

Earnings Management to Avoid Financial Distress and Improve Profitability: Evidence from Jordan

Mohammad M. Humeedat¹

¹Assistant Professor, Department of Accounting and Accounting Information System, Amman University College for Financial Administrative Sciences, Al- Balqa Applied University, Jordan.

Correspondence: Mohammad Humeedat, Department of Accounting and Accounting Information System Amman University College for Financial Administrative Sciences, Al- Balqa Applied University, Jordan.

Received: December 21, 2017

Accepted: January 22, 2018

Online Published: January 29, 2018

doi:10.5539/ibr.v11n2p222

URL: <https://doi.org/10.5539/ibr.v11n2p222>

Abstract

Due to unstable economic and political conditions, many companies in the Middle East are undergoing various financial distress and decline in profitability. This paper examines the role of earnings management to avoid financial distress and improve profitability in 58 industrial corporations listed on Amman Stock Exchange for a period of 2011 to 2016, which constitutes 89% of the whole population. The total number of observations is 413 for the entire study period. The study uses a cross-sectional Jones model that was modified by (Kothari, Leone, and Wasley, 2005); to measuring discretionary accruals that used as a proxy for earnings management.

The empirical results indicate that earning management is not affected by the Altman's Z-score index, but it has a positive relationship with debt to equity ratio. This study also shows a positive relationship between earnings per share, returns on equity, and earnings management. Regarding the control variable, we found a negative relationship between cash flow from operation and discretionary accruals.

Keywords: Altman's Z-Score, discretionary accruals, earnings management, financial distress, Jones Model, industrial sector, profitability

1. Introduction

Earnings management is one of the most important topics that have attracted great interest in business administrative science research because of the negative effects that result from it, like issuing financial reports in ways to mislead the various economic decision makers (Jaggi & Tsui, 2007). Previous studies dealt with earnings management in several aspects, the most important of them include measuring, motivation, and its use as a means to mitigate the effects of financial crises on companies' earnings declines and market values.

Interest in earnings management increased after the global financial crisis in 2007 (Al Zoubi & Selamat, 2012). In regards to earnings management, a lot of companies found the simplest method to avoid financial crises effects and earning decline. Consequently, Jordan is one of the many countries that have been negatively affected by this crisis. This is in addition to the poor economic conditions in the Middle East, especially Jordan, as a result of wars and conflicts within the countries of the region, which led to a decrease in exports and trade exchange between Jordan and neighboring countries due to the closure of most of the border crossings between them. Therefore, this had a negative effect on most of the industrial sectors, including Jordanian industrial corporations.

The aim of this study is to measure the earnings management firstly by using the most widely used methods, which are discretionary accruals. This study also aims to ascertain their role in reducing the impact of financial distress faced by companies as well as improve profitability.

2. Literature Review and Hypotheses Development

2.1 Earnings Management

Different studies considered earnings management as one of the most crucial ethical financial reporting issues, which accountants confront in everyday practices around the world (Armstrong, 1993). This, however, was such that there is no uniform definition agreed upon in previous studies because there are different incentives, motivation, and measures for earnings management. Based on the study of Healy and Wahlen (1999), 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 depends on reported accounting numbers. Furthermore, Schipper (1989) defined earnings management as a way of using opportunities provided by the accounting system to engage earnings by adopting accounting methods for a specific purpose. It is noted that the previous definitions are the most cited definitions in previous studies, and it focuses on the existence of certain methods followed by the management to affect the accounting numbers to achieve specific purpose.

Furthermore, Beneish (2001) argued that there are two perspectives on earnings management; the opportunistic perspective which states that managers seek to mislead investors and the information perspective. Likewise, Alshairi (2012) defined earnings management as the managerial practices, in accordance with GAAP, that are aimed at influencing the accrual component of the reported earnings upwards (i.e. reporting positive abnormal accruals) or downwards (i.e. reporting negative abnormal accruals), motivated by the associated informational implications and the economic consequences. In addition, (Rahman, Moniruzzaman, and Sharif, 2013) stated that earnings management are accounting policies or the accruals control, chosen by the management of enterprises to make the earnings reach the expected level under the pressure from the relevant stakeholders and the constraints of generally accepted accounting principles (GAAP).

