

Capital Structure Effect on the Practices of Earnings Management Phenomenon? The Evidence of Listed Firms in Abu Dhabi Securities Exchange

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Received: Oct. 23, 2016 Accepted: Nov. 17, 2016 Published: December 1, 2016

doi:10.5296/ajfa.v8i2.10198 URL: <http://dx.doi.org/10.5296/ajfa.v8i2.10198>

Abstract

The study objects for determining whether the listed firms in Abu Dhabi Securities Exchange exercise the phenomenon of earnings management in its financial reporting, and whether these practices are affected or driven by the capital structure of firms. To achieve the objectives of the study, a sample consisting of 29 listed firms at Abu Dhabi Securities Exchange (ADX) out of total 83 listed firms, had been selected using the simple random sampling method. Data covering 4-years was collected from the included firms in the sample, starting from 2012 till the end of 2015. The binomial distribution test is used to determine whether listed firms at ADX exercise the phenomenon of earnings management using the modified Jones 1995 model, whereas, the simple linear regression method is used to test whether the proportion of financial leverage in the capital structure of firms drives the practices of earnings management. The study shows that the firms exercise the phenomenon of earnings management, and the regression outputs show a significant positive effect of financial leverage on the practices of earnings management phenomenon.

Keywords: Earnings Management Phenomenon, Financial Leverage, Discretionary Accruals, Debt Ratio, and Capital Structure

1. Introduction

Earnings or what is called “net income”, and “bottom line”, is the most important item in the financial statements as a whole. Managers of business organizations may attempt to manage this item, mainly to affect the theoretical value of firms’ stock, since the theoretical value of a firm’s stock is actually the present value of its expected future cash flows (Lev, 1989). Other motives, in addition to firm value, may be available for managements to manage earnings. Some people misunderstand the term of earnings management when they believe that the practices of this phenomenon can’t be considered ethical, and believe that it is normal ethical practice. In opposite to unethical accounting manipulation, earnings management is considered ethical, since it is a type of exploiting the flexibility level of accounting standards, where firms can select among alternative methods of measurement and recognition of revenues and expenses. Therefore, earnings management is seen by some interested people as a reasonable and an ethical management of decision making in intent to achieve a type of stable profits (Gaa, 2007).

Despite the viewpoint that exercising earnings management is legal, financial information should be relevant and reliable to enable investors, creditors, and other users of to make good and beneficial decisions. Managements have some incentives to exercise the phenomenon of earnings management, where this reduces the reliability of the reported earnings, so decisions taken by investors, creditors, and other users, may not be enough good. The phenomenon of earnings management, when exercised by managements leads to deceiving earnings to stockholders, investors, creditors, and other users, when they depend on this deceiving information. Management exploits the high level of flexibility that available in the accounting standards, where this flexibility enables management to use judgment in applying the revenue recognition principle. Therefore, more techniques and methods should be developed to detect the phenomenon of earnings management when it is exercised to influence the amount of the reported profits.

Next to several financial crises occurred during the last years of the last century and the first decade of the current century, the phenomenon of earnings management became under the focus of academics, authors, practitioners, and other interested people. Earnings management means revealing above or below the actual earnings through choosing the accounting methods that may lead to the desired result (Roychowdhury, 2006). Some financial indicators can be used to detect this phenomenon through using several available approaches and models, where some of these models are used to separate the nondiscretionary accruals from the total accruals. Non-discretionary accruals do not involve earnings management practice, whereas discretionary accruals are rich field for practicing the phenomenon of earnings management.

The capital structure of business organizations consists of two sources, equity and debt. Using debt in the capital structure of firms differs from one country to another, from an industry to other, and also from firm to firm in the same industry and same country, depending on the needs of funding, and whether current stockholders have the desire and ability to provide the firm with its funding needs. The relationship between capital structure

of firms and the practices of earnings management is still questionable, and no conclusive answer that debt affects or does not affect the practices of earnings management. Moreover, the consequences of earnings management may have strong negative effect on debt providers, in case the firm fails, and the fair value of its assets is less than the its total financial obligations.

The problem of the study may seem clear. Next to financial crises and firm's scandals during the last few years of the twentieth century, and the starting years of the current century, finding solutions to the phenomenon of earnings management and other manipulation practices became an urgent issue to protect investors, creditors, shareholders, and other groups of users from losses. Several procedures are taken to reduce the practices of earnings management such as the issuance of Sarbanes-Oxley Act, and corporate governance to reduce earnings management practices. Moreover, because the impact of financial leverage in terms of its proportion in this structure, is still questionable, the effect of financial leverage needs more and more investigations, since some studies found a positive effect of leverage on earnings management, others found no effect, whereas some found no relation. The problem of the study can be summarized in determining whether listed organization in Abu Dhabi Securities Exchange (ADX) exercise the phenomenon of earnings management, and to detect whether the financial leverage of these firms has an effect on these practices. The following two questions can better express the problem of the study. The first is; do listed firms at ADX exercise the phenomenon of earnings management? Whereas, the second is; do the financial leverage of listed firms in ADX affects the practices of earnings management by these firms? The study attempts to find clear cut answers for these two questions using the reported information by firms.

The study is important especially these days, where most firms attempt to reveal more profits than the actual. Managements have strong incentives to manage earnings, but the most important incentive is financial rewards, where more financial rewards will be received by managers when the reported profit is high, and in opposite, less or no financial rewards may be received by managers when less profit is reported. The importance of the study increases because no clear and conclusive answer to the effect of financial leverage on the practices of earnings management is available. The study also educates users and decision makers with the phenomenon of earnings management and offers methods or ways for its detection. In the United Arab Emirates (UAE), stock exchanges and the environment of earnings management had not been enough investigated, so this study is important to all developing stock exchanges and stockholders in developing countries, because it helps finding more protection to small investors and creditors against the harmful effects of earnings management phenomenon. The study is important also because it highlights the incentives for managers to manage earnings, so stronger and more incentives mean more probability to practice earnings management, and therefore these practices can be detected and users can be protected. More practices of earnings management lead to more fails among business organizations, and reducing the phenomenon practices means more investment growth in businesses and less fails.

