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Research article

The Impact a Financial Distress on the Earnings Management: Special Study around the Jordanian Financial Sector

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ABSTRACT

We discuss the financial distress in the Jordanian financial sector and the impact on profit management. we measure the financial distress through Altman z-score, which tests the strength of credit to measure the probability of corporate bankruptcy the Jones model was used to earnings management for the same financial period from 2001 to 2017, data used in the research were obtained from the published annual reports of all 44 financial companies listed on the ASE Which includes both banks and Diversified Financial Services. The results indicated the impact of financial distress on the earnings management.

Keywords: Earnings Management; Financial Distress; Altman Z-Score; Jones Model; ASE; Jordan

INTRODUCTION

In this research, we study the financial distress and earnings management activities based on accrual on the Jordanian financial sector. The global economic crisis is an event in which all sectors of the world market economy experience collapse (digression) and affects other sectors throughout the world. The global economic crisis occurs due to unavoidable market economic problems around the world due to bankruptcy and turbulent economic situations. The most visible sector due to the effects of the global economic crisis is the economic sector from the smallest to the largest, including stock exchanges in the Middle East, Russia, Europe, South America and North America. No exception in the US itself, investors on the Wall Street Exchange suffered huge losses. In Indonesia, the real sector has been affected by the global crisis. The sectors most affected by the global crisis are those that rely on external (tradable) demand, such as the manufacturing, agriculture and mining industries (kompas.com). In addition to the global financial crisis, the start of free trade between ASEAN countries also affected the company's performance. And the global economic crisis was one of the most important factors that caused companies to financial distress, and thus companies resorted to using earning management .whilst a number of papers have documented evidence in support of income-increasing earnings management activities around SEOs they have studied accrual-based manipulation exclusively. Since earnings are the sum of cash flow and accruals, earning can be manipulated through the use of accruals and/or operating cash flow, as highlighted by. Our research objectives are important, as companies may manipulate their data or use multiple strategies to manage their earnings, for example, through real activities manipulations that does affect cash flows. We refer to real activities manipulation as actions managers take that deviate from normal business practices. recently, there has been an increased appreciation for understanding and documenting how firms manage earnings thru real activities manipulation in addition to accrual-based activities. In a recent survey of top executives, provide evidence suggesting that managers prefer real earnings management activities compared to accrual-based earnings management. this is the case since real management activities can be indistinguishable from optimal business decisions and thus more difficult to detect although the costs involved in such activities can be economically significant to the firm. Moreover, consistent with the conjectures made by graham, cohenet al. find that mangers have shifted away from accrual to real earnings management in the post sarbanes-oxley act (sox) period. This evidence implies that in the post-SOX period that followed highly publicized accounting scandals, the need to avoid detection of accrual-based earnings management is greater than in previous periods inducing managers to shift from accrual-based to real earnings management activities.

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There has been a growing interest in earnings management in recent times to overcome many of the problems that threaten some companies, and from here came the research to find out the extent of financial distress and its impact on the earnings management. We use the model Altman z-score and Jones model.

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Earning Management (Em)

Different studies considered earnings management as one of the most crucial ethical financial reporting issues, which accountants confront in everyday practices around the world. Based on the study of healy and wahlen, 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 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. Earning management practices are also followed to gain benefits like bonuses, salaries increase and authority.

The following study came within:

Earnings management practice has received much consideration and interest from regulators and practitioners as well as academics, with literature in the accounting field providing three key approaches for the identification of the various practice levels and techniques, including aggregate accruals, specific accruals and statistical distribution approach. Despite the fact that many studies have been directed towards enhancing the overall power and specification of each approach, there are nevertheless pros and cons linked with the application of each model. This paper provides and reviews the literature available on the development and assessment of such frameworks in an attempt to emphasis the various points studies should be considering when identifying earnings management.

This research studies the relationship between financial distress (FD) and usage of discretion by employing earning management practices in twenty commercial banks of Pakistan, listed at Pakistan Stock Exchange (PSX). The study utilizes the data spread over from the year 2010 to 2015. Altman Z-Score has been employed to assess financial distress. Further, the value of Z-score has been used for the classification of banks into distressed and non-distressed banks. Moreover, earning management has also been categorized into non-discretionary (NDA) and discretionary accruals (DA). The logistic approach has been used to study the relationship among variables. The findings reveal that banks use non-discretionary and discretionary accruals to manage their financial distress. This research study provides useful insights for investors, auditors and regulators as it identifies usage of specific provisions by management despite strict regulations.