Based on the above review, this study defines earnings management as managerial practices that focus on intentional intervention in the measurement and financial presentation, in line with accounting standards to influence accounting income, whether to increase or decrease or to maintain at certain levels, in order to achieve a specific purpose. Nevertheless, managers mainly engage in earnings management because of the following types of incentives (Healy & Wahlen, 1999):

1-Contractual Incentives

- Management Compensation Contract: Management compensation contract can encourage managers to engage in earnings management to increase their compensation bonus awards.

- Debt Contracts: Accounting numbers are used in debt contracts as a measure to meet the contract requirements; also, managers can alter accounting numbers by earnings management to meet those requirements.

2- Regulatory Incentives

One of the most common kinds of regulatory incentives is related to anti-trust considerations. Some companies decrease earnings in order to minimize political costs associated with being seen as too profitable; also, there are other kinds of regulatory incentives like industry-specific regulations and tax considerations.

3- Capital Market Motivations

Managers have strong incentives to manage earnings to be qualified for stock right issues and in obtaining high share price in the market.

According to Mohanram (2003), there are two methods used in literature to detect earnings management. The first one depends on qualitative accounting analysis through identifying what are the key accounting policies for a given firm and industry, assessing a firm's accounting flexibility, evaluation of a firm's accounting strategy, evaluation of the firm's quality of disclosure, providing a representative list of potential red-flags in accounting, and finally by undoing accounting distortions by reversing the impacts of dubious accounting choices wherever possible. The second method depends on analyzing accruals.

Accruals are divided into normal accruals which depends on the nature of operation like credit policy and credit terms granted to customers. On the other hand, abnormal accruals depends on the management choice over which they influence their discretionary powers while reporting the income numbers (Debnath, 2017). Discretionary accruals are adjustment to cash flow based on subjective choice exercised by the management which is used as a proxy for measuring earnings (Dechow, Sloan, and Sweeney, 1995) (Healy & Wahlen, 1999).

2.2 Financial Distress and Earnings Management

Financial distress refers to a firm's inability to meet its obligations due to poor cash flows and profitability (Nagar & Sten, 2016). However, Managers during financial distress have incentives to manage earnings to obtain the necessary financing (Rosner & University, 2003), reduce the incidence of bankruptcy (Frost, 1997), avoid violation of debt covenants (Jaggi & Lee, 2002), and provide highly optimistic forecasts.

Several proxies for financial distress are used in literatures, Bartov (1993) used Debt/Equity ratio as a proxy for distress. Also, (Callen, Robb, and Segal, 2008) focus on losses occur during a number of years surrounding specific year, while other studies like Jaggi and Lee (2002) focus on the violation of debt covenants. Bernsten

and Wild (1998) and Nagar and Sten (2016) show that Altman's Z-score is the most recognized model of financial distress which uses multiple ratios to generate a prediction of distress. A firm-year is considered as distressed if its Z-Score is less than 1.20 in year t-1. Thus, Z-Score is computed as follows:

$$Z = 0.717X1 + 0.847X2 + 3.107X3 + 0.420X4 + 0.998X5 \quad (1)$$

Where, X1 = Working Capital / Total Assets; X2 = Retained Earnings / Total Assets; X3 = Earnings before Interest and Taxes / Total Assets; X4 = Market Value of Equity / Total Liabilities; X5 = Net Sales/ Total Assets.