The study objects for:

1. Add more literature to the phenomenon of earnings management, including incentives, results, and the models that can be used to detect the practices of this phenomenon.
2. Measuring the practices of earnings management phenomenon by the listed firms at ADX, especially where this phenomenon is rarely studied in oil-based countries, where oil extraction forms a large proportion of its local production and income.
3. Determine whether the capital structure of listed firms in ADX affects the practices of earnings management phenomenon.

The remainder of the study proceeds as follows. Section 2 is dedicated for the literature and prior related researches. The hypotheses of the study are shown in section 3, whereas section 4 presents the methodology used to accomplish the study. Results and analysis are shown in section 5, whereas section 6 shows the conclusions and findings of the study.

2. Literature Review and Prior Researches

Despite that the issue of earnings management is one among the hot topics since the collapse and corporate scandals in the last few years of the twentieth century, the term may still be ambiguous for several groups of people. Earnings management is defined by Schipper (1998), as “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain”. The term of earnings management is also defined by Levitt (1998) as “a gray area where the accounting is being perverted, where managers are cutting corners and where earnings reports reflect the desire of management rather than the underlying financial performance of the Company”. Other authors define earnings management as “a reasonable and legal management decision making and reporting intended to achieve stable and predictable financial results” (Rahman, Moniruzzaman, and Sharif, (2012). Healy and Wahlen (1998), provide a complete and clear definition of the term earnings management when they define it as “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”.

The discussion of the term of earnings management should include seven overlapping elements including, crime, suspects, weapons used, victims, motives, opportunity to carry out, and alternative explanations (Lo, 2007). Actually, when some one or more is exercising the phenomenon of earnings management, this means that a crime is committed. When there is a crime, there should be a perpetrator or more that made that crime. The murder, or the individual or group that are more common to carry out the crime of earnings management are normally the management or the managers because they have the motives to do that, whereas users of financial statements such as investors, creditors, and shareholders, are in most cases the victims. People normally do not commit without a motive or a reason. These reasons are called incentives which encourage people to commit a crime.

Sometimes, earnings management phenomenon is exercised by managers just to satisfy the prior expectations of earnings. In other situations, the management may manage earnings to receive high financial rewards because the amount of these rewards depends on the amount of

reported earnings. Managers may manage earnings also to reduce the amount of income tax payables, or to influence the firm's share market price. Additional motives are available for managers to exercise the phenomenon of earnings management, but these are the most common incentives. The opportunity to manage earnings can be interpreted through the relationship between earnings management and earnings quality.

A link or a relationship between earnings management and earnings quality exists. Ball and Shivakumar (2007), stated that a negative relationship exists between earnings management and earnings quality, where quality of earnings quality declines as the level of earning management practices increases.

Several methods and techniques can be used to manage earnings. One common method is what is called acquisition accounting. Under the idea of acquisition accounting, GAAP had been amended in 2001, where the pooling of interests method became not allowed to be followed, and business firms should follow the purchase method as a unique method based on these amendments (Abu Ajeelah and Hamdan, (2009). The misuse of materiality is also another method that can be followed in exercising the phenomenon of earnings management. Materiality means the level of omission, misstatement, fraud, or change which may lead a decision maker to change his judgment may change and therefore the decision may change. The applications of revenue recognition principle are also an important instrument for managing earnings. Revenue is recognized when earned, realized, or realizable. The general rule is that revenue is recognized at point of sale for sales of tangible products, and when the service is rendered in full in case of services, because a probability appears that resource will inflow to the firm with amount can be measured reliably. In practice, firms may recognize revenue despite no enough ability exists that the resources will inflow to the fir, or may recognize revenue early or delaying this recognition intentionally to achieve an attractive purpose for the management. Cooking the books is also a known method in the practices of earnings management such as trade loading and channel stuffing. More methods of managing earnings are available such as capitalizing expenses despite that it should be expensed within the current period. Nonrecurring expenses, pension plans, off balance sheet items, artificial rents, and cookie jar reserves, are all among the methods available to practice earnings management.

The decision of capital structure formation is one among the most important decisions in business organizations that taken by the firm's management or its board regarding the capital structure. The term capital structure refers to the proportion of each of equity and debt in funding the assets of the firm, so debt means the part that borrowed from creditors, whether it is cash as loans or purchasing and receiving services on credit. The term financial leverage refers to the amount of debt used in the capital structure of firms. More borrowing leads to more risks, but borrowing is preferable when the cost of borrowed funds is less than the rate that may be achieved when these borrowed funds are invested somewhere.

It is already known that more borrowing increases risk, but also borrowing may increase the profitability of the borrower when rate of interests on borrowing funds is sharply lower than the rate on these funds when used in investment. Actually this is called trade in equity,

because this difference at end is due to shareholders, so rarely a firm borrows with a rate of interests exceeds the expected rate of return on investment. The weight of debt in the capital structure can be measured using different measures such as debt ratio and debt to equity ratio, but in this study the debt to equity ratio is used because it finds debt in proportional relation to total assets.

The issue of earnings management had been given enough interests and its importance is perceived carefully in the developed and western countries, but in the developing countries, including the Arab and other Middle East countries, the problem had not been given the deserved importance, especially that Arab Gulf countries do not impose income tax, so its economic system can be considered as different and unique system, where governmental revenues are not based on taxes. Actually, and based on the survey made to the literature of earnings management, no prior researches that investigating the issue of earnings management had been found, not only in UAE, but also in other Arab Gulf countries.