We examine the relation between both real and accrual-based earnings management activities and firms' investment behavior. We find that that firms managing earnings by either means overinvest in the years up to and including the period of high earnings management, and then underinvest, indicating that each type of earnings management is associated with significant real effects. Moreover, the excess investment associated with real earnings management is at least as great as the excess investment associated with accruals earnings management, and firms that engage in both real and accrual earnings management activities have greater investment effects than firms that engage in either one alone. By providing the first evidence that real earnings management has significant real effects on firms' investment, we contribute important evidence on the consequences of earnings management.

We examine earnings management behavior around SEOs, focusing on both real activities and accrual-based manipulation, and how this behavior varies over time and cross-sectionally. Although research has addressed the issues of earnings management around SEOs and earnings management via real activities manipulation, ours is the first paper to put these two issues together. We make three contributions to the literature. First, we document that firms use real, as well as accrual-based, earnings management tools around SEOs. Second, consistent with the expectation that the Sarbanes-Oxley Act (SOX) has made accrual-based earnings management more costly, we find that firms have substituted from accrual to real earnings management after SOX. Finally, we show how the tendency for firms to tradeoff real versus accrual-based earnings management activities around SEOs varies cross-sectionally. We find that firms' choices vary predictably as a function of the firm's ability to use accrual management and the costs of doing so. Our model is a first step in examining how firms tradeoff between real versus accrual methods of earnings management.

Views the researcher in this paper authors analyze the predictive power of existing models for the detection of earnings management of the companies in countries around the world. In addition, based on a representative sample of companies in the industrial sector of the Republic of Serbia, they tend to develop an improved model for the detection of manipulative financial reporting, which will be suitable for the Serbian business environment by using multiple linear regression. The application of existing models of discretionary accruals in the Serbian economic environment shows that these predictive models do not have sufficient explanatory power (ones model 5.4%; Dechow model 2.6%; Kasznik model 37%), and there is a need for their further modifications. From these models, only Kasznik model proved to be statistically significant model for the sample of 65 companies in the industrial sector of the Republic of Serbia. As a result of the research, a modified model of discretionary accruals has been developed, which has improved explanatory power and which allows detection of new techniques of manipulation of financial reporting in the

industrial sector of the Republic of Serbia. The explanatory power of our modified model is 63.7%.

We researcher's study of the aim to investigate whether and how Serbian companies manage earnings to avoid losses and to avoid earnings decreases. The empirical evidence found in this study shows that there is a discontinuity in the distribution of reported earnings around the zero earnings benchmark suggesting that Serbian companies engage in earnings management to avoid reporting losses. Furthermore, this continuity disappears when we subtracted discretionary accruals from reported earnings indicating that Serbian companies use discretionary accruals as a tool for earnings management. However, the distribution of earnings does not provide evidence that Serbian companies manage earnings to avoid earnings decreases. These results are robust to alternative methods of scaling earnings and various ways of estimating discretionary accruals.

Financial Distress (Fd)

The theoretical definition of financial distress occurred when firms doesn't generate enough cash flows to make a contractually required payment. Practical definition implies when firms doesn't pay totally their obligations to creditors. If this happened firm failure or firm bankrupt occurs. Internal and external reasons lead to failure. internal reasons could be one the following: poor management and lack of administrative specialized technical elements and trends faulty management, it also may be due to financial reasons of increasing numbers of bad debts , imbalance in the financing structure and weak cash flow. External reasons caused by intensive competition, general economic conditions, governmental decisions and inflationary trends at the level of the local and global economy, which lead to an increase in the value of the debts, causing an imbalance in the financing structure.

The following study came within:

This study investigated accounting measures depended on CAMEL ratios to predict services sector distress. The study used five variables representing CAMEL ratio from (2010-2015). Researchers used stepwise method and moving average to predict prices in 2017. Result showed that there is no significant relationship between market stock price and CAMEL ratios. Other factors such as Internal (mismanagement or corruption) or external (political issues) are affecting financial performance. Predicted result showed that there might be (19-26) listed corporations' facing financial distress in 2017. Especially in transportation and tourism filed.

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; 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.

This study investigates the role of a set of financial ratios in predicting financial distress of publicly listed companies in Jordan. Using Logistic Regression and Discriminant Analysis a comparison has been made between the two models to determine which is more appropriate to use as well as which of the financial ratios are statistically significant in predicting the financial distress of Jordanian companies. During the period 2007 to 2011, the results show that both logistic regression and discriminant analysis can predict financial distress, and that Return on Equity (ROE) and Return on Assets (ROA) are the most important two financial ratios, which help in predicting the financial distress of public companies listed in Amman stock Exchange.