Different literatures have investigated the relationship between earnings management and financial distress. DeFond and Jiambalvo (1994) found that in the preceding period of debt covenant violations occur, company deliberately increases income to avoid violations. Consequently, Charitou, Lambertides, and Trigeorgis (2007) found that companies facing bankruptcy are going to increase income through accruals. Garcia Lara, Osma, and Neophytou (2009) found that in the four years prior to failure, the companies studied are going to increase accruals. Here, some studies, such as Yang, Chun, and Ramadili, (2009) and Omid (2012), use Debt/Equity ratio as a proxy for distress and found a positive relationship between this ratio and earning management. Therefore, this means that companies that maintain high debt ratios tend to practice earnings management using accruals to meet the terms of their joint debt agreements.

Zang (2012) use Altman's Z-Score as a proxy for distress and found that firms in distress use more of accruals earnings management and less of real earnings management. In addition, Nagar and Sen (2016) use Altman's Z-Score as a proxy for distress and found that companies at the beginning of exposure to financial distress engage in real earnings management through a reduction some expenses like selling and administrative expenses, to increase profitability and liquidity. When distress intensifies, the company tends to engage in income-increasing accruals management. On the other hand, Joosten (2012) found no relationship between earnings management and Altman's Z-Score due to the difficulty of calculating such proxy and the lack of use by economic decision makers when making their decisions.

Based on the previous review of the relationship between earnings management and financial distress, the following hypotheses can be formulated.

HO1: There is no significant relationship between Altman's Z-Score and Earnings Management.

HO2: There is no significant relationship between Debt/Equity ratio and Earnings Management.

2.3 Improved Profitability and Earnings Management

As previously mentioned in this study, there are many incentives to practice the earnings management and one of these is to influence accounting income. This, therefore, can be done by increasing, decreasing, or maintaining certain levels in order to achieve specific purpose. DeFond and Park (1997) discovered that firms tend to smoothen earnings in order to distribution of profits realized in the current period over future periods to be consistent with investors' preference for stable income through time. Beatty, Bin, and Kathy (2002) found that companies are involved earnings management to avoid small earnings losses or decreases. Also, Hamdi and Ali Zarai (2012) found that Islamic banks manage earnings to avoid reporting losses and earnings decreases.

Different literatures investigate the relationship between earnings management and financial indicators that measure the volume of earnings. Al-Fayoumi, Abuzayed, and Alexander (2010) and Abu_Risha, Mohammad, & Mohammad (2015) found a positive statistical relationship between earnings management and returns on equity in Jordanian Industrial Corporation. Also, Shaglof (2009) identified a positive statistical relationship between earnings management and earnings per share.

Based on the previous review of the relationship between earnings management and support profitability, the following hypotheses can be formulated.

HO3: There is no significant relationship between return on equity and Earnings Management.

HO4: There is no significant relationship between earning per share and Earnings Management.

3. Methodology

3.1 Sample Selection

The study population consists of all the industrial corporations listed on Amman Stock Exchange, which are equal to 65 companies according to the Jordanian company's guide of 2016. The sample of the study included all industrial corporations listed on Amman Stock Exchange after excluding the following companies:

1. Companies that have been liquidated or merged during the period 2011-2016.

2. Companies that did not publish their financial statements regularly during the period 2011-2016.

Therefore, the final sample size that met the previous conditions was 58 companies, which constitutes 89% of the population. Seven companies (11%) were excluded from the size of population due to the above conditions. The total number of observations is 413 for the entire study period.

3.2 Variable Measurement and Research Model

3.2.1 Measuring Earnings Management (Dependent Variable)

Based on previous literatures, we use discretionary accruals as a measure of earnings management. Discretionary accruals are estimated using Jones model (1991) and the modified Jones model tested by (Dechow et al., 1995). Thus, these models are commonly used by most researchers; (Dechow et al., 1995; Young, 1999; Be ĩard, Sonda, and Lucie, 2004). Furthermore, recently, some researchers have argued that it is important to consider the performance of the company in the past when measuring earnings management. Therefore, some studies (Dechow, Kothari, Watts, 1998; Barth, Cram, and Nelson, 2001) have attempted to develop measurement models that take into account the performance of the company. Kothari et al. (2005) is one of the most important studies that dealt with this aspect in details. The performance of the company was measured using the return on assets ratio, which was introduced on the modified Jones model 1995 to develop a new model called ‘‘Performance Matched Modified Jones Model’’, which was later used by some researchers (Gong, Louis, and Sun., 2008; Ghosh, Marra, and Moon, 2010; Louis & sun, 2011; Abu_risha et al., 2015).