The most important and recent important study is that what carried out by Al Momani (2016), where the author investigated whether the traditional and modern performance indicators can explain the practices of earnings management phenomenon of the listed manufacturing firms at Amman Stock Exchange. The author used the modified (1995) Jones model in measuring the practices of earnings management for a data of a sample consisting of 29 firms covering the period 2006-2013. In details, three traditional indicators had been taken with consideration by the author including return on assets, return on sales, and cash flows from operations. Modern indicators that the study takes into consideration are Tobin's-Q and the economic value added. The study shows that the manufacturing listed firms at Amman Stock Exchange are still exercising the phenomenon of earnings management, and a significant relationship exists between both of the traditional and modern indicators in one hand, and the practices of earnings management. The final conclusion of the study is that both of traditional and modern indicators have the ability to interpret the practices of earnings management.

Some of the prior researches that investigated the impact of financial leverage on the practices of earnings management phenomenon found that leverages increases earnings management practices, such as Kontorizos (2008), and Beatty and Weber (2003). In opposite, other prior researches found a negative impact of financial leverage on the phenomenon of earnings management and added that financial leverage restricts the management desire to manage earnings (Jelinek, 2007), (Wasimullah and others, 2010) .

The characteristics of firms and their effect on earnings management were among the interests of Uwuigbe, Ranti, and Bernard, (2015). Their study is based on a sample consisting of 20 listed firms at the Nigerian Stock Exchange using the judgmental sampling method, and data covering the years 2006-2010 of these firms had collected and analyzed. In addition to the descriptive statistics and econometric analysis, the least square regression method had been used in data analysis and hypotheses testing. The study revealed an impact of each of firm size and corporate strategy on earnings management, but it did not find a significant effect of financial leverage on earnings management.

Mozarpour and Norouzi (2015), investigated the effect of both capital structure and growth opportunities on earnings management using a sample of listed firms in Tehran Stock Exchange. The pooled data method had been used in data analysis and hypotheses testing. Results showed that there is a significant relationship between financial leverage and earnings management practices, whereas regarding the growth opportunities, the study revealed that there is a nonlinear and significant relationship between this variable and earnings management, and growth opportunities have a significant influence on this relationship.

The Impact of corporate governance on earning management practices was among the interests of Patrick, Paulinus, and Nympha, (2015). The authors actually investigated this relationship using a sample of Nigerian firms, where this sample had been selected using the purposive sampling technique between a period of 2011-2014. Simple linear regression had been used in data analysis and hypotheses testing. The study finds that the practices of corporate governance such as board size, board independency, firm size and the strength of audit committees, have a significant effect on earnings management practices.

Miloud (2014), studied the existence of earnings management in initial public offerings of French Firms. The author states that it is difficult to detect earnings management practices when the purpose of these practices is to increase the attractiveness of the offered stock. In case of exercising earnings management to make shares more attractive, these practices are done before the initial public offerings are made. In this study, the author examined earnings management through observing a time-series, where a sample consisting of French firms that went public between 1995 and 1998 on the Euronext Paris Exchange. The most important finding is that initial public offering firms with the highest discretionary current accruals are underperformed, compared with the equivalent firms in the third year following the initial public offering.

Uwuigbe, Peter, and Oyeniyi (2014) also investigated the effect of corporate governance mechanisms on earnings management in Nigeria. A sample of 40 listed firms in the Nigerian Stock Exchange had been used as a source of the primary required data using the judgmental sampling method. Regression analysis had been used in data analysis and in hypotheses testing. The findings of the study revealed that the board size and board independency had a negative significant influence on earnings management practices, whereas CEO duality had a positive significant impact. The study concludes that firms with larger boards and diverse knowledge have more ability to restrict the practices of earnings management, than smaller boards.

Kighir, Omar, and Mohamed (2014) made a revision to the different types of models used in detecting the practices of earnings management. The review found that robust models have been discovered in detecting earnings management, but these models are only available on the shelves of authors without utilization by industries. The authors recommended designing software of auditing or fraud detection from these models, especially discretionary accruals models, to be used by professionals and shareholders.

The relationship between board committees and earnings management was under the attention of Liu, Harris, and Omar (2013). The study investigates this relationship next to the

international methods that made to strengthen corporate governance. A sample of 138 listed firms in Australian Stock Exchange had been selected to examine whether this relation exists. The main finding of the study is that the independency and activities of the board and sub-committees have a significant negative relationship with earnings management represented by the discretionary accruals.

Several researchers investigated the effect of firms' size on earnings management, among them is Cabej (2013), who studied this effect by using a sample of listed firms in Albania. Log of total assets is used to measure firms' size, while discretionary accruals used to measure the practices of earnings management using Jones model. Results showed that Albanian listed firms are engaged in earnings management initiatives but there are no significant differences among firms of different sized in their effect on the practices of earnings management phenomenon.

An, Li, and Yu, (2013), investigated the effect of earnings management practices on financial leverage, and the way this relationship is affected by institutional environments. The study employed using the data of 25,798 firms across 37 countries along the years 1889-2009. The study found that firms with high earnings management practices tend to have high corporate leverage, and this positive relationship is attenuated by strong institutional environments. Moreover, the results of the study lend strong support to the agency theory of free cash flows.

Zamri, Abdul Rahman, and Isa (2013), investigated the impact of financial leverage on real earnings management. The primary purpose of this study was to determine whether the financial leverage has an impact on the real earnings management. The abnormal cash flows from operations, the abnormal production costs, and the abnormal discretionary model by Roychowdhury, 2006, is used in this study as a proxy for real earnings management. The study is based on 3,745 firm-year observations along the period 2006-2011, listed in Bursa, Malaysia. The main finding of the study is that a significant negative correlation between financial leverage and the practices of earnings management and leveraged firms have lower level of earnings management.

