

The Effect of the Capital Structure and the Efficiency of the Use of Assets on the Persisting Earnings in the Jordanian Industrial Companies listed in the Amman Stock Exchange: An Empirical Study

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Abstract

The objective of this study is to investigate the effect of the capital structure and the efficiency of the use of assets on the persisting earnings in the Jordanian industrial companies listed in the Amman Stock Exchange (ASE). To achieve the objectives of the study, a sample of 48 industrial companies was tested during the period 2009-2015, and the number of observations used in the test was 336. To test the hypotheses of the study, a multiple regression (OLS) was used for the Pooled Data Regression. The study found that industrial companies achieve persisting earnings. The study also found the existence of a positive effect that is statistically significant for each of the capital structure (debt ratio), and indicators of the efficiency of the use of assets (of asset growth rate, working capital turnover, and the rate of current assets turnover), on the persisting earnings. The study also found no effect of the ratio of debt to stockholder equity, and the ratio of long-term debt to long-term assets on the persisting earnings. Accordingly, the study recommends that the management of companies maintain the persisting earnings and exert more effort to exploit the company's assets with the best possible efficiency to achieve sales volume so that it can achieve persisting earnings to enable it to continue its activities.

Key Words: *Persisting Earnings, Capital Structure, Asset Efficiency, Industrial Companies, Earnings Quality.*

Introduction

In preparing the financial statements, the entity's management performs an assessment of the entity's ability to survive as a going concern. Accordingly, these data are prepared unless there are events or circumstances that may give rise to significant doubts in management about the entity's ability to continue. Management should ensure that the entity is sustainable, it must take into consideration a wide range of factors surrounding both current and expected earnings, as well as taking into account repayment schedules and possible sources of replacement of the financing before it is satisfied with the entity's sustainability (IFRS, 2013).

The most important decisions taken by the corporate management are the financing and investment decisions. Financing decisions are related to obtaining the funds in the appropriate manner, in accordance with their circumstances. Investment decisions are related to directing the money and using them in current and fixed assets to achieve future returns associated with investment, (Al Amri, 2013). The company's survival and sustainability depends on the results of those decisions taken by the management. Therefore, corporate management seeks to achieve its strategic objective of maximizing the value of the company, which represents the economic justification for its continued economic activity (Al Zubaidi, 2008). Financing decisions affect the company's future cash flows, earnings and liquidity. This decision relates to determining the proportion of financing from short- and long-term sources, as well as determining the appropriate mix of debt and equity issuers, as it has the effect of reducing the cost of capital in the company. Because of its impact on reducing the cost of capital in the company, which increases the opportunities for investment in the company (Al Hamdan, and Al Qudah, 2013). The management takes into account the economic conditions surrounding it when going to borrow. Abdul-Jalil (2014) has shown that increasing the leverage to a certain extent may improve profitability and increase the company's burdens, and the selection of the appropriate capital structure enables management to balance between maximizing earnings and maintaining the continuity of the company. Therefore, corporate managements seek to make their investment decisions achieve an increase in the expected return and increase in the value of the company.

The financial statements reflect the Company's performance through its statement of financial position and earnings so that the users of the financial statements can predict their ability to continue and generate future earnings. Many researchers have expressed the persistence of the flow of current earnings in future periods with the Earnings quality (Richaradson, 2003; Sloan, 1996). earnings derived its importance being used as the most important inputs in the financial and investment decision-making processes, and decisions vary depending on the different users of financial statements, shareholders are looking to earnings as a measure of judgment on the performance of the company's current and future, While lenders rely on credit decisions, they are concerned about the borrowers' ability to repay loans and interest, so they focus on profits and sustain them in the future, while investors use them to evaluate their investments and predict future earnings (Bellovery, et al., 2005).

Capital structure in practice is an important issue in scientific research and raises many questions about the method of financing companies for their investment activities and their expected results. Therefore, the our study attempts to investigate the effect of the capital structure (measured by debt ratio, debt to equity ratio, and long-term debt for long-term assets ratio) and the efficiency of usage assets (measured by asset turnover rate, asset growth rate, working capital turnover rate, and current asset turnover rate) on the persisting earnings of Jordanian industrial companies listed on the Amman Stock Exchange (ASE) for the period from 2009 to 2015.

Achieving persistence of earnings is considered one among several indicators of management's success. It gives a positive indication of the financing decisions, which is reflected by the capital structure, and the efficiency of the investment decisions in the use of the firms' fixed and current assets. The economic sectors of Jordan are encountering difficult economic conditions these days because of the repercussions of the financial crisis in 2008, and the subsequent regional conditions in the Arab region since 2011, where it may have an impact on the performance of firms that are operating in Jordan. Therefore, corporate management may face a series of challenges, which necessitates careful study to the financial and investment decisions of firms to achieve sustainability and survival. Therefore, corporate managements of Jordan seek firm's value maximization through achieving high earnings and earnings persistence from year to year. Achieving good earnings and the persistence of these earnings is the outcome of rational financing decisions and the efficient usage of assets. Based on this discussion, the problem of the study can be formulated through the following questions.

- 1- Are the earnings of listed industrial firms at ASE involve the characteristic of persistence?
- 2- Do the capital structure and the efficient use of assets affect the earnings persistence of listed industrial firms at ASE? This question can be segregated on the following two questions.
 - A- Does the capital structure, as measured by debt ratio, debt-to-equity ratio, and long-term debt -to-long-term assets ratio, affect the earnings persistence of listed industrial firms at ASE?
 - B- Does the efficient use of the assets, as measured by asset turnover, growth rate of assets, turnover of working capital, and turnover of current assets, affect the persistence of earnings of listed industrial firms at ASE?

The study is attempting to achieve the following objectives:

1. To add more to the current literature of capital structure, earnings persistence or sustainability.
2. To investigate the effect of capital structure on the persistence of earnings.
3. To investigate the effect of the efficient usage of assets on earnings persistence.

The study is important from the author's standpoint since it investigates the impact of both of the capital structure and the efficient use of assets, based on information issued by firms on the persistence of earnings under difficult economic and financial conditions and the repercussions facing managements of firms that are operating on the land of Jordan, where these difficulties can be attributed to the financial crisis of 2008, and to the political aspects and war that still taking place in several surrounding countries to Jordan. The importance of the study increases as a result of the importance of earnings persistence, and to the degree of attention that investors, creditors, stockholders, et al give to earnings persistence. Earnings persistence can help all these parties to take good profitable decisions. The reported earnings are supposed to reflect the actual financial performance of firms, and give an indication for the future expected performance. The study can be considered as an actual scientific addition to literature of earnings quality through its focus on the persistence of earnings. The findings of the study may help managements and users of financial statements to take rational and good decisions.

Literature Review and Prior Researches

The concept of capital structure had been given enough attention by authors along the most recent 10 years ago, because how this capital is structured is important to the success of business organizations. Capital structure decision is too much important and should be based on deep analysis of data, since several studies found that this decision affects future cash flows, profitability, and liquidity. Capital structure decision means the determination of the proportion of borrowed funds to the total capital or total assets invested in the entity. In other words, it is to decide how much funds to be borrowed, and how much to be contributed by shareholders. Using the optimal mix of debt and equity leads to a reduction in the cost of capital, and it may maximize of the firm, and may enable the company to invest in more profitable available investments (Al Hamdan and Al qudah, 2013). The concept of capital structure also includes the determination of both of short-term loans and long term debts.

Several theories in the field of financial management have examined and analyzed the relationship between capital structure and the value of the entity, in order to determine the optimal leverage ratio, which is reflected in the market value of the company. The first of these studies led to Modigliani and Miller theory (1958). This theory is the cornerstone of corporate finance. The authors addressed the relationship between capital, corporate finance and investment theory. Under the absence of tax, the authors mentioned that the firm's market value is not affected by the formulation of financing structure, as well as that there is no optimal financing structure. Mayers (1984), presented Pecking Order Theory. According to this theory, there are three sources to finance a firm, where these three resources take into consideration the priorities. Based on this theory, retained earnings (internal source) is the first source of funding (internal source), followed by debt financing (external source), while the last source is shares issuance. Business

organizations adhere to this hierarchy of funding, where equity financing is the last resource because it comes to the new staffing institution, which affects the decision-making (Brealey and Myers, 2003).

While the trade-off theory of the capital structure assumes that there is an ideal ratio of debt to equity, firms attempt to balance between the tax benefits of debt and the high probability of falling into bankruptcy risk. The capital structure of the firm is a combination of liabilities and equity interests, each of which constitute an obligation on the assets of the entity. Debt holders and shareholders are investors in the enterprise, and each part of them is accompanied by a certain probability risks, benefits, and control (Al Hamdan, and Al Qudah, 2013). Bae (2009), stated that there is no fixed relationship between debt ratio and the size of investment opportunities available to firms, and that this relationship varies between firms based on the countries in which they are working. Therefore, corporate management seek to direct money into investments in fixed and current assets, in order to achieve a return on investment or increase revenues (Al Zubaidi, 2008). Firms choose the source of funding that suits them (issuing new shares, borrowing et al), which is consistent with the size and structure of the investment, to enable continuing carrying out their activities and achieve its goals. There are many indicators that reflect the efficiency of the firms' efficient use of assets to generate sales or revenue, such as the asset turnover rate, where when this indicator value is high, it indicates that the firms uses its assets in an efficient form generating sales (Abdul Jalil, 2014). As well as the working capital turnover rate, is used to measure the efficiency of working capital utilization, the growth rate shows the extent of firm's progress and expansion (Al Amiri, 2013). This means that the capital structure and the efficiency of assets utilization is expected to affect the firm's performance, where on the other hand, raising leverage to a certain extent may improve profitability, and increase the burden of the company. Therefore, firm's management balances the maximization of earnings and maintaining its sustainability.

While the issue of earnings quality has attracted the attention of a large number of researchers because of its importance to different groups of users of financial reports such as shareholders, investors, lenders, financial analysts, customers, suppliers, et al, earnings quality is an expression of the ability of current earnings to provide true image of the firm's actual ability to continue in the future. Most of the literature agrees that the reported accounting earnings is considered the most important information for users of financial statements and serves as a summary of firms' business and its achievements during the financial period (Barth et al., 2001). Dechow and Schrand (2004), demonstrated that earnings quality is realized when earnings reflect firms' current operating performance, and when it gives an indication of their future operating performance. Some authors use the persistence of earnings as an indicator of earnings quality (Altamuro and Beatty, 2006). They pointed out that persistence indicates the extent to which current earnings are related to the future. Since earnings are divided into cash flows and accruals, the quality of earnings means that cash flows are more than accruals. Schipper and Vincent (2003), has indicated that the quality of earnings reflects the actual earnings without any form of what is called earnings management, and therefore can help financial analysts to analyze the current and future operating performance and value of the firm. Therefore, the characteristic of earnings persistence is an indicator for earnings quality.

The reported accounting earnings are prepared based the accrual basis. These accrual based earnings do not show the actual performance, because managements of firms normally attempt to exploit the high level of flexibility that available in accounting standards, and often try to achieve its own objectives and interests (Ayers et al. 2006), (Bergstressera and Philippon, 2006). The practices where managements attempts to achieve its own objectives is called earnings management in accounting literature. Thus, earnings management is incompatible with the quality of earnings because it results in manipulation of reported earnings (Healy and Wahlen, 2008).

Managements' efficient use of assets is normally accompanied with the growth of sales and this is reflected on performance. Richardson et al. (2006), reported that growth in the sales may be the result of growth in the real investment, and high accruals reflect the state of growth in firms' activities. However, if there is an increase in accruals that doesn't accompanied with growth in sales, this is considered a sign for a decrease

in the efficient use of capital, or it may be due to distortions in the accounting measurement, while the persistence of low earnings that accompanied with high accruals indicates the existence of a problem accounting measurement. Zhang (2007), stated that if earnings are often made up of accruals, then it is less stable than when it is composed of cash flows. This shows that accruals do not improve the quality of revenues, but only affect the persistence of earnings. Many studies used earnings persistence as a proxy to the quality of earnings, so that current earnings are used to estimate future earnings because an association exists between quality persistence and earnings stability (Altamuro and Beatty, 2006). Abu Ali, et al (2011), defined earnings persistence as the extent to which current accounting earnings are related to future earnings. Several studies also used earnings persistence as an indicator of their quality, so they link current with future earnings, such as Schipper and Vincent (2003). Sloan (1996), and France et al (2004), showed that the cash flows persistence is more important than the persistence of accruals, which reflects the quality of earnings. Richardson et al (2005), developed a model for measuring future earnings persistence by dividing earnings into their core components, which include cash flows and accruals. Dechow et al (2010), discussed the reasons that are standing behind the existence of differences in earnings quality measures and their results. Indicators of earnings quality are categorized into three main categories: earnings properties, investor responsiveness to earnings, and external indicators of earnings misstatements. The study did not demonstrate a clear conclusion regarding the parameters of earnings quality, because earnings quality depends on the context in which it is judged. Moreover, the study indicates that earnings quality is a function of the firms' core performance indicators.

Recently, the capital structure and its relation with earnings, attracted the attention of authors. Obeidat (2016), investigated the effect of capital structure on the practices of profit management that exist in the financial reports of listed firms at Abu Dhabi Securities Exchange. The study had been based on information of a sample consisting of 29 firms along the period 2012-2015. The study found that the listed firms at Abu Dhabi Securities Exchange exercise their phenomenon of earnings management, and that there is a positive significant effect of the rate of leverage on practices of earnings management.

Nikoearam, et al (2016), analyzed the relationship between earnings management and the capital structure along the period 2000-2008. The sample of the study included 119 non-financial firms, and the findings demonstrated a positive relationship between debt ratio and discretionary accruals. In addition, it showed a negative relationship between return on assets and debt ratio, whereas a positive relationship between asset size and debt ratio exists.

Gharaibeh (2015), examined the capital structure determinants for the period 2009-2013 based on a sample consisting of 49 industrial listed firms Kuwait Stock Exchange. The results showed that the rate of growth, Firms' age, liquidity, profitability, and size, each of which has a significance relationship with the ratio of indebtedness, whereas dividends policy and the ownership structure are not among the factors that affecting capital structure.

Abdul Jalil (2014), investigated the effect of capital structure on the performance of the Jordanian shareholding firms, along the period 2008-2012. The results of the study showed the existence of a statistical significant adverse effect on the return on investment at a significant level of 10% to the ratio of debt to equity on return on investment, as well as the existence of a positive effect of statistical significance of the turnover of assets and the rate of growth on return on investment.

To investigate the effect of capital structure, Ebrati et al (2013), carried out a study covering the information of 85 listed firms at Tehran Stock Exchange, where data covers the period 2006-2011. The authors used the multiple linear regression in data analysis and hypotheses testing to achieve the purpose of the study. Debt ratio, and debt to equity ratio were used as indicators for the capital structure, return on equity ratio is used as the most efficient indicator for the financial performance. The study find that the capital structure has a positive significant effect on financial performance, whereas it has a negative significant influence on return on assets and share of net profits.

Applying the study on 20 firms listed at Palestine Stock Exchange, Najjar (2013) investigated the effect of financial leverage on the financial performance, covering data along the period 2004-2011. The study finds that a negative effect exist by financial leverage Return on Assets (ROA), Return on Equity (ROE), Return on Sales (ROS) , and the Rate of Sales Growth (RSG), and a negative impact exist of financial leverage on the market value of the company.

The issue of earnings management practices has enough attention for Nour and Matter (2013), when they investigated these practices by the listed firms at ASE. In more details, they investigated the impact of earnings management practices on the reliability of issued financial statements by listed firms through the identification of the means that used as constraints to such practices. The study finds that the firms of Jordan exercise the phenomenon of earnings management, and the these practices increases over time due to the repercussions of the global financial crisis, especially by distressed companies. The results also indicated that there are varying impacts of earnings management on the reliability of published financial statements issued by Jordanian firms.

Al-Hamdan, and Al-gudah (2013), investigated the impact of capital structure on the performance of listed commercial banks at ASE, when they analyzed the data issued by 13 banks along the period 1991-2010. The results showed that the capital structure, as measured by the ratio of liabilities to assets, has a positive significant effect on the performance of Jordanian banks in terms of ROA, ROE, and Earnings per Share (EPS). The results also showed that the ratio of equity to assets has a positive significant effect on ROA, whereas it has a negative significant effect on EPS and ROE.

Investigating the impact of financial leverage on the financial performance also attracted the attention of Akhtar, et al., (2012). The authors of this study measured the effect of financial leverage on the financial performance of oil and energy industry. In more details, they examined the effect of financial leverage on ROA, ROE, debt, dividend ratio, Net operating Profit (NOP), SGR, and EPS. The results showed that financial leverage improves the corporate status and thus increases the growth opportunities within the industry that the firm belongs.

The impact of earnings management on profitability had been investigated by Anjum, et al., (2012). The study had been applied on 98 nonfinancial listed firms at Karachi Stock Exchange using data covering the period 2002-2006. Using the modified Jones model in the calculations of estimated accruals, which is normally used as indicator for earnings management, and based on simple linear regression method in hypotheses testing, the study finds a negative significant effect of earnings management on corporate profitability.

Hamdan (2012), investigated the factors affecting the quality of earnings of the Jordanian industrial firms. The sample included 50 firms and data covering the period had been used as a base of analysis and hypotheses testing. The results of the study showed that there is high quality of earnings of Jordanian firms. It also indicated the existence of an impact of each of firm size, debt contracts, and audit quality on the quality of earnings.

The impact of firms' size and capital structure on earnings management is investigated by Naz, et al., (2011). The study took into consideration the issued financial information of 75 cement, sugar, and chemical listed firms at Karachi Stock exchange covering the period 2006-2010. The results showed a negative impact of capital structure and earnings management, and shows no impact on the size of firms. The effect of accounting earnings quality on cost of equity is investigated by Abu Ali, et al., (2011). It assumed that the quality of accounting earnings leads to economic benefits in the form of cost reduction of equity through the decline in information risk. The study had been applied on a sample of 78 firms, and demonstrated that, in general, there is an impact of accounting earnings quality on cost of equity, where this impact of accounting earnings is a separate characteristic of cost of equity

Al Mahadeen (2010), tested the effect of leverage of return on ordinary stock, ROE, Dividends Per Share (DPS), on firm market value of insurance listed firms at Amman Stock Exchange. The study used simple and multiple regression methods in data analysis and hypotheses testing. The study revealed that both of financial leverage and ROE have no significant effect on the market value of listed insurance firms of Jordan.

The present study is distinguished from other prior studies where it attempts to investigate the capital structure and assets utilization efficiency on investment and financing decisions of firms. The expected results of these decisions may be reflected in the performance of firms and expressed in the persistence of earnings. The current study examines several variables that are had not been investigated by prior researches. Several prior researches had addressed the capital structure, where some of them focused on specific factors such as Gharaibeh, (2015); Hamdan, (2012). Most prior researches addressed factors affecting the capital structure such as liquidity, asset size, tax shield, growth rate, and profitability, while others examined the impact of the capital structure on performance, such as Ebrati, et al (2013), Abdul Jalil, (2014), AL-Hamdan and AL-Gudah, (2013). In addition, some prior studies examined the effect of the capital structure on the practices of earnings management phenomenon and analyzed the relationship between them as of Obeidat, (2016), and Nikooaram, et al (2016).

Study Hypotheses

Based on the consideration of the available related literature, and on the survey made for the prior researches, the following hypotheses had been developed, in their null forms.

- Ho₁:** The reported earnings by the listed industrial firms at Amman Stock Exchange can't be characterized by its persistence.
- Ho₂:** The capital structure of the listed industrial firms at Amman Stock Exchange does not affect the persistence of its earnings.
- Ho₃:** Assets utilization efficiency of listed industrial firms at Amman Stock Exchange does not affect the persistence of its earnings..
- Ho₄:** Together, both of the capital structure and assets utilization efficiency have no grouped effect on earnings persistence of listed firms at Amman stock Exchange.

Research Methodology

The study's population includes all industrial public listed shareholding firms at ASE, where the total number of these firms is 68 by the end of 2015. Several conditions had been determined for an industrial firm to be included with the sample. First, the required data that are needed for the measurement of the study variables should be available. Second, the firm had not be merged or acquired or a part in an acquisition or merging process within the period of the study that extends from 2009 to 2009. Third, the firm did not prohibited from listing in the stock exchange along the period of the study. Forth, the annual financial statements of the firm had been prepared based on the Corporate Directory issued by the ASE. When these conditions applied, only 48 industrial firms had found satisfying the above mentioned conditions.

The persistence of accounting earnings is the dependent variable of the study. Earnings persistence is measured in this study based on Richardson et al 2005 form, where based on this form, earnings are divided into its two components; cash flows, and accruals. The following equation expresses the Richardson form mathematically as follows.

$$ROA_{i,t+1} = \gamma_{0,i} + \gamma_1(ROA_{i,t} + TACC_{i,t}) + \gamma_2(TACC_{i,t}) + \epsilon_{i,t} \dots (1)$$

Where:

$ROA_{i,t+1}$: The rate of return on assets of firm i year t + 1.

$ROA_{i,t}$: The rate of return on assets of firm I in the current year, which is actually the net profit divided by total assets.

γ_1 : Persistence of cash flows.

γ_2 : Persistence of accruals.

$TACC_{i,t}$: The total accruals of firm i in the current year, and measured subtracting the current year's operating cash flows from the current year's net income.

According to Richardson's formula, earnings persistence is expressed by the next year's return on assets ($ROA_{i,t+1}$). This next year's return is affected by the earnings of the current year ($ROA_{i,t}$), where the coefficients γ_1, γ_2 and, are assumed to be less than zero ($\gamma_2 - \gamma_1 < 0$) in order to focus on the relative persistence of accruals, that estimate modified version of (1) in which cash flow component of earnings is replaced by earnings performance, The equation can be expressed as follows:

$$ROA_{i,t+1} = \rho_{0,i} + \rho_1(ROA_{i,t}) + \rho_2(TACC_{i,t}) + \varepsilon_{i,t+1} \dots (2)$$

Equation (2) can be expressed again as follows to reflect the parameters in equation (1).

$$ROA_{i,t+1} = \gamma_{0,i} + \gamma_1(ROA_{i,t}) + (\gamma_1 - \gamma_2)TACC_{i,t} + \varepsilon_{i,t+1} \dots (3)$$

Therefore, ($\rho_1 = \gamma_1$), and $\rho_2 = (\gamma_2 - \gamma_1)$. This estimation provides a direct estimate of the value in equation (1). When the parameter value (ρ_2) is less than zero, any negative value means that there is a persistence in earnings since i.e., the persistence of cash flows greater is greater than the persistence of accruals, so earnings are characterized by its persistence.

Two independent variables of the current study including the capital structure and assets utilization efficiency. The capital structure is measured by debt ratio, debt to equity ratio, and long term debt to total assets ratio, whereas assets utilization efficiency is measured by assets growth rate, assets turnover rate, working capital turnover, and the rate of current assets turnover.

Debt ratio is computed by dividing total liabilities by total assets, while debt to equity ratio is computed by dividing total liabilities by total equity. Long term debt to total assets is a relation of long-term liabilities to total assets. Regarding the measures of assets utilization efficiency, assets growth rate is computed by subtracting the beginning balance of total assets from its ending balance and this difference is divided by the beginning assets as a base balance. This ratio refers to the amount of growth in firms' assets. Asset turnover rate is computed by dividing net sales by the average of total assets, where it actually measures the efficiency of investing sources of financing in the use of assets to generate sales or revenues, and measures the volume of sales generated by the investment of each of the sources of financing in the assets of the firm. Working capital turnover is the net sales divided by the average working capital. Working capital turnover refers to the efficiency of a company's management in generating sales or revenues. The higher the turnover, the more net sales will be multiplied by the amount of money used to finance these sales. Current asset turnover rate is the net sales divided by the average total current assets.

The methodology of the study resembles the methodology used prior researches including Richardson et al (2005), Hamdan (2012) and Hamdan, et al (2012). The model of the study is mentioned as follows.

$$PE_{i,t+1} = \beta_0 + \beta_1 DR_{i,t} + \beta_2 DER_{i,t} + \beta_3 LDLAR_{i,t} + \beta_4 GRWR_{i,t} + \beta_5 ATR_{i,t} + \beta_6 WGR_{i,t} + \beta_7 CAR_{i,t} + \varepsilon_{i,t} \dots \dots \dots (1)$$

where:

$PE_{i,t+1}$: A measure of earnings persistence of firm i in period $t + 1$, measured based on Richardson et al form of 2005.

β_0 : Constant parameter value

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$: Regression coefficients for independent variables

DR_{it} : Debt ratio.

DER_{it} : Debt to equity ratio.

$LDLAR_{it}$: Long-term debt to long-term assets ratio.

$GRWR_{it}$: Asset Growth Rate.

ATR_{it} : Asset turnover rate.

WCR_{it} : Working capital turnover rate.

CAR_{it} : Current Assets Turnover.

$\varepsilon_{i,t}$: Error coefficient

Results and Analysis

Data Validity, Collenearity, and Normality

It was mentioned above that the data of 48 listed industrial firms were used in the analysis, where a total of 336 observations are included. The study is a time series study and cover the data of firms along 2009-2015. The validity of the data is checked using the software E-Views. Table (1) shows the results of validity test.

Regarding multicollinearity, table 1 shows that there is no correlation among the independent variables (Multicollinearity), because the results of the Variance Inflation Factor (VIF) for each variable is less than (5). This test is a measure of the correlation among the independent variables, where the VIF value of the variable is greater than (5) indicates a problem of linear multiplicity of the independent variable under consideration. This result supports the results of the Tolerance coefficient for each variable greater than 0.1. As a result of absent high correlation between the variables, the multiple regression analysis can be used in testing the hypothesis of the study, which means that the model of the study does not suffer from linear interference problem (Gujarati, 2003).

Table (1): Data validity tests and study model

Variables	Normal Distribution		Multicollinearity		Autocorrelation
	Jarque-Bera	P-value	VIF	Tolerance	Durbin Watson
DR_{it}	1380	0.0000	3.9	0.256	--
DER_{it}	346	0.0000	3.2	0.312	--
$LDLAR_{it}$	28510	0.0000	1.9	0.526	--
$GRWR_{it}$	1571	0.0000	1.1	0.909	--
ATR_{it}	102	0.0000	1.5	0.666	--
WCR_{it}	32859	0.0000	1.0	1.0	--
CAR_{it}	463	0.0000	1.5	0.666	--
$PE_{i,t+1}$	--	--	--	--	2.02

In addition to multicollenearity test, table(1) also shows Jarque-Bera (G-B) test which is used to test whether the data is normally distributed. Jarque-Bera test is used under 95 percent level of confidence. The

table reveals that p - value of G-B test is less than 0.05 for all variables, which means that the data is not close to normal distribution. Therefore there is no problem in the normal distribution of data, which enables the use of multiple regression method in testing the hypotheses of the study.

Durbin Watson (D-W) test is used to be certain that there is no problem of intrinsic correlation among the variables. When contiguous observations are interrelated, they will affect the validity of the model. The results appearing in table 1 demonstrate that the calculated value of the model is (2.02). This means that there is no problem of self-correlation among the variables of the study, and the model of the study is free of self-correlation. The optimal value for D-W is 1.5-2.5 (Gujarati, 2003).

Descriptive Statistics

Table (2) shows that the arithmetic mean of debt ratio(DR_{it}) is 36.4% of total funding of the firms, where this means that the industrial Jordanian listed firms depend more on equity than debt to fund its assets and investments. The value of the median equals 30.8% , which I not far from the mean of debt ratio, despite that the mean may be the most common measure of central tendency.

Table (2) also shows that the average of the debt to equity ratio(DER_{it}) is 83.6%. This means that shareholders' contributions in the capital of firms is greater than the borrowed funds. The maximum ratio of debt to equity is 494%, whereas the minimum is 4.0%. The analysis reveal a median of 45.9% for the debt to equity ratio. These proportions indicate that the capital structure of the listed industrial firms in ASE consists of debt and equity, despite more dependency on equity is appearing.

In addition, table (2) shows that 13.2 percent of long-term corporate assets are financed by using long-term debt instruments($LDLAR_{it}$), where the maximum ratio of long term debt to long-term assets is 32.8%, whereas the minimum is 0%, where the standard deviation is 0.29 .When these results are compared with the results of the debt ratio. Results show that most of borrowed funds are used in funding current or what is called short-term assets. Debt ratio, as the table shows, is 36.4%., whereas only 13.2 percent of borrowed funds is used in long-term assets.

Results appearing in table (2) reveal that the rate of growth($GRWR_{it}$) is 5 percent with 0.183 standard deviation. Results also indicate that the highest growth rate was (114.3%) and the lowest growth rate was (-66.2%), while, the value of intermediate growth rate is 4%, a negative ratio. This means that there is a difference in rate of growth among the firms of the sample. The rate of growth is considered reasonable, when compared with the target, and it is a good indicator for the success of the firm's performance, where this may lead to more expansion of business and increase earnings in these firms. However, the results indicate that there is a wide disparity among firms, despite that a decline in the level of growth is recorded in some firms. This is attributed to the economic conditions experienced by firms, in light of the regional events and their economic repercussions.

With regard to assets turnover rate(ATR_{it}) , table (2) shows that it equals 0.623, where this indicates that assets are sold, changed, developed, or replaced in a reasonable manner. This shows that firms do not generate enough sales to commensurate with the volume of investment in their assets, and net annual sales do not reach their average assets. The results show that the average value of the assets is 0.623 with a standard deviation of 0.395. The highest value of the assets turnover rate 2.406 and the least is zero. It can be said that the level of managements' efficiency in utilizing assets of firms in generating sales is uneven, and therefore this affects the persistence of earnings.

Regarding the working capital turnover ratio(WCR_{it}), table 2 reveals that the mean of this ratio is 1.531 times, where this indicates that the working capital generate \$ 1.531 net sales for each dollar invested in these assets. The highest value of return on working capital is 21.42 times, while the least is -19.370. The

results also show that some corporate firms don't have enough operating capacity of the working capital to generate sufficient sales that commensurate with the size of investment, or that their current liabilities exceed their current assets. It can be said that, the level of management efficiency in managing working capital to generate sales, varies among firms, but the majority of firms have a weak operating capacity. This gives a sign of weakness in the level of the firms' performance.

The results showed in Table (2) show that the current asset turnover rate(CAR_{it}) is 1.33 times. This means that the average current assets \$ 1.33 net sales per dollar invested in current assets. The results showed that the value of the median is 1.11 times, with the highest value of 6.57 and zero least value. The standard deviation of the working capital turnover is 0.953. This indicates a positive ability of management to generate sales from efficient utilization of working capital.

Table (2): Statistical Description of Study Variables

	DR_{it}	DER_{it}	$LDLAR_{it}$	$GRWR_{it}$	ATR_{it}	WCR_{it}	CAR_{it}
Mean	0.364	0.836	0.132	0.005	0.623	1.531	1.35
Median	0.308	0.459	0.000	-0.004	0.575	1.561	1.06
Max.	2.275	4.942	3.28	1.143	2.406	21.42	10.4
Min.	0.0039	0.004	0.000	-0.662	0.000	-19.37	0.000
St. Dev.	0.283	1.00	0.29	0.183	0.395	1.61	0.953
Observation	336	336	336	336	336	336	336

Hypotheses Testing

Testing the First Hypothesis

The hypothesis are tested based on Richardson et al (2005) model to measure future persistence of earnings, by dividing the earnings into their core components, cash flows and accruals, through the examination of multiple regression in the form of ordinary least squares. In a similar way of Allam, and Abu Ijela, (2012). Therefore, in case that $P < 0$, this indicates cash flows have more persistence than receivables, and earnings have a quality.

Table 3: Test the first hypothesis

$ROA_{i,t+1} = \rho_{0,i} + \rho_1(ROA_{i,t}) + \rho_2(TACC_{i,t}) + \varepsilon_{i,t}$					
Years	Constant	Coefficient		F- Value	P- Value
	ρ_0	ρ_1	ρ_2		
2009	2.249	0.191	0.00074	8.02	0.0011
2010	-0.327	0.765	-0.00044	33.265	0.000
2011	-0.489	0.603	0.00030	10.287	0.0002
2012	0.106	0.700	-0.00311	27.31	0.0000
2013	1.391	0.298	-0.00033	3.46	0.040
2014	0.369	0.801	-0.00025	24.250	0.000
2015	-3.403	1.086	-0.00044	35.477	0.000
All Years	0.240	0.555	-0.00041	81.506	0.000

The results appearing in table (3) show that the value of the coefficient of ρ_2 in years 2009 and 2011 is positive, which indicates that the persistence of accruals in corporate earnings is greater than the persistence of cash flows. The results for the years 2010, 2013, 2014, and 2015, the coefficient ρ_2 is negative, indicating that the persistence of cash flows of earnings is greater than the persistence of accruals.

Because the results reveal that the value of ρ_2 for all firms in all years is, which means that there is a persistence in earnings ($PE_{i,t+1}$). Because f-value equals 81.506 in the model, and p-value is zero, the null hypothesis is rejected, while instead, the alternative one is accepted. This result indicates the earnings of listed industrial firms at ASE are persistence. This result is in agreement with the findings of Allam and Abu Jijila (2012). The author believe that the result to the low practice of corporate management in managing earnings through its intervention in the measurement process, and this is due to the commitment of firms to implement the rules of corporate governance issued by the Securities Commission in 2008, which its application started since the beginning of 2009. As well as the result of the keenness of firm's management to make their financial and investment decisions, these managements carry out their activities in the light of economic, political and social events in the Arab region, due to the war that it takes place since the starting of 2011. This war constitute a challenge to the survival within these military and war conditions.

Testing the Second Hypothesis

The hypothesis had been developed to enable testing the effect of capital structure on earnings of the listed firms at ASE. The multiple regression method based on Pooled Data Regression is used in testing the hypothesis. Table (4) shows that the computed f-value equals 7.545, and p-sig equals 0.0004). Based on these values, the null hypothesis is rejected and the alternative one is accepted. This result demonstrates that capital structure, as measured by debt ratio, debt to equity ratio, and the ratio of long-term debt to long-term assets, affects the persistence of earnings. The results also reveal that the value of adjusted R^2 equals 36.1%, which means that a change of 100% in the capital structure leads to 36.1% of the change taking place in earnings persistence. Moreover, this value of adjusted R^2 indicates that at least one measure of the capital structure affects the persistence of earnings. According to the results appearing in table 4, debt ratio, and the proportion of long-asset financing through long-term debt have a significant effect on the persistence of earnings, since the value of Beta for two variables equals 0.132, and 0.053 respectively. In addition the results show that debt to equity ratio has significant effect on the persistence of earnings, since sig value is 0.046, but this effect is negative. The author believes that financing firms' assets through borrowing positively affects the persistence of earnings if it is used at an economical feasible investments. The inverse relationship between long-term debts to long term assets and the persistence of earnings is due to the fact that most of the debts of the firms included in the study sample are short-term debts directed by the corporate administrations in financing current assets, as shown in table 2 above. These results are in agreement with Al mahadeen, H. (2010), Allam (2012, and Akhtar et al (2012), where all found that the capital structure effects the quality of earnings. The ratio also are in agreement with Al-Hamdan and Al-gudah (2013) where they revealed a positive effect of capital structure on performance, and are in disagreement with Abdul Jalil (2014), where they revealed that the capital structure has a reverse effect performance.

Table (4): Test the second hypothesis

Model 1	$PE_{i,t+1} = \beta_0 + \beta_1 DR_{i,t} + \beta_2 DER_{i,t} + \beta_3 LDLAR_{i,t} + \varepsilon_{i,t}$		
	β	T	Sig.
Constant	-0.0311	-3.010	0.0045
DR_{it}	0.1320	2.506	0.016*
DER_{it}	-0.0064	-0.437	0.66
$LDLAR_{it}$	-0.0530	-2.057	0.046*
R^2	0.361		
Adjusted R^2	0.313		
F-Test	7.545		
p-value	0.0004*		
Durbin - Watson	2.29		

*Sig. at $\alpha \leq 5\%$.

Testing the Third Hypothesis

The hypothesis had been developed to examine the effect of the efficiency of assets utilization on earnings persistence of listed industrial firms at ASE. The multiple linear regression method based on Pooled Data Regression had been used in testing the hypothesis. Table 5 shows that the computed f-value equals 6.728, and the p-value equals 0.0003, where this value is sharply less than the predetermined coefficient of significance, that equals 0.05. Based on these results which show that the computed f-value is higher than its corresponding tabulated one, and the computed coefficient of significance (p-value) is less than the predetermined one, the null hypothesis is rejected, and instead, its alternative one is accepted. The results indicate that a statistically significant effect on the efficiency of assets utilization, as measured by asset turnover rate, growth rate of assets, working capital turnover, and current assets turnover, affects earnings persistence. The results also reveal that the value of the adjusted R^2 equals 35.8%, which means that a change of 100% in the capital structure accounts leads to 35.8% change in earnings persistