al-Zoubi, A. M. (2017). The Extent of Electronic Accounting Information Systems' Ability to Provide Quantitative Indicators of Financial Performance in both Public and Private Universities in Jordan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(3), 97–107.
- Amertha, I. S., & Ulupui, I. Gusti Ketut; Putri, I Gusti Ayu. 2014. Analysis Of Firm Size, Leverage. In *Corporate Governance On Earnings Management Practices (Indonesian Evidence). The 3rd International Conference On Business And Banking (ICBB, 2014), Pattaya, Thailand-February* (5–7).
- Ayorinde, B.; Babajide, O., & Ademola, A. (2015). Audit tenure, rotation and accounting conservatism: empirical evidences from Nigeria. *International Journal of Business and Economics Research*, 4(6), 328–336.
- Balsam, S.; Krishnan, J., & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A journal of practice & Theory*, 22(2), 71–97.
- Barjaktarovic, D., & Barjaktarovic, L. (2010). Possibilities of financial support to small and medium hotel companies in Serbie. *UTMS Journal of Economics*, 1(1), 1–11.
- Barnea, A.; Ronen, J., & Sadan, S. (1976). Classificatory smoothing of income with extraordinary items. *The Accounting Review*, 51(1), 110–122.
- Basirat, M.; Nasirpour, A., & Jorjorzadeh, A. (2014). The effect of exchange rate fluctuations on economic growth considering the level of development of financial markets in selected developing countries. *Asian Economic and Financial Review*, 4(4), 517–528.
- Becker, C. L.; DeFond, M. L.; Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary accounting research*, 15(1), 1–24.

- Behn, B. K.; Choi, J. H., & Kang, T. (2008). Audit quality and properties of analyst earnings forecasts. *The Accounting Review*, 83(2), 327-349.
- Belkaoui, A., & Pavlik, E. (1992). The effects of ownership structure and diversification strategy on performance. *Managerial and Decision Economics*, 13(4), 343-352.
- Beneish, M. D.; Lee, C. M., & Tarpley, R. L. (2001). Contextual fundamental analysis through the prediction of extreme returns. *Review of Accounting Studies*, 6(2-3), 165-189.
- Bhattacharya, N.; Ecker, F.; Olsson, P. M., & Schipper, K. (2012). Direct and mediated associations among earnings quality, information asymmetry, and the cost of equity. *The Accounting Review*, 87(2), 449-482.
- Biddle, G. C.; Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency?. *Journal of accounting and economics*, 48(2-3), 112-131.
- Biddle, G. C.; Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency?. *Journal of accounting and economics*, 48(2-3), 112-131.
- Binti, S., & Ameer, R. (2010). Turnaround prediction of distressed companies: evidence from Malaysia. *Journal of Financial Reporting and Accounting*, Vol. 8 No. 2, 143-159.
- Binti, S., & Ameer, R. (2010). Turnaround prediction of distressed companies: evidence from Malaysia. *Journal of Financial Reporting and Accounting*, 8 (2),143-159
- Bisogno, M., & De Luca, R. (2015). Financial distress and earnings manipulation: Evidence from Italian SMEs. *Journal of Accounting and Finance*, 4(1), 42-51.
- Bohannon, J., & Edwards, D. (1993). Cash budgeting. *Journal of Property Management*, 58(3), 52-54.

- Brown, L. D., & Caylor, M. L. (2005). A temporal analysis of quarterly earnings thresholds: Propensities and valuation consequences. *The Accounting Review*, 80(2), 423-440.
- Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of accounting and economics*, 24(1), 99-126.
- Burns, J., & Baldvinsdottir, G. (2005). An institutional perspective of accountants' new roles—the interplay of contradictions and praxis. *European accounting review*, 14(4), 725-757.
- Burns, N.; Kedia, S., & Lipson, M. (2006). The effects of institutional ownership and monitoring: evidence from financial reporting practices. *Whitcomb Center for Rerearch in Financial Services*, 06-01.
- Calandro, J. (2007). Considering the utility of Altman's Z-score as a strategic assessment and performance management tool. *Strategy & Leadership*.
- Campa, D. (2015). The impact of SME's pre-bankruptcy financial distress on earnings management tools. *International Review of Financial Analysis*, 42, 222-234.
- Carson, M.J. (1995). Financial Distress in the Life Insurance Industry: An Empirical Examination. *Illinois University*, 1211-1240.
- Casey, C., & Bartczak, N. (1985). Using operating cash flow data to predict financial distress: Some extensions. *Journal of Accounting Research*, 384-401.
- Cetin Yurt and Ugur Ergun (2015). Accounting Quality Models: A Comprehensive Literature Review. *International Journal of Economics, Commerce and Management*, 111 (2)
- Chalayer, S. (1995). Income Smoothing: Explanatory Elements in Accounting Literature. *Comptabilite-Controle-Audit*, 1(2), 89-104.