Rani, Hussain, and Chand (2013), investigated the incentives standing behind managements' practices of earnings management. The authors developed a questionnaire directed toward a group of firms' key managers and members of board of directors of Fiji. The study demonstrated that the common incentives of earnings management of Fiji firms include management compensation, borrowing cost, meat/beat targets and expectations, and increase or decrease regulatory benefits or costs.

Gerakos (2012), stated that the current techniques used in identifying earnings management are sorely lacking, and they based on an assumption that accruals unexplained by discretionary accruals represent either earnings management practices or weak earnings quality, where these techniques suffer from measurement error and correlated omitted variables which lead to type I error and type II error. In addition, these techniques are estimated in the cross section where they do not take into consideration that earnings are better described by dynamic processes.

A study that carried out by Rahman, Moniruzzaman, and Sharif (2012), investigated the techniques, motives, and controls of earnings management. In details, this study investigated some techniques that are used in managing earnings like cookie jar reserve, big bath, and big bet. Moreover, the study investigates some incentives for the practices of earnings management such as, market incentives, personal incentives, and political and regulatory motives. The study found that rigorous accounting standards, corporate governance and consciousness, awareness of the audit committee, and the morality of stakeholders, each of which plays a vital role in restricting the practices of earnings management and can control these practices (Lo, 2007).

Following the recent financial scandals and therefore the recent changes in the French institutional context, Benkraiem, (2012) investigated the role of corporate governance mechanisms in guaranteeing reliable and more accurate financial information that French firms issue. Empirical findings of the study showed that the presence of independent directors can moderate the discretionary accruals management. The study adds that discretionary accruals management can also be restricted through the big 4 audit firms. Moreover, the study demonstrates that there is no significant relationship between ownership structure and the management of these accruals.

The impact of corporate governance on earnings management practices was the focus of Roodpohti and Chashmi (2011). The authors of the study hypothesized that corporate governance plays a role in reducing the harmful effects of earnings management practiced on shareholders and other users of financial information. The key objective of the study was to investigate the relationship between corporate governance internal and external mechanisms, and earnings management, where internal mechanisms of corporate governance includes ownership concentration, board independency, and CEO dominance, while external mechanisms include institutional shareholders according to the authors classification of corporate governance mechanisms. Required information was gathered based on a sample consisting of 196 firms of Tehran Stock Exchange between 2004 and 2008. Panel data method was used in the study to estimate its models. Findings of the study includes that firms with higher ownership concentration and board independence tend to manage earnings less than firms with higher institutional holdings. One additional finding of the study is that a positive relationship exists between CEO-Chairman duality and earnings management. Moreover, the study showed that firm size and leverage had been found that they have a positive relationship with earnings management phenomenon.

Tahir (2011), was among interested people with earnings management and its relation with the capital structure. The objective of the study was to identify the relating factors to earnings management and factors that having impact on capital structure. It is based on the published balance sheet by State Bank of Pakistan on non-financial listed firms at the Karachi Stock Exchange along 2001-2005. The study shows a negative coefficient, where the gearing ratio is negatively affected by return on assets. This negative relationship is justified that earnings management may have some effects on the capital structure of listed firms at Karachi Stock Exchange.

Chen, Cheng, and Wang (2011), investigated whether increasing board independence leads to a reduction in earnings management practices. The study finds that non-compliance firms (firms that did not have a majority of independent directors prior to reforms), do not experience a significant reduction in earnings management practices from prior to afterwards of the reform. The study also shows that non-compliance firms that have low information acquisition cost experience a significant reduction in earnings management, when compared with other firms. The authors concluded that independent directors' control is more effective in environments of rich information.

Dechow, Hutton, and Kim (2011), provided a new approach for testing the accrual-based testing models of earnings management. In this new approach, the authors assumed that any accrual-based earnings management in one accounting period should be reversed in another accounting period, and incorporating the priors concerning the time of reversal will improve the power and specification of tests used to detect earnings management. The authors of the study found that incorporating the reversal increases the test power by more than 40%, and provides a robust solution for reducing the model misspecification resulting from the correlated neglected variables.

An applied comparison is made between the modified Jones model (1995), and the Korean Model to determine which is the most effective one in detecting the practices of earnings management (Islam, Ali, and Ahmed, 2010). The authors mentioned that the modified Jones model is effective in detecting earnings management in the developed countries, but a model applied on the Korean Stock Exchange found more effective. Therefore, the authors of the study applied both of the modified Jones model and the Korean model on Bangladesh Capital Market, and found that the Korean model is more powerful than the modified Jones model in detecting the practices of earnings management.

Zhang and Liu (2009) carried out a study to investigate the impact of capital structure on earnings management and applied their study on Chinese listed firms from 2003 to 2007. The study demonstrates that the equity proportion of controlling shareholders has a U-shape relationship with earnings management practices, while a strong positive relationship of debt ratio on earnings management. In addition, the study shows that the equity proportion of executives and external majority shareholders' share impact on earnings management is weak.

Earnings management through real activities manipulation had been investigated carefully by Roychowdhury (2006). The author took into consideration the relationship between some factors and earnings management. The study found evidence that managers manipulate real activities of firms to avoid losses reporting. In more details, the study showed evidence for making price discounts to increase sales, overproduction to reduce cost of goods sold, and reduction of discretionary expenditures to increase reported margins. Moreover, the study reveals that industry membership, the stock of inventories and receivables, and incentives to meet zero profits, are all affect the manipulation of real activities.