This research come to objective to be achieved is to provide understanding and knowledge to the public, especially investors and creditors about the effect of profitability, liquidity, leverage, company size, and free cash flow on financial distress and could was used as a reference for future researchers and stakeholders (investors, creditors, and government) in making relevant and reliable decisions. The method used was quantitative research with secondary data taken from the issuer's financial statements on IDX with data collection techniques using the purposive sampling method. Analysis of the data used is multiple linear regressions. The population in this research was manufacturing companies of basic and chemical industry sectors which were listed on the Indonesia Stock Exchange which was conducted for 3 years of observation, namely 2016-2018. The sample was determined by the purposive sampling method so that as many as 90 samples are obtained. The analysis technique used was the statistical test t, and the classic assumption test which includes normality test, multicollinearity test, heterokedasticity test, and autocorrelation test. The results show of this study indicate that the profitability variable has a positive effect on financial distress; variable liquidity, leverage, and free cash flow do not effect financial distress; and firm size variables have a negative effect on financial distress.

Views the researchers' this study aims to examine and analyze the effect of financial distress and growth opportunities on accounting conservatism with litigation risk as a moderating variable. been population in this study were 147 manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2017.the results showed that financial distress and growth opportunities partially had a positive and significant effect on accounting conservatism. Litigation risk as a moderating variable strengthens the effect of litigation risk on accounting conservatism, and litigation risk weakens the effect of growth opportunities on accounting conservatism on Manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2017.

PROBLEM AND QUESTION

Interest in earnings management increased after the global financial crisis in 2007. 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 financial sectors, including Jordanian financial corporations.

- How did managers deal with financial distress and did it impact the earnings management?

HYPOTHESES

Financial distress happens when revenues or income no longer meet or pay for the financial obligations of an individual or organization, often a harbinger of bankruptcy and can cause lasting damage to one's creditworthiness. As result that, and order to remedy the situation, a company or individual may consider options such as restructuring debt or cutting back on costs.

The earing management reflects to a company's deliberate use of accounting techniques to make its financial reports look better and can occur when a company feels pressured to manipulate earnings in order to match a pre-determined target. Consequently, different types of earnings management include moving earnings from one reporting period to another in order to paint a better picture or manipulating the balance sheet to hides liabilities and inflate earnings.

Based on the problem of the study has been developed following hypothesis to be tested in this study:

H1: there is no significant financial distress in financial Jordan sector.

H2: there is no significant impact between financial distress and earnings management.

METHODOLOGY AND MODEL

The data used in the research were obtained from the published annual reports of all 44 financial companies listed on the ASE which includes both banks and Diversified Financial Services to study the impact between profit management and financial distress in financial companies in Jordan, which were regularly traded from 2001 to 2017.As shown in the following table:

Table1: Samples of Financial Companies Listed on the Amman Stock Exchange (ASE).

FINANCIAL SECTOR		
Company's name	**Company's short name**	**Symbol**
JORDAN ISLAMIC BANK	JOR ISLAMIC BANK	JOIB
JORDAN KUWAIT BANK	JOR KUWAIT BANK	JOKB
JORDAN COMMERCIAL BANK	JCBANK	JCBK
THE HOUSING BANK FOR TRADE AND FINANCE	HOUSING BK TRD FIN	THBK
ARAB JORDAN INVESTMENT BANK	ARAB JOR/INV/ BANK	AJIB
SAFWA ISLAMIC BANK	SAFWA ISLAMIC BANK	SIBK
BANK AL ETIHAD	BANK AL ETIHAD	UBSI
ARAB BANKING CORPORATION / (JORDAN)	ARAB BANKING CO.	ABCO
INVEST BANK	INVESTBANK	INVB
CAPITAL BANK OF JORDAN	CAPITAL BANK	EXFB
SOCIETE GENERALE DE BANQUE - JORDANIE	SOCGEN BK - JORDANIE	SGBJ
CAIRO AMMAN BANK	CAIRO AMMAN BANK	CABK
BANK OF JORDAN	BANK OF JORDAN	BOJX
JORDAN AHLI BANK	JORDAN AHLI BANK	AHLI
ARAB BANK	ARAB BANK	ARBK
NATIONAL PORTFOLIO SECURITIES	NATL PORTFOLIO	MHFZ
JORDANIAN EXPATRIATES INVESTMENT HOLDING	JORDAN EXPAT .INV	JEIH
JORDAN INVESTMENT TRUST	JOR INV TRUST	JOIT