- Charitou, A.; Lambertides, N., & Trigeorgis, L. (2007). Earnings behavior of financially distressed firms: the role of institutional ownership. *Abacus*, 43(3), 271–296.
- Chen, A. S., & Hong, B. S. (2006). Institutional ownership changes and returns around analysts' earnings forecast release events: Evidence from Taiwan. *Journal of Banking & Finance*, 30(9), 2471–2488.
- Chen, Y.; Chen, C. H., & Huang, S. L. (2010). An appraisal of financially distressed companies' earnings management. *Pacific Accounting Review*, 22(1), 22–41.
- Collier, P., & Gregory, A. (1995). Strategic management accounting. *International Journal of Contemporary Hospitality Management*, 7(1), 16–21.
- Davidson, S.; Stickney, C., and Weil, R. (1987). Accounting: The Language of Business. Seventh Edition. Thomas Horton and Daughter
- De Anglo L. (1986). Accounting Numbers as Market Valuation Substitutes: A Study of Management Buyouts of Public Stockholders. *The Accounting Review*, 61(3), 400–20.
- DeAngelo, H.; DeAngelo, L., & Skinner, D. J. (1994). Accounting choice in troubled companies. *Journal of Accounting and Economics* 17(1–2): 113–143.
- Dechow, P. M., & Dichev, I. D. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The accounting review*, 77(s–1), 35–59.
- Dechow, P. M.; Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting review*, 193–225.
- Defranco, A. L., & Schmidgall, R. S. (1998). Cash flow practices and procedures in the lodging industry. *Journal of Hospitality & Tourism Research*, 22(1), 72–83.

- Degeorge, F.; Patel, J., & Zeckhauser, R. (1999). Earnings management to exceed thresholds. *The Journal of Business*, 72(1), 1-33.
- Dhaliwal, D. S.; Khurana, I. K., & Pereira, R. (2011). Firm disclosure policy and the choice between private and public debt. *Contemporary Accounting Research*, 28(1), 293-330.
- Diakomihalis, M. (2012). The Accuracy of Altman Models in Predicting Hotel Bankruptcy. *International Journal of Accounting and Financial Reporting*, 2 (2): 96-113
- Du, X., & Lai, S. (2018). Financial distress, investment opportunity, and the contagion effect of low audit quality: Evidence from china. *Journal of Business Ethics*, 147(3), 565-593.
- EI-Deeb, M. S. (2012). Towards A strategic management accounting, Framework for Cost Management in Egyptian Healthcare Industry, 2(2), 23-41.
- EI-Deeb, M. S. (2015). Disclosure Attributes Impact of Corporate Governance Auditing Quality and Voluntary Disclosures on the Financial Performance of Banks Listed in the Egyptian Stock Exchange Market. *Accounting though*, 19(5), 41-77.
- El-habashy, H. A. (2019). The effect of corporate governance attributes on accounting conservatism in Egypt. *Academy of Accounting and Financial Studies Journal*, 23(3), 1-18.
- Epstein, M. J., & Pava, M. L. (1994). Individual investors perceptions on the summary annual report: A survey approach. *Journal of Applied Business Research (JABR)*, 10(3), 60-67.
- Erickson, M., & Wang, S. W. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics*, 27 (2), 149-176.