Kim and Liu (2003), also carried out a study to investigate the effect of firms' size on earning management. The authors of the study classified firms into small, medium, and large sized

firms. The study finds that both large and small sized-firms manage earnings to avoid the announcement of small negative earnings or small reduction in earnings. The study concludes that small firms exercise more earnings management than large and medium sized-firms to avoid the reporting of small losses, whereas medium and large-sized firms manage earnings to avoid reporting earnings decreases than small-sized firms.

One study by Peasnell, Pope, and Young (1999) used a developed model called margin model, in addition to (Jones 1991) and (Dechow 1995) models. The study found that each of the above three mentioned models is well specified when applied to a random sample of firm-years, but the margin model generates relatively better specified estimates of abnormal accruals when cash flow is extreme. The analysis of the above three mentioned models, revealed that the ability to detect earnings management are capable to generate powerful tests for economically plausible levels of accruals management. The study demonstrated that the standard-Jones and Modified-Jones are more powerful for revenue and bad-debt manipulation, but the margin model is more powerful in detecting non-bad debt expense manipulation. Therefore, the study concludes that different models are required in different circumstances.

Dechow, Sloan, and Sweeney (1995), investigated the alternative accrual-based models for detecting the practices of earnings management. They used several measures of discretionary accrual models. The authors applied all available models to a random sample of US firms. Their study highlighted the importance of controlling financial performance in investigating whether earnings management phenomenon is used. Among the available models, the study found that the modified Jones Model has the strongest power in investigating earnings management phenomenon.

Based on the review made to the related literature of earnings management phenomenon, and the prior related researches, it is apparent, that some prior researches found no relationship between the capital structure and the phenomenon of earnings management (Mozarpour and Norouzi, 2015) (An, Li, and Yu, 2013) (Zamri, Abdul Rahman, and Isa, 2013) (Roodpohti and Chashmi, 2011), whereas other showed that this relation exists (Uwuigbe, Ranti, and Bernard, 2015) (Benkraiem, 2012) (Tahir, 2011) (Zhang and Liu, 2009), despite that among which, some declared that this relation is positive, while others declared that it is negative. These different findings must be considered incentives for authors and academics for more investigations of the phenomenon of earnings management in different countries, especially the developing countries. Table (1) summarizes the findings of some related prior researches regarding the relationship between the capital structure and the phenomenon of earnings management.

Table 1. Summary of prior researches conclusions

Author	Year	Significant Relationship	No Significant Relationship
Uwugbe, Ranti, and Bernard	2015		✓
Mozarpour and Norouzi	2015	✓	
An, Li, and Yu	2013	✓	
Zamri, aBdul Rahman, and ISA	2013	✓	
Benkraiem, (2012)	2012		✓
Tahir	2011		✓
Roodpohti and Chashmi	2011	✓	
Zhang and Liu	2009		✓

The table summarizes the conclusions of the most related prior researches, where it includes only the findings of those prior researches that investigated the relationship between debt and earnings management phenomenon

3. Research Hypotheses

Based on the revision that made to the literature of earnings management, and the consideration of prior related researches, five hypotheses were developed to achieve the objectives of the study. All hypotheses had been stated in their null form. These hypotheses are as follows:

HO₁: Listed firms in Abu Dhabi Securities Exchange do not exercise the phenomenon of earnings management.

Ho₂: Capital structure of listed Construction equipment firms in Abu Securities Exchange does not affect the practices of earnings management in these firms.

4. Research Methodology

The structure of the study consists of one dependent variable and one independent variable. The dependent variable is earnings management, while the capital structure is the independent variable. A sample consisting of 29 firms had been selected from the total 82 listed firms in ADX, using simple random sampling method. :

Based on the concept of earnings management, which occurs when managers use their judgment in financial reporting and in structuring transactions to alter the financial reports to mislead stakeholders regarding the economic performance of a firm or to affect the contractual outcomes that normally depend on the amounts of reported items in the financial statements (Healy and Whalen, 1998), the modified Jones model is used for separating discretionary accruals from total accruals, and discretionary accruals is used as a measure for the practices of earnings management phenomenon. Different authors found that the modified Jones (1995) model that adjusted by Dechow, Sloan, and Sweeney, (1995), is the most

powerful among the available models to detect earnings management, (Dechow, Sloan, and Sweeney, 1995)(Islam, Ali, and Ahmed, 2010), (Peasnell, Pope, and Young, 1999), (Momani, 2016).The modified (1995) Jones model uses the discretionary accruals as an indicator of earnings management practice, where a higher absolute value of discretionary accruals means less earning quality. Two approaches are available to determine total accruals, the income statement approach, and the balance sheet approach. For the purposes of the current study, the income statement approach is used, where based on this approach total accruals are computed by subtracting the net cash flows from operating activities from the operating income in the income statement. The following equation is used to determine the amount of net income from the financial statement.

$$TA_t = OI_t - CFFOA_t \quad (1)$$

Where:

TA_t : Total Accruals in period t

OI_t : Income of year t

$CFFOA_t$: Cash flows from operating activities in year t.

To compute the nondiscretionary accruals for firm j in year t, the parameters of the cross-sectional modified Jones (1991) model are estimated using the following equation.

$$TA_{j,t}/A_{j,t-1} = \alpha + \beta_1(1/A_{j,t-1}) + \beta_2[(\Delta REV_{j,t} - \Delta REC_{j,t})/A_{j,t-1}] + \beta_3(PPE_{j,t}/A_{j,t-1}) + E_{j,t} \quad (2)$$

Where:

$TA_{j,t}$ = Total accruals of firm j for year t.

$\Delta REV_{j,t}$ = Change in revenue of firm J between year t and year t-1.

$\Delta RECE_{j,t}$: Change in receivables of firm j between year t and year t-1.