ALDAMAN FOR INVESTMENTS	ALDAMAN FOR INV.	DMAN
UNION INVESTMENT CORPORATION	UNION INV	UINV
JORDAN LOAN GUARANTEE CORPORATION	JOR LOAN GRNT.CO	JLGC
ARAB EAST INVESTMENT	ARAB EAST INVST.	AEIV
UNITED FINANCIAL INVESTMENTS	UN FOR FINCL INV	UCFI
CENTURY INVESTMENT GROUP	CENTURY INV.GRP	CEIG
JORDAN MORTGAGE REFINANCE	JOR MORTGAGE RFC	JMRC
INTERNATIONAL BROKERAGE & FINANCIAL MARKETS	INT' BROKERAGE	IBFM
AL-AMAL FINANCIAL INVESTMENTS CO.	AL-AMAL INV.	AMAL
AL SANABEL INTERNATIONAL FOR ISLAMIC INVESTMENTS (HOLDING) PLC. CO.	AL-SANABEL INT.	SANA
AL-BILAD SECURITIES AND INVESTMENT	BILAD INVESTMENT	BLAD
FIRST FINANCE	FIRST FINANCE	FFCO
JORDANIAN MANAGEMENT AND CONSULTING COMPANY	JORDAN CONSULTING	JOMC
FUTURE ARAB INVESTMENT COMPANY	FUTURE ARAB	FUTR
BABELON INVESTMENTS CO. P.L.C	BABELON	SALM
INTERNATIONAL CARDS COMPANY	INT'L CARDS CO.	CARD
KAFA`A FOR FINANCIAL & ECONOMICAL INVESTMENTS (P.L.C)	KAFA`A INVESTMENTS	KAFA
TUHAMA FOR FINANCIAL INVESTMENTS	TUHAMA INVESTMENTS	THMA
FIRST JORDAN INVESTMENT COMPANY PLC	FIRST JORDAN	FRST
DIMENSIONS:JORDAN AND EMIRATES COMMERCIAL INVESTMENTS CORPORATION	DIMENSIONS	JEDI
DARAT JORDAN HOLDINGS	DARAT	DARA
SABAEK INVEST COMPANY P.L.C	SABAEK INVEST	SABK
DAR AL AMAN FOR ISLAMIC FINANCE	DAR AL AMAN	DAIF
RUMM FINANCIAL BROKERAGE	RUMM BROKERAGE	RUMI
Jordanian CO. For Developing & Financial Investment	JORDANIAN DEVELOP	JDFI
JORDANIAN MUTUAL FUNDS MANAGEMENT COMPANY	JORDANIAN FUNDS	FUND

We have specified the follow Altman z-score models:

$$Z = 1.2\,x_1 + 1.4x_2 + 3.3x_3 + 0.6x_4 + 1.0x_5 \quad (1)$$

Where,

Table 2

Variables (X)	Clarification
	= working capital / total assets
	= retained earnings / total assets
	= earnings before interest and taxes / total assets
	= market value of equity / total liabilities

= net sales/ total assets

We use Jones proposes a model that attempts to control the effects of changes in a firm's economic circumstances on non-discretionary accruals. This model indicates that changes in total assets, gross revenue, and gross property plant and equipment (PPE) are the determinants of non-discretionary accruals. The idea of the jones model is that sales revenue proxies for the economic events that generate current non-discretionary accruals, while gross PPE controls for non-discretionary accruals related to depreciation expense. Thus the Jones model is based on two key assumptions. Firstly, sales revenue is assumed to be unmanaged. Secondly, changes in current assets and liabilities are assumed to be driven by changes in sales revenue. The specific features of the Jones model include: 1. abandoning the assumption that non- discretionary accruals are constant over time and 2. Attempt to control the effects of changes in operating performance of the company over the measurement of non-discretionary accruals. The limitation of the model is that it ignores the potential managerial manipulation of revenues.