- Fallahpour, S., Lakvan, E. N., & Zadeh, M. H. (2017). Using an ensemble classifier based on sequential floating forward selection for financial distress prediction problem. *Journal of Retailing and Consumer Services*, *34*, 159-167.
- Ferguson, M. F., & Shockley, R. L. (2003). Equilibrium “anomalies”. *The Journal of Finance*, *58*(6), 2549-2580.
- Francis, J. R. (2004). What do we know about audit quality?. *The British accounting review*, *36*(4), 345-368.
- Francis, J. R.; Maydew, E. L., & Sparks, H. C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: a Journal of Practice & theory*, *18*(2), 17-34.
- Francis, J.; LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of accounting and economics*, *39*(2), 295-327.
- Friedlan, J. M. (1994). Accounting choices of issuers of initial public offerings. *Contemporary accounting research*, *11*(1), 1-31.
- Ghazali, A. W., Shafie, N. A., & Sanusi, Z. M. (2015). Earnings management: An analysis of opportunistic behaviour, monitoring mechanism and financial distress. *Procedia Economics and Finance*, *28*, 190-201.
- Ghosh, A., & Moon, D. (2005). Auditor tenure and perceptions of audit quality. *The accounting review*, *80*(2), 585-612.
- Gilson, S. C. (1989). Management turnover and financial distress.
- Givoly, D., Hayn, C., & Lehavy, R. (2009). The quality of analysts' cash flow forecasts. *The Accounting Review*, *84*(6), 1877-1911.
- Gomez, X.G.; Okumura, M., and Kunimura, M. (2000). Discretionary Accrual Models and the Accounting Process. *Paper presented at the Asian-Pacific Conference on International Accounting Issues. Beijing, 1-44.*

- Gore, P., Pope, P. F., & Singh, A. K. (2007). Earnings management and the distribution of earnings relative to targets: UK evidence. *Accounting and business research*, 37(2), 123-149.
- Griffin, J. M., & Lemmon, M. L. (2002). Book-to-market equity, distress risk, and stock returns. *The Journal of Finance*, 57(5), 2317-2336.
- Gul, F. A., Fung, S. Y. K., & Jaggi, B. (2009). Earnings quality: Some evidence on the role of auditor tenure and auditors' industry expertise. *Journal of accounting and Economics*, 47(3), 265-287.
- Gunathilaka, C. (2014). Financial Distress Prediction: A Comparative Study of Solvency Test and Z-Score Models with Reference to Sri Lanka. *IUP Journal of Financial Risk Management*, 11 (3).
- Gupta, A. (1995). Blurred boundaries: the discourse of corruption, the culture of politics, and the imagined state. *American ethnologist*, 22(2), 375-402.
- HAW, I. M., Qi, D., Wu, D., & Wu, W. (2005). Market consequences of earnings management in response to security regulations in China. *Contemporary accounting research*, 22(1), 95-140.
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of accounting and economics*, 7(1-3), 85-107.
- Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting horizons*, 13(4), 365-383.
- Heninger, W. G. (2001). The association between auditor litigation and abnormal accruals. *The Accounting Review*, 76(1), 111-126.
- Hogan, R., Kim, M., & Perrucci, C. C. (1997). Racial inequality in men's employment and retirement earnings. *The Sociological Quarterly*, 38 (3), 431-438.

- Hu, Y. C., & Ansell, J. (2005). Developing financial distress prediction models. *A Study of US, Europe and Japan Retail Performance. University of Edinburgh, UK, 17*, 100-101.
- Idrees, S., & Qayyum, A. (2018). The impact of financial distress risk on equity returns: A case study of non-financial firms of Pakistan Stock Exchange. *Journal of Economics Bibliography, 5(2)*, 49-59.
- Ignatov, A. (2006). Valuation of Distress Company (Monograph). Retrieved from: [http://www2.wiwi.huberlin.de///Distressed%20Compan y%20valuation.pdf](http://www2.wiwi.huberlin.de///Distressed%20Compan%20y%20valuation.pdf).
- Inaam, Z., Khmoussi, H. L. I. O. U. I., & Fatma, Z. (2012). Audit quality and earnings management in the Tunisian context. *International Journal of Accounting and Financial Reporting, 2(2)*, 17.
- Ismael, A. E. M. (2013). An Investigation of the Association between Levels of Accounting Conservatism and Corporate Cost of Debt. *Research Journal of Finance and Accounting, 4(18)*, 22-40
- Issa, S. M. (2008). The Impact of external audit on the operation of earnings management-Applied study. *Journal of commerce college for Scientific research, 45(2)*, 1-47.
- Jacoby, G., Li, J., & Liu, M. (2019). Financial distress, political affiliation and earnings management: the case of politically affiliated private firms. *The European Journal of Finance, 25(6)*, 508-523.
- Jalali, A., Jaafar, M., & Ramayah, T. (2014). Entrepreneurial orientation and performance: the interaction effect of customer capital. *World Journal of Entrepreneurship, Management and Sustainable Development*.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3(4)*, 305-360.
- Jeong, S. W., & Rho, J. (2004). Big Six auditors and audit quality: The Korean evidence. *The International Journal of Accounting, 39(2)*, 175-196.

- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of accounting research*, 29(2), 193–228.
- Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of management review*, 16(2), 366–395.
- Joosten, C. (2012). Real earnings management and accrual-based earnings management as substitutes. *Tilburg University, Tilburg*, 1–54
- Kamaluddin, A., Ishak, N., & Mohammed, N. F. (2019). Financial distress prediction through cash flow ratios analysis. *International Journal of Financial Research*, 10(3), 63–76.
- Kao, D. L. (2000). Estimating and pricing credit risk: An overview. *Financial Analysts Journal*, 56(4), 50–66.
- Karugu, C., Achoki, G., & Kiriri, P. (2018). Capital Adequacy Ratios as Predictors of Financial Distress in Kenyan Commercial Banks. *Journal of Financial Risk Management*, 7(03), 278.
- Kaszniak, R., & McNichols, M. F. (2002). Does meeting earnings expectations matter? Evidence from analyst forecast revisions and share prices. *Journal of Accounting research*, 40(3), 727–759.
- Kim, Y., Liu, C., & Rhee, S. G. (2003). The relation of earnings management to firm size. *Journal of Management Research*, 4, 81–88.
- Kim, Y., Tsutsumi, A., Izutsu, T., Kawamura, N., Miyazaki, T., & Kikkawa, T. (2011). Persistent distress after psychological exposure to the Nagasaki atomic bomb explosion. *The British Journal of Psychiatry*, 199(5), 411–416.
- Kordelas, Gary Fallos (2012). Earnings Management and Audit Quality of Public Firms: Evidence from US. *Research Economic University Rotterdam: Rotterdam*
- Krishnan, G. V. (2003). Does Big 6 auditor industry expertise constrain earnings management?. *Accounting horizons*, 17, 1–16.

- Krishnan, G. V. (2003). Does Big 6 auditor industry expertise constrain earnings management?. *Accounting horizons*, 17, 1-16.
- Lakshan, A. I., & Wijekoon, W. M. H. N. (2014). The use of financial ratios in predicting corporate failure in Sri Lanka. *GSTF Journal on Business Review (GBR)*, 2(4).
- Lakshan, A.M. I. and Wijekoon, W.M.H.N. (2013). The Use of Financial Ratios in Predicting Corporate Finance in Srilanka. *Journal of Business Review*, 2(4), 37-43.
- Lazaridis, I. T. (2004). Capital budgeting practices: a survey in the firms in Cyprus. *Journal of small business management*, 42(4), 427-433.
- Lee, J. E., Glasscock, R., & Park, M. S. (2017). Does the ability of operating cash flows to measure firm performance improve during periods of financial distress?. *Accounting Horizons*, 31(1), 23-35.
- Liberty, S. E., & Zimmerman, J. L. (1986). Labor union contract negotiations and accounting choices. *Accounting Review*, 692-712.
- Lifschutz, S., & Jacobi, A. (2010). Predicting bankruptcy: evidence from Israel. *International Journal of Business and Management*, 5(4), 133.
- Lifschutz, S., & Jacobi, A. (2010). Predicting bankruptcy: evidence from Israel. *International Journal of Business and Management*, 5(4), 133.
- Lin, F.; Liang, D.; Yeh, C. C., & Huang, J. C. (2014). Novel feature selection methods to financial distress prediction. *Expert Systems with Applications*, 41(5), 2472-2483.
- Liu, Q., & Lu, Z. J. (2007). Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance*, 13(5), 881-906.
- Lu, Y., & Ma, D. (2016). Audit quality and financial distress: Evidence from China. *WSEAS Transactions on Business and Economics*, 13(31), 330-340.