$PPE_{j,t}$: Gross property, plant, and equipment of firm j industry j for year t.

$A_{j,t-1}$: Total assets of firm j by the end of year t-1.

E_t : Residuals, where it represents that part of total accruals that cannot be interpreted by the variables of regression, and used as a proxy representing discretionary accruals.

Applying the above regression equation, 29 equations became available for each year of 2012, 2013, 2014, and 2015. Using the parameters (β_1, β_2 , and β_3) the nondiscretionary accruals had been estimated using the following equation:

$$TA_{j,t}/A_{j,t-1} = \hat{\alpha} + \beta_1(1/A_{j,t-1}) + \beta_2[(\Delta REV_{j,t} - \Delta REC_{j,t})/A_{j,t-1}] + \beta_3(PPE_{j,t}/A_{j,t-1}) + E_{j,t} \quad (3)$$

Then the discretionary accruals had been computed using the following relation:

$$|DAC_{i,t}/A_{i,t-1}| = |TAC_{i,t}/A_{i,t-1} - NDAC_{i,t}/A_{i,t-1}| \quad (4)$$

Where

$DAC_{j,t}/A_{i,t-1}$ refers to discretionary accruals to prior assets of firm j in year t .

Next to the computations of discretionary accruals of each firm for 4 years, the absolute value of discretionary accruals and the average of this value were computed for each firm along the period of the study. To determine whether each included firm in the sample exercised earnings management, the absolute value of accruals is compared with average of these accruals, so when the absolute value of the firm's accruals is above the average, this means that the firm exercised the phenomenon of earnings management, and given number 1 as a factious, while it is given 0, when the absolute value of accruals is less than the average of its discretionary accruals.

The single independent variable of the study is capital structure. Debt ratio is used to measure the capital structure of firms, where debt ratio is the relation of total debts to total assets. Therefore, the following regression method is used as the model of the study.

$$EM = a + bDt + E \quad (5)$$

EM: refers to the phenomenon of earnings management

Dt: refers to Debt ratio

a: Constant represent the value of earnings management when debt ratio equals zero.

b. represents the slope of debt ratio on discretionary accruals or the phenomenon of earnings management.

E: the standard error of the model.

The binomial distribution method is used to analyze the first hypotheses which hypothesized that the listed firms in ADX exercise the phenomenon of earnings management, whereas the simple linear regression method is used to test the second hypothesis regarding whether the capital structure of listed firms in ADX affects the practice of earnings management phenomenon. A 95 percent level of confidence (Sig = 0.05) is used for the decision rule of accepting or rejecting the null hypotheses.

5. Results and Analysis

5.1 The First Hypothesis

Applying the steps of finding the discretionary accruals, table (2) shows the average as a good central tendency measure, the standard deviation as a good measure of variation, the minimum value, and the maximum value of the proportional discretionary accruals to total assets of prior year. Based on information appearing in table (2), the highest mean of the discretionary accruals to total prior assets is due to year 2013, whereas the lowest one is attributed to year 2015. The standard deviation for the year of the highest mean is 0.05734, whereas its value for the year of the lowest mean is 0.033. Mean of the total period of the study is -0.0288 at a standard deviation of 0.0228.

Table 2. Discretionary Accruals to Total Prior Assets

Year	Discretionary Accruals to Total Prior Assets			
	Mean	Standard Deviation	Maximum	Minimum
2012	-.01999	0.01922	0.01869	-0.01922
2013	-0.05827	0.05734	0.03454	-0.28340
2014	-0.02222	0.017522	-0.00010	-0.06141
2015	-0.01553	0.03309	0.05023	-0.10245
Along the Period of the Study	-0.02880	0.02280	0.01186	-0.11976

The table shows the descriptive statistics for the discretionary accruals in proportion to total prior assets

The average for each firm had been computed, and when the firm has accruals in one year above the average it is classified as a practitioner to the phenomenon of earnings management in that year and therefore given the number one, whereas if it's accruals below the mean, it is considered not practitioner to the phenomenon, and therefore given the number zero for the purpose of using the binomial distribution test. The results of this process are shown in table (3). Based on information appears in table (3), the least number of firms that practiced earnings management was on 2012, where only 5 firms, or 17 percent of the total firms included in the sample exercised the phenomenon. In opposite the highest number of firms that exercised the phenomenon is recorded on year 2014, where 19 firms, or 66 percent of the firms included in the sample exercised earnings management. In total, 47 observations of practicing earnings management, while 69 negative observation of non-practicing earnings management.

Table 3. Practicing firms of Earnings Management Phenomenon

Year	Exercising Firms		Non-Exercising Firms		Total Proportion	Total Frequency
	Frequency	Proportion	Frequency	Proportion		
2012	5	0.17	24	0.83	100%	29
2013	9	0.31	20	0.69	100%	29
2014	19	0.66	10	0.34	100%	29
2015	14	0.48	15	0.52	100%	29
Total	47	41%	69	59%	100%	116

The table shows both of frequency and proportion of practicing and non-practicing firms to the phenomenon of earnings management

5.1.1 Testing the First Hypothesis

The first hypothesis of the study assumes that the listed firms in ADX do not practice the phenomenon of earnings management. The hypothesis is represented again as follows:

HO₁: Listed firms in Abu Dhabi Securities Exchange do not exercise the phenomenon of earnings management.

The binomial distribution test had been used to test the first hypothesis, since a firm practices or does not practice the phenomenon and no third possible option is available. The hypothesis is tested at 95 percent level of confidence. The analysis shows that 47 out of 116 observations were positive or exercising, which represents 41 percent out of 116 total observations, whereas 69 observations are negative observations or not exercising, or 59 percent of the total number of observations. The p-value (exact-sig) is exactly 0.05. Because the computed p-value exceeds the tabulated one, the null hypotheses is rejected, while instead the alternative one is accepted, which states that listed firms in ADX practice the phenomenon of earnings management. In other words, the test of the hypothesis approves the practice of earnings management phenomenon by some listed firms in ADX. Table (4) shows the binomial distribution results of analysis.