The following cross-sectional regression model developed by Jones (1991) was first modified by Dechow et al. (1995). After then, it was modified by Kothari et al. (2005):

$$TACC_{it}/ TA_{i,t-1} = \alpha_1(1/TA_{i,t-1}) + \alpha_2(\Delta REV_{it}-\Delta REC_{it}/TA_{i,t-1}) + \alpha_3(PPE_{it}/TA_{i,t-1}) + \alpha_4ROA_{i,t-1} + \varepsilon \tag{2}$$

where, $TACC_{it}$ is the total accruals for firm i in year t , $TA_{i,t-1}$ is total assets for firm i in year $t-1$, ΔREV_{it} is measured by revenues in year t and less revenues in year $t-1$ for firm i , ΔREC_{it} is measured by receivables in year t and less receivables in year $t-1$ for firm i , PPE_{it} is the gross property, plant, and equipment for firm i in year t and $ROA_{i,t-1}$ is the return on assets for firm i in year $t-1$. Total accruals are calculated by deducting the cash flows from operations from net income. In order to find discretionary accruals, we first calculated all non-discretionary accruals (NDTACC) as follows:

$$NDTACC_{it}/ TA_{i,t-1} = \hat{\alpha}_1(1/TA_{i,t-1}) + \hat{\alpha}_2(\Delta REV_{it}-\Delta REC_{it}/TA_{i,t-1}) + \hat{\alpha}_3(PPE_{it}/TA_{i,t-1}) + \hat{\alpha}_4ROA_{i,t-1} + \varepsilon \tag{3}$$

Finally, we calculated discretionary accruals (DACC) as a proxy for earnings management by deducting the non-discretionary accruals from total accruals.

3.2.2 Independent Variable

In order to analyze the role of earnings management to avoid financial distress faced by companies and support profitability, we use Altman’s Z-Score and debt to equity ratio as a proxy for financial distress. Furthermore, we also use return on equity and earnings per share as a proxy for profitability. Table 1 represents the study variables:

Table 1. Independent and Control Variables

Variable Name	Definition
Independent Variable:	
Z-Score (Z.S)	Altman’s Z-Score, which uses multiple ratios to generate a prediction of distress. Zang (2012), Nagar and Sten (2016).
Debt to Equity (D/E)	Total debt divided on total equity. Yang et al. (2009) and Omid (2012)
Return on Equity (ROE)	Net income before interest and tax divided on average common shareholder equity. Al_Fayoumi et al. (2010) and Abu_risha et al. (2015)
Earnings Per Share (EPS)	Net income divided on weighted average of share outstanding. Shaglof (2009)
Control Variable:	
Cash Flow from Operation (CFO/TA)	Cash flow from operation tagged to total assets. Abdul Rauf, Johari, Buniamin, and Abd Rahman (2012), Sukeecheep, Yarram, and Al Farooque (2013) and Abu_risha et al. (2015)

3.2.3 Empirical Models

To test the study hypothesis and investigate the relationship between earnings management and financial distress, controlling the impact of other relevant variables is estimated using the following OLS regression:

Model 1

$$DACC = \alpha_0 + \beta_1 Z.S_{i,t} + \beta_2 D/E_{i,t} + \beta_3 CFO/TA_{i,t} + \varepsilon \quad (4)$$

The relationship between earning management and profitability, and in controlling the impact of other relevant variables is estimated using the following OLS regression:

Model 2

$$DACC = \alpha_0 + \beta_1 ROE_{i,t} + \beta_2 EPS_{i,t} + \beta_3 CFO/TA_{i,t} + \varepsilon \quad (5)$$

4. Empirical Results

This section provides the findings and interpretations that resulted from various statistical methods used in data analyses.