- Mashayekhi, B.; Mehrani, S., Mehrani, K., & KARAMI, G. R. (2006). The role of discretionary accruals in earnings management of listed companies in Tehran Stock Exchange (TSE), 61–74.
- Matsunaga, S. R., & Park, C. W. (2001). The effect of missing a quarterly earnings benchmark on the CEO's annual bonus. *The Accounting Review*, 76(3), 313–332.
- Mcinnis, J. and Collins D. (2011). The Effect of Cash Flow Forecasts and Accrual Quality and Benchmark Beating. *Journal of Accounting and Economics*, 5 (3), 219–239
- Meckling, W. H., & Jensen, M. C. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305–360.
- Mikhailova, Ekaterina (2010). Debt Covenants Violation and Earnings Management. Master of Thesis in Accounting and Finance. Faculty of Business Studies Department of Accounting and Finance. University of VAASA
- Mills, J., & Yamamura, J. H. (1998). The power of cash flow ratios. *Journal of Accountancy*, 186(4), 53.
- Molina, C. A. (2005). Are firms underleveraged? An examination of the effect of leverage on default probabilities. *The Journal of Finance*, 60(3), 1427–1459.
- Muljono, D. R., & Suk, K. S. (2018). Impacts of financial distress on real and accrual earnings management. *Jurnal Akuntansi*, 22(2), 222–238.
- Murphy, K. J., & Zimmerman, J. L. (1993). Financial performance surrounding CEO turnover. *Journal of Accounting and Economics*, 16(1–3), 273–315.
- Nelson, M. W.; Elliott, J. A., & Tarpley, R. L. (2002). How are earnings managed? Examples from auditors. *Examples from auditors*, 1–31.

- Nezha, B. (2019). Earnings Management, the Influence of Size, indebtedness and Performance: The Case of Moroccan Listed Companies. *Innovative Journal of Business and Management*, 8 (01), 28–4
- Parkinson, M. M. (2018). Financial Distress, Insolvency and Business Rescue. In *Corporate Governance in Transition* (pp. 43–64). Palgrave Macmillan, Cham.
- Pavlatos, O., & Paggios, I. (2009). Management accounting practices in the Greek hospitality industry. *Managerial Auditing Journal*, 24(1), 81–98.
- Paulo, I. I. S. L. D.; Cavalcante, P. R. N., & Paulo, E. (2013). The Relationship Between Auditing Quality and Accounting Conservatism in Brazilian Companies. *Journal of Education and Research in Accounting*, 7 (3), 293–314.
- Payne, J. L., & Robb, S. W. (2000). Earnings management: The effect of ex ante earnings expectations. *Journal of Accounting, Auditing & Finance*, 15 (4), 371–392.
- Pfeiffer Jr, R. J.; Elgers, P. T., Lo; M. H., & Rees, L. L. (1998). Additional evidence on the incremental information content of cash flows and accruals: The impact of errors in measuring market expectations. *Accounting Review*, 373–385.
- Almarayeh, T. S., Aibar-Guzmán, B., & Abdullatif, M. (2020). Does audit quality influence earnings management in emerging markets? Evidence from Jordan. *Revista de Contabilidad-Spanish Accounting Review*, 23 (1), 64–74.
- Platt, H. D.; Platt, M. B., & Pedersen, J. G. (1994). Bankruptcy discrimination with real variables. *Journal of Business Finance & Accounting*, 21(4), 491–510.
- Posner, R. A. (1974). *Theories of economic regulation* (No. w0041). National Bureau of Economic Research, 335–358.

- Reyad, S. M. R. (2012). Accounting conservatism and auditing quality: An applied study on Egyptian Corporations. *European Journal of Business and management*, 4(21), 108-116.
- Ringle, C. M.; Wende, S., & Becker, J. M. (2015). SmartPLS 3. SmartPLS GmbH, Boenningstedt. *Journal of Service Science and Management*, 10(3).
- Muigai, R. G., & Muriithi, J. G. (2017). The Moderating Effect of Firm Size on the Relationship Between Capital Structure and Financial Distress of Non-Financial Companies Listed in Kenya. *Journal of finance and accounting*, 5(4), 151-158.
- Rosner, R. L. (2003). Earnings manipulation in failing firms. *Contemporary Accounting Research*, 20(2), 361-408.
- Rusmin, R. (2010). Auditor quality and earnings management: Singaporean evidence. *Managerial Auditing Journal*, 25(7), 618-638.
- Ryu, D. (2019). Effects of the 2008 global financial crisis on corporate social responsibility and firm value in Korea. *Investment Analysts Journal*, 48(2), 114-124.
- Sautner, Z., & Vladimirov, V. (2018). Indirect costs of financial distress and bankruptcy law: Evidence from trade credit and sales. *Review of Finance*, 22(5), 1667-1704.
- Scapens, R. W. (2006). Understanding management accounting practices: A personal journey. *The British Accounting Review*, 38(1), 1-30.
- Schipper, K. (1989). Earnings management. *Accounting horizons*, 3(4), 91.
- Schipper, K. (1989). Earnings management. *Accounting horizons*, 3(4), 91.
- Schmidgall, R. S., Geller, A. N., & Ilvento, C. (1993). Financial analysis using the statement of cash flows. *Cornell Hotel and Restaurant Administration Quarterly*, 34(1), 46-53.
- Scott W.R. (2014). Financial Accounting Theory. Seventh Edition. Pearson Education Canada.

- Shi, L., Zhou. N. (2012). An Extended Dechow and Dichev (2002) Model with Cash flow Forecasts. *New York: Mc Graw Hill Education*
- Shuto, A. (2007). Executive compensation and earnings management: Empirical evidence from Japan. *Journal of International Accounting, Auditing and Taxation, 16*(1), 1-26.
- Skinner, D. J. (1993). The investment opportunity set and accounting procedure choice: Preliminary evidence. *Journal of accounting and economics, 16* (4), 407-445.
- Skinner, D. J., & Sloan, R. G. (2002). Earnings surprises, growth expectations, and stock returns or don't let an earnings torpedo sink your portfolio. *Review of accounting studies, 7*(2-3), 289-312.
- Soliman, M. M., & Ragab, A. A. (2014). Audit committee effectiveness, audit quality and earnings management: an empirical study of the listed companies in Egypt. *Research journal of finance and accounting, 5* (2), 155-166.
- Stolowy, H., & Breton, G. (2003). La gestion des données comptables: une revue de la littérature. *Comptabilité-Contrôle-Audit, 9*(1), 125-152.
- Sudarsanam, S., & Lai, J. (2001). Corporate financial distress and turnaround strategies: An empirical analysis. *British Journal of Management, 12* (3), 183-199.
- Suleiman, S. (2019, June). Firm Characteristics and Accounting Conservatism. In *th 5 annual international academic conference proceedings, 2019*(p. 565).
- Sylvestre, J., & Urbancic, F. R. (1994). Effective methods for cash flow analysis. *Healthcare financial management: journal of the Healthcare Financial Management Association, 48*(7), 62-64.
- Teymouri, M. R., & Sadeghi, M. (2020). Investigating the Effect of Firm Characteristics on Accounting Conservatism and the Effect of Accounting Conservatism on Financial Governance. *Archives of Pharmacy Practice, 1*, 124.

- Thu, P. A., Khanh, T. H. T., Ha, N. T. T., & Khuong, N. V. (2018). Perceived audit quality, earnings management and cost of debt capital: Evidence from the energy listed firms on vietnam's stock market. *International Journal Of Energy Economics And Policy*, 8(6), 120-127.
- Veenman, D. (2012). Disclosures of insider purchases and the valuation implications of past earnings signals. *The Accounting Review*, 87(1), 313-342.
- Vranas, A. S. (1991). Probability models for the forecasting of Greek industrial firms' failure. *Spoudai, The University of Piraeus Journal of Economics, Business, Statistics and Operations Research*, 4(4), 431-448.
- Watts, R. L., & Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. *Accounting review*, 112-134.
- Watts, R. L., & Zimmerman, J. L. (1986). Positive accounting theory, Prentice-Hall Inc.
- Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: a ten year perspective. *Accounting review*, 131-156.
- Xu, G. L., & Ji, X. (2016). Earnings management by top Chinese listed firms in response to the global financial crisis. *International Journal of Accounting and Information Management*, 24(3), 226-251.
- Yasar, A. (2013). Big four auditors' audit quality and earnings management: Evidence from Turkish stock market. *International journal of business and social science*, 4(17).
- Yasser, S., & Soliman, M. (2018). The effect of audit quality on earnings management in developing countries: The case of Egypt. *International Research Journal of Applied Finance*, 9(4), 216-231.
- Yu, Q., Du, B., & Sun, Q. (2006). Earnings management at rights issues thresholds—Evidence from China. *Journal of Banking & Finance*, 30 (12), 3453-3468.

- Yurt, C., & Ergun, U. (2015). The IFRS adoption and accounting quality: A comprehensive trend analysis. *International Journal of Academic Research in Economics and Management Sciences*, 4(2), 11-19.
- Yusnaini, Y. (2019). The Effect Of Financial Distress, Litigation Risk, And Growth Opportunities On Accounting Conservatism With Leverage As Moderating In Manufacturing Companies Listed In Indonesia Stock Exchange. *International Journal of Public Budgeting, Accounting and Finance*, 2(3), 1-13.
- Yuth, C., & Ergun, U. (2015). Accounting Quality Models: A Comprehensive Literature Review. *International Journal of Economics, Commerce and Management*, 3(5), 33-66.
- Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The accounting review*, 87(2), 675-703.