Table 4. Binomial Statistics

Hypothesis	No. of Firms Exercising Ear. Management	Proportion	No. of Firms not Exercising Ear. Management	Proportion	P-Value (sig)
HO ₁	47	41%	69	59%	0.05

The table shows the related statistics to hypothesis (1), using binomial distribution

5.2 The Second Hypothesis

The second hypothesis is developed to examine whether the capital structure of firms affect the practices of earnings management phenomenon. As mentioned above, the debt ratio is used as indicator for the capital structure. Debt ratio is computed by dividing total liabilities by total assets. Table (5) shows the mean, standard deviation, minimum debt ratio, and the maximum one for each year and in total for all years together. Based on the table, the mean of debt ratio of all years is between 0.4 and 0.5, which is considered normal, despite that some high and low debt ratios for some firms in few years. The highest mean of debt ratio is recorded on year 2013, where it is 0.47775, whereas the lowest is 0.41576, and attributed to year 2012. The standard deviation for the year of the highest mean is 0.276, whereas the one for the year of the lowest mean is 0.306.

Table 5. Debt Ratio Statistics

Year	Mean	Minimum	Maximum	Standard Deviation
2012	0.41576	0.001	0.896	0.306
2013	0.47775	0.056	0.899	0.276
2014	0.47587	0.047	0.924	0.283
2015	0.46520	0.064	0.933	0.286
Total	0.45864	0.001	0.933	0.285

The table presents the descriptive statistics of debt ratio

5.2.1 Testing the Second Hypothesis

The second hypothesis is developed to represent the assumed effect of capital structure of firms on the practices of earnings management phenomenon. The second hypothesis is presented again as follows:

Ho2: Capital structure of listed Construction equipment firms in Abu Securities Exchange does not affect the practices of earnings management in these firms.

Table (6) shows total assets, total liabilities, and the debt ratio for each firm within the sample in each year along the period of the study. The table shows that the debt ratio sharply differs from one firm to another and slightly from year to year for the same firm. The large differences are attributed to the difference in industry each firm in the sample belongs for. Some firms belong to building equipment, others for commercial banking industry, and others for food or and services. The highest debt ratio is 93.3 percent, and recorded in year 2015, whereas the least on is 0.001, and recorded on 2002.

Table 6. Debt Ratio

Ser. No	Year	Liabilities	Total Assets	Debt Ratio
Firm 1	2012	408,246	3,585,558	0.114.
	2013	338,139	3,309,349	0.102
	2014	1,892,244	4,304,946	0.440
	2015	2,055,211	4,670,458	0.440
Firm 2	2012	1,812,111	301,000	0.001
	2013	1,401,907	1,847,401	0.759
	2014	1,356,480	1,738,787	0.780
	2015	987,538	1,365,781	0.723
Firm 3	2012	754,787	1,128,931	0.669
	2013	713,786	1,249,832	0.571
	2014	829,570	1,379,713	0.601
	2015	830,633	1,544,411	0.538
Firm 4	2012	1,584,301	3,240,494	0.489
	2013	1,802,194	3,505,489	0.514
	2014	1,907,507	3,697,540	0.516
	2015	1,846,258	3,693,626	0.500
Firm 5	2012	612,552	1,454,565	0.421
	2013	627,538	1,236,810	0.507
	2014	107,283	559,194	0.192
	2015	99,028	605,995	0.163
Firm 6	2012	473,576.6	792,563.421	0.006
	2013	452,066.8	884,329.690	0.511
	2014	439,815.4	842,417.115	0.522
	2015	340,870.3	585,947.931	0.582
Firm 7	2012	10,734,886	12,739,343	0.843

	2013	12,624,387	14,814,659	0.852
	2014	17,383,368	19,683,444	0.883
	2015	14,211,801	16,477,070	0.863
Firm 8	2012	18,650,639	22,832,688	0.817
	2013	20,619,887	24,972,508	0.826
	2014	20,641,724	25,054,383	0.824
	2015	22,964,474	27,586,918	0.832
Firm 9	2012	3,896,000	12,903,000	0.302
	2013	3,568,000	12,907,000	0.276
	2014	3,305,000	13,237,000	0.250
	2015	3,816,000	14,338,000	0.266
Firm 10	2012	58,689.7	405,344.979	0.145
	2013	59,678	431,290.385	0.138
	2014	78,996.1	498,317.687	0.159
	2015	86,087.1	572,973.668	0.150
Firm 11	2012	278,088,350	1,596,188.732	0.174
	2013	363,112,716	2,228,625.041	0.163
	2014	272,198,268	2,254,633.702	0.121
	2015	284,763,347	2,265,319.728	0.126
Firm 12	2012	34,693,574	80,146,363	0.433
	2013	36,122,838	85,715,534	0.421
	2014	67,894,945	129,584,558	0.424
	2015	68,889,448	128,264,557	0.537
Firm 13	2012	242,383,793	445,547.814	0.544
	2013	214,151,943	424,997.848	0.504
	2014	193,096,843	409,791.652	0.471
	2015	186,075,241	409,980.020	0.454
Firm 14	2012	840,209,290	1,778,007.732	0.473
	2013	795,396,822	1,721,005.239	0.462
	2014	781,577,270	1,732,959.507	0.451
	2015	732,719,184	1,734,750.246	0.422
Firm 15	2012	145,185,324	1,371,921.552	0.106
	2013	279,224,667	1,512,540.189	0.185
	2014	298,578,273	1,518,920.334	0.197
	2015	229,227,534	1,445,091.816	0.159
Firm 16	2012	821,136,141	1,698,802.719	0.483
	2013	814,860,666	1,885,918.000	0.432
	2014	661,631,000	1,826,273.000	0.362
	2015	651,085,000	1,878,168.000	0.347
Firm 17	2012	835,644	2,544,433	0.328
	2013	1,164,640	3,051,302	0.382
	2014	1,041,316	3,248,529	0.321

	2015	1,163,045	3,455,834	0.337
Firm 18	2012	52,385,535	283,826,793	0.185
	2013	50,345,046	333,701,647	0.151
	2014	55,754,252	365,920,988	0.152
	2015	65,052,839	378,367,249	0.172
	Firm 19	2012	269,466,078	300,599,169
2013		290,383,115	325,061,656	0.893
2014		338,135,330	376,098,712	0.899
2015		363,345,154	406,563,807	0.894
Firm 20	2012	1,801,558	3,486,496	0.517
	2013	1,758,945	3,340,409	0.527
	2014	1,617,237	3,354,870	0.482
	2015	1,188,446	4,615,329	0.257
Firm 21	2012	49,693,834	723,040.547	0.069
	2013	41,346,210	736,586.793	0.056
	2014	33,439,336	710,784.059	0.047
	2015	43,150,443	674,858.591	0.064
Firm 22	2012	30,054,032	5,311,992	0.006
	2013	3,039,861	5,679,296	0.535
	2014	2,965,062	5,999,875	0.494
	2015	3,044,323	5,981,775	0.509
Firm 23	2012	73,431,869	85,664,555	0.857
	2013	90,086,594	103,160,486	0.873
	2014	98,217,136	111,903,803	0.878
	2015	103,302,431	118,377,662	0.873
Firm 24	2012	243,920,739	977,439.645	0.250
	2013	359,933,672	1,244,536.911	0.289
	2014	362,343,555	1,256,066.884	0.288
	2015	294,017,652	1,141,042.624	0.258
Firm 25	2012	442,695	1,755,287	0.522
	2013	454,874	1,883,814	0.241
	2014	449,023	1,889,157	0.238
	2015	458,952	1,851,124	0.248
Firm 26	2012	13,872,331	17,733,142	0.782
	2013	17,195,994	21,731,901	0.791
	2014	21,424,496	26,012,888	0.824
	2015	25,178,292	28,882,693	0.872
Firm 27	2012	109,277	122,590,000	0.891
	2013	109611	121,925,000	0.899
	2014	106,254	115,038,000	0.924
	2015	101,436	108,767,000	0.933
Firm 28	2012	13,367,992	15,012,589	0.890

	2013	19,068,225	21,549,756	0.885
	2014	22,797,624	25,709,285	0.887
	2015	21,093,668	23,681,623	0.891
Firm 29	2012	162,271	1,418,071	0.114
	2013	150,887	1,407,870	0.107
	2014	104,892	1,391,264	0.075
	2015	114,138	1,368,832	0.083

The table provides the liabilities, total assets, debt ratio and amount of discretionary accruals for each firm in the sample in each year.

The simple linear regression method had been used in testing the second hypothesis since it is appropriate to examine whether a single independent variable affects another dependent variable. The dependent variable in this study is the practices of earnings management phenomenon, whereas the independent one is the capital structure of firms. While the practices of earnings management phenomenon are measured through the discretionary accruals of firms along the period of the study, the capital structure is measured through the debt ratio of each firm in each year along the period of the study.

Table (7) shows the results of simple linear regression using the SPSS. Based on information appearing in table (7), the computed t-value is 2.997 and the coefficient of significance is 0.003. Because the computed t-value is higher than the tabulated one that equals 1.96, and because the coefficient of significance is less the predetermined one, which equals 0.05, the null hypotheses which states that the capital structure of listed firms at ADX doesn't affect the practices of earnings management phenomenon, is rejected. In opposite, the alternative hypothesis which states that capital structure affects earnings management practices is accepted. In other words, the test of the hypotheses finds that the capital structure of listed firms in ADX affects the practices of earnings management phenomenon of these firms.

Table 7. Statistics of the Effect of Debt Ratio on Discretionary Accruals

Hypothesis	Adjusted R ²	T-Value	Significance Coefficient	Standard Error
Ho2	0.065	2.997	0.003	0.022

The table shows the regression Statistics of the Effect of Debt Ratio on Discretionary Accruals

Based on the results of regression analysis, the model of the study takes the following form

$$EM = -0.39 + 0.022Dt + 0.022 \quad (6)$$

6. Findings and Conclusions

The primary two objectives of the study is to identify whether listed firms in ADX practice the phenomenon of earnings management, and to examine whether the capital structure of these firms affects the practices of earnings management. Data of a sample consisting of 29 listed firms had been collected covering the period 2012-2015, and analyzed. Both of the two

hypotheses that constructing the study had been tested using the binomial distribution test for practices of earnings management, and the simple linear regression method for the impact of capital structure. The analysis of discretionary accruals revealed that listed firms at ADX have practices of earnings management. Data covering the period 2012-2015 regarding debt ratio for the firms included in the sample had been analyzed with discretionary accruals of the same period, and the finding shows no significant effect of capital structure on earnings management practices. This conclusion means that whether firms use more or low debts in its capital structures, the practices of earnings management will not be affected.

The findings of the study is in agreement with Mozarpour and Nourouzi (2015), An, Li, and Yu, (2013), Zamri, Abdul Rahman, Isa, (2013), and Roodpohti and Chashmi (2011). Therefore, more studies are required to the relationship between the capital structure and earnings management. In addition, more research recommended to the relationship between debt weight in the capital structure of firms, since still the relationship is still questionable.

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