4.1 Descriptive Statistics

The descriptive statistics for all study variables are presented in Table 2, which shows that the mean of discretionary accruals are positive (0.0068). This means that Jordanian industrial corporations engage in income-increasing earnings management, followed by very low standard deviation (0.1117). Furthermore, the mean value of Altman's Z-Score of the sample firms is positive (3.2197) and greater than 1.20 which means that sample firms are on an average not classified as distressed firms. There is also a wide range of difference that exists between sample firms because the standard deviation is high (7.5493). Also, it should be noted that the mean of debt to equity ratio is equal (35.7326%), which means that the long term debt represents 35.7326% of the total equity that is followed by a very high standard deviation (24.9692). This implies that the Debt to Equity ratio varies widely across the sample firm. Finally, there are indications of a decrease in the profitability of the sample firms during the study period where the mean value of return on equity and earning per share are very low, (-2.1546) and (0.0838) respectively.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std.Dev
DACC	348	0.0068	0.1117
ZS	348	3.2197	7.5493
D/E	348	35.7326	24.9692
ROE	348	-2.1546	39.6557
EPS	348	0.0838	0.4465
CFO/TA	348	0.0397	0.11759

4.2 Multicollinearity

Table 3 presents the correlation analysis for all variables that form the first regression model. Therefore, this indicates that the correlation between the variables is small, within the range of .005 and -.664. This indicates that there is no linear correlation problem in the first study model because Pearson's correlation for all variables is less than 80% (Gujarati, 2003).

Table 3. Correlation Matrix for the first model

Variable	DACC	ZS	D/E	CFO/TA
DACC	1			
ZS	-.087	1		
D/E	.005	-.226	1	
CFO/TA	-.664	.090	-.123	1

Table 4 presents the correlation analysis for all variables that form the second regression model. Therefore, this indicates that the correlation between the variables is small, within the range of .019 and -.664.

Table 4. Correlation Matrix for the second model

Variable	DACC	ROE	EPS	CFO/TA
DACC	1			
ROE	.019	1		
EPS	.141	.297	1	
CFO/TA	-.664	.251	.380	1

4.3 Regression Results

Table 5 reports the results of regression analysis for model (1), which examines the association between earning management and the two proxies of the financial distress (Altman's Z-Score, and Debt to Equity ratio).

In this Model which depends on time series data, the Durbin-Watson test equal (1.436). It is close to number (2), which means that the autocorrelation problem is not present in regression model. Thus, this is because if the result of this test is closed to the number (2), the less the strength of the autocorrelation within the regression model (Gujarati, 2003). Also, F-statistic value equal (93.49) with a P-value of 0.00, which indicates fitness and statistical significance of the model. The Adjusted R-square is equal (0.444) which indicate that all the explanatory variables in the model jointly explain the extent of 44.4 per cent variation in the discretionary accruals. We also note from the table that there is no significant relationship between Altman's Z-Score and Earnings management. Thus, this means that the value of the Z-Score don't motivate the Jordanian industrial corporations to earnings management, especially if we know the mean of this indicator for the study sample was) 3.2197) (previously mentioned in Table 2). Hence, this is higher than (1.20), which is the limit of the probability of discontinuity. Also, this result contradicts many of the prior literatures like the study of Joosten (2012) who stated that there is no significant relationship between Altman's Z-Score and earnings management. The regression analysis also shows that debt to equity ratio and discretionary accruals are positively related. This means that companies that maintain high debt ratios tend to practice earnings management using accruals to meet the terms of their joint debt agreements (Yang et al., 2009; Omid, 2012).

Regarding the control variable, we found a negative relationship between cash flow from operation and discretionary accruals. This means that companies that have low cash flow tend to practice earnings management using accruals to hide the liquidity problems. Thus, this result confirms the findings of Abdul Rauf et al. (2012) and Sukeecheep et al. (2013).

Table 5. Regression Analysis for Model 1

Independents Variables	Coefficients	T	Sig
Z.S	-.047	-1.133	.258
D/E	.089	2.149	.032
CFO/TA	-.671	-16.602	.000

F. Value 93.49 **Sig 0.00**
Durbin-Watson 1.436
R Square 0.449
Adjusted R Square 0.444

Table 6 reports the results of regression analysis for model (2), which examines the association between earning management and the two proxies of the profitability (returns on equity and earning per share).

In this Model which depends on time series data, the Durbin-Watson test equal (1.609). This means that the autocorrelation problem is not present in the regression model. Also, F-statistic value equal (196.36) with a P-value of 0.00 indicates fitness and statistical significance of the model. The Adjusted R-square is equal (0.628) which indicate that all the explanatory variables in the model jointly explain the extent of 0.628 per cent variation in the discretionary accruals.

The results of the study showed a positive relationship between profitability proxies and discretionary accruals. However, this indicates that the management of the Jordanian industrial corporations uses earnings management to increase earnings per share and returns on equity. This is because these indicators have a great importance to current and future investors and related parties. Also, we found a negative relationship between cash flow from operation and discretionary accruals. This result consists of the result found in model number (1).

Table 6. Regression Analysis for Model 2

Independents Variables	Coefficients	T	Sig
ROE	.105	3.033	.003
EPS	.434	11.960	.000
CFO/TA	-.855	-23.875	.000

F. Value 196.36 **Sig 0.000**
Durbin-Watson 1.609
R Square 0.631
Adjusted R Square 0.628

5. Conclusion

This study is focused on investigating the impact of financial distress and profitability proxies on earnings management in industrial corporations listed on Amman Stock Exchange for a period of 2011 to 2016. The empirical results provide evidence that earnings management is not affected by the Altman's Z-Score index, but it has a positive relationship with debt to equity ratio. Our findings provide insights into how managers of distressed firms can avoid some of the negative effects of financial distress by engaging in earning management. Furthermore, the results provide evidence of a positive relationship between earnings per share, returns on equity, and discretionary accruals. This indicates that industrial corporations are more committed to managing a positive earning.

References

- Abdul Rauf, F. H., Johari, N. H., Buniamin, S., & Abd Rahman, N. R. (2012). The Impact of Company and Board Characteristics on Earnings Management: Evidence from Malaysia. *Global Review of Accounting and Finance*, 3(2), 114-127.
- Abu_Risha, K., Mohammad, H., & Mohammad, E. (2015). Factors Affecting the Discretionary Accruals, An Empirical Study on Industrial Corporations listed on Amman Stock Exchange. *Jordan Journal of Business Administration*, 11(3), 727-743.
- Al-Fayoumi, N., Abuzayed, B., & Alexander, D. (2010). Ownership Structure and Earning Management in Emerging Markets: The case of Jordan. *International Research Journal of finance and Economics*, 38, 28-47.
- Alsharairi, M. A. (2012). *Pre-merger Earnings Management: Sarbanes Oxley, Leverage and Non-cash Acquisition Premia* (Unpublished PHD Theses), Durham University, UK.
- AlZoubi, E., & Selamat, M. (2012). Proposing Conceptual Framework for Reducing Earning Management Using Ownership Structure Mechanism: Jordanian Companies Perspective. *Journal of Finance, Accounting and Management*, 3(2), 58-78.
- Armstrong, M. B. (1993). Ethics and Professionalism in Accounting Education: A sample course. *Journal of Accounting Education*, 11(1), 77-92. [https://doi.org/10.1016/0748-5751\(93\)90019-F](https://doi.org/10.1016/0748-5751(93)90019-F)
- Barth, M. E., Cram, D. P., & Nelson, K. K. (2001). Accruals and the Prediction of Future Cash Flows. *The Accounting Review*, 76(1), 27-58. <https://doi.org/10.2308/accr.2001.76.1.27>
- Bartov, E. (1993). The Timing of Assets Sales and Earnings Manipulation. *The Accounting Review*, 68(4), 840-855.
- Be řard, J., Chtourou, S. M., & Courteau, L. (2004). The Effect of Audit Committee Expertise, Independence, and Activity on Aggressive Earnings Management. *AUDITING: A Journal of Practice & Theory*, 23(2), 13-35. <https://doi.org/10.2308/aud.2004.23.2.13>
- Beatty, A. L., Ke, B., & Petroni, K. R. (2002). Earnings Management to Avoid Earnings Declines across Publicly and Privately Held Banks. *The Accounting Review*, 77(3), 547-570. <https://doi.org/10.2308/accr.2002.77.3.547>
- Beneish, M. D. (2001). Earnings Management: a Perspective. *Managerial Finance*, 27(12), 3-17. <https://doi.org/10.1108/03074350110767411>
- Bernstein, L. A., & Wild, J. (1998). *Financial Statement Analysis: Theory, Application, and Interpretation* (6th ed.). McGraw-Hill, U. S.A.
- Callen, J. L., Robb, S. W. G., & Segal, D. (2008). Revenue Manipulation and Restatements by Loss Firms. *AUDITING: A Journal of Practice & Theory*, 27(2), 1-29. <https://doi.org/10.2308/aud.2008.27.2.1>
- Charitou, A., Lambertides, N., & Trigeorgis, L. (2007). Earnings Behaviour of Financially Distressed Firms: The Role of Institutional Ownership. *Abacus*, 43(3), 271-296. <https://doi.org/10.1111/j.1467-6281.2007.00230.x>
- Debnath, P. (2017). Assaying the Impact of Firm's Growth and Performance on Earnings Management: An Empirical Observation of Indian Economy. *International Journal of Research in Business Studies and Management*, 4(2), 30-40.
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, 70(2), 193-225.
- Dechow, P. M., Kothari, S. P., & L. Watts, R. (1998). The Relation between Earnings and Cash Flows. *Journal of*

- Accounting and Economics*, 25(2), 133-168. [https://doi.org/10.1016/S0165-4101\(98\)00020-2](https://doi.org/10.1016/S0165-4101(98)00020-2)
- DeFond, M. L., & Jiambalvo, J. (1994). Debt Covenant Violation and Manipulation of Accruals. *Journal of Accounting and Economics*, 17(1-2), 145-176. [https://doi.org/10.1016/0165-4101\(94\)90008-6](https://doi.org/10.1016/0165-4101(94)90008-6)
- DeFond, M. L., & Park, C. W. (1997). Smoothing Income in Anticipation of Future Earnings. *Journal of Accounting and Economics*, 23(2), 115-139. [https://doi.org/10.1016/S0165-4101\(97\)00004-9](https://doi.org/10.1016/S0165-4101(97)00004-9)
- Frost, C. A. (1997). Disclosure Policy Choices of UK Firms Receiving Modified Audit Reports. *Journal of Accounting and Economics*, 23(2), 163-187. [https://doi.org/10.1016/S0165-4101\(97\)00006-2](https://doi.org/10.1016/S0165-4101(97)00006-2)
- García Lara, J. M., Osma, B. G., & Neophytou, E. (2009). Earnings Quality in Ex - post Failed Firms. *Accounting and Business Research*, 39(2), 119-138. <https://doi.org/10.1080/00014788.2009.9663353>
- Ghosh, A., Marra, A., & Moon, D. (2010). Corporate Boards, Audit Committees, and Earnings Management: Pre- and Post-SOX Evidence. *Journal of Business Finance & Accounting*, 37(9-10), 1145-1176. <https://doi.org/10.1111/j.1468-5957.2010.02218.x>
- Gong, G., Louis, H., & Sun, A. X. (2008). Earnings Management, lawsuits, and Stock-for-stock Acquirers' Market Performance. *Journal of Accounting and Economics*, 46(1), 62-77. <https://doi.org/10.1016/j.jacceco.2008.03.001>
- Gujarati, D. N. (2003). *Basic econometrics*. (4th ed.) The McGraw-hill Company, U. S.A.
- Hamdi, M., & Ali Zarai, M. (2012). Earnings Management to Avoid Earnings Decreases and Losses: Empirical Evidence from Islamic Banking Industry. *Research Journal of Finance and Accounting*, 3(3), 2222-2847.
- 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. <https://doi.org/10.2308/acch.1999.13.4.365>
- Jaggi, B., & Lee, P. (2002). Earnings Management Response to Debt Covenant Violations and Debt Restructuring. *Journal of Accounting, Auditing & Finance*, 17(4), 295-324. <https://doi.org/10.1177/0148558X0201700402>
- Jaggi, B., & Tsui, J. (2007). Insider Trading, Earnings Management and Corporate Governance: Empirical Evidence Based on Hong Kong Firms. *Journal of International Financial Management & Accounting*, 18(3), 192-222. <https://doi.org/10.1111/j.1467-646X.2007.01012.x>
- Jones, J. J. (1991). Earnings Management during Import Relief Investigations. *Journal of Accounting Research*, 29(2), 193. <https://doi.org/10.2307/2491047>
- Joosten, C. (2012). *Real Earnings Management and Accrual-Based Earnings Management as Substitutes*. (Unpublished Master Theses), Tilburg University, Netherlands.
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance Matched Discretionary Accrual Measures. *Journal of Accounting and Economics*, 39(1), 163-197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Louis, H., & Sun, A. X. (2011). Earnings Management and the Post-earnings Announcement Drift. *Financial Management*, 40(3), 591-621. <https://doi.org/10.1111/j.1755-053X.2011.01154.x>
- Mohanram's, P. (2003). How to Manage Earnings Management. *Accounting World. Institute of Chartered Financial Analysts of India*, 1-11.
- Nagar, N., & Sen, K. (2016). Earnings Management Strategies during Financial Distress. *Indian Institute of Management Ahmedabad. Research and Publication*, 1-42.
- Omid, A. M. (2012). Type of Earnings Management and the Effects Debt Contracts, Future Earnings Growth Forecast and sales Growth: Evidence from Iran. *School of Doctoral Studies (European Union) Journal*, 7-16.
- Rahman, M., Moniruzzaman, M., & Sharif, J. (2013). Techniques, Motives and Controls of Earnings Management. *International Journal of Information Technology and Business Management*, 11(1), 22-34.
- Rosner, R. L., & University, L. I. (2003). Earnings Manipulation in Failing Firms. *Contemporary Accounting Research*, 20(2), 361-408. <https://doi.org/10.1506/8EVN-9KRB-3AE4-EE81>
- Schipper, K. (1989). Commentary on Earnings Management. *Accounting Horizons*, 3(4), 91-102.
- Shaglof, M. (2009). *Earnings Management Practice in Jordanian Industrial Public Shareholding Companies Listed at Amman Stock Exchange and its Relationship to Earnings per Share*. (Unpublished PhD Thesis). The Arab Academy for Banking and Finance Sciences, Jordan.

- Sukeecheep, S., Yarram, S., and Al Farooque, O. (2013). Earnings Management and Board Characteristics in Thai Listed Companies. *International Conference on Business, Economics, and Accounting*, Bangkok – Thailand.
- Yang, W. S., Chun, L. S., & Ramadili, S. M. (2009). The Effect of Board Structure and Institutional Ownership Structure on Earnings Management. *International Journal of Economics and Management*, 3(2), 332-353.
- Young, S. (1999). Systematic Measurement Error in the Estimation of Discretionary Accruals: An Evaluation of Alternative Modelling Procedures. *Journal of Business Finance*, 26(7&8), 833-862. <https://doi.org/10.1111/1468-5957.00277>
- 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. <https://doi.org/10.2308/accr-10196>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).