The following equation is the Jones model:

$$\frac{TA_{it}}{A_{it}} = \beta 0 \times \frac{1}{A_{it}} + \beta 1 \times \frac{\Delta REV_{it}}{A_{it}} + \beta 2 \times \frac{PPE_{it}}{A_{it}} + \varepsilon_{it} \quad (2)$$

TA_{it} – total accruals for the company i in the current period t;
A_{it}–total assets;
$\beta 0, \beta 1, \beta 2$ – estimated parameters or regression coefficients;
ε_{it} – residual variable or earnings management (EM);
ΔREV_{it} – change in net sales revenues of the company i in the current year t compared with the previous year t-1;
PPE_{it} – gross value of property, plant and equipment for the company i in the current year t.

The balance sheet approach typically computes total accruals (ta) as follows:

$$TA_t = \Delta CA_t - \Delta CL_t - \Delta CASH_t + \Delta STDEBT_t - DEP_t \quad (3)$$

where:
ΔCA_t – change in current assets between current year t and previous year t-1;
ΔCL_t – change in current liabilities between current year t and previous year t-1;
$\Delta CASH_t$ – change in cash and cash equivalents between current year t and previous year t-1;
$\Delta STDEBT_t$ – change in current maturities of long-term debt and other short term debt included in current liabilities between current year t and previous year t-1;
DEP_t – depreciation and amortization in the current year t.

Conversely, the cash flow approach measures accruals directly from the statement of cash flows. If applicable to the data in question, the use of the cash flow approach is less computationally demanding and considered more effective at computing total accruals. Conclude that the use of the balance sheet approach introduces significant measurement error into accrual estimates because the partitioning variable is often correlated with the occurrence of non-operating events such as reclassifications, acquisitions, divestitures, accounting changes, and foreign currency translations. This non-articulation problem can contaminate the estimation of abnormal accruals and lead to the erroneous conclusion that earnings management exists when no such opportunistic activity actually occurs. The authors advocate the use of the cash flow approach where applicable – except for studies using pre the Statement of Financial Accounting Standards (SFAS) no. 95 data, where "additional specification tests should be conducted to control for possible errors in accrual measurement".

$$TA_{it} = \frac{TA_{it}}{A_{it}}; that\ is\ TA_{it} = \frac{DA_{it}}{A_{it}} + \frac{NDA_{it}}{A_{it}} \quad (5)$$

$$DA_{it} = \frac{TAit}{A_{it}} - \frac{NDA_{it}}{A_{it}}; \quad (6)$$

$$DA_{it} = \frac{NI_{it} - CFO_{it}}{A_{it}} - (\beta 0 * \frac{1}{A_{it}} + \beta 1 * \frac{\Delta REV_{it}}{A_{it}} + \beta 2 * \frac{PPE_{it}}{A_{it}} + \varepsilon_{it}) \quad (7)$$

Where,
DA_{it} – discretionary accruals for the company i at the time of estimation;
NDA_{it} – non-discretionary accruals for the company i at the time of estimation;

RESULTS AND DISCUSSION

Table indicates to study the impact between EM and FD as shown in table 3; the coefficient of determination (R square) for the EM indicates that 4.5% of the variability of the dependent variable (FD) can be explained by the regression model. As shown table 4, the sig. 0.003 is more less than 2 so there is significant statistical value. The F-statistic of 12.4 is found to be larger than the lower bound value of 1%, 5% and 10% significance level. Thus, there is significant impact between FD and EM.

Table 3

Summary statistics for the EM and FD

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0.674	0.454	0.418	0.7549381

Table 4

ANOVA

Model		Sum of square	df	Mean square	F	Sig.
1	Regression	7.11	1	7.11	12.475	0.003
	Residual	8.549	15	0.57		
	Total	15.659	16			

Table 5, as shown this table shows that earnings management is affected by the ratio related on financial distress "Z- score ". The r square for financial ratios indicates that 5.09% of EM variability can be explained by the regression model. The value of statistics d is 1.7 = <df <2.3, there is no impact between ratio Z- score and EM that can negatively affect the properties of the model. Results are displayed in summary statistics tables 3.

Table 5

Summary statistics for the EM and RATIO Z-SCORE

	Change Statistics

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	R Square change	F change	df1	df2	Sig. F change	Durbin-Watson
1	0.714	0.509	0.286	0.174767	0.509	2.282	5	11	0.118	2.298

CONCLUSIONS AND RECOMMENDATION

This study is focused on investigating the impact of financial distress on earnings management in financial corporations listed on Amman stock exchange for a period of 2001 to 2017. The empirical results provide evidence that earnings management is affected by the Altman's z-score index, but however, we need further research in this area to help investors in the Jordanian market avoid investment in troubled companies and help those companies to avoid financial distress by taking the right measures before problems occur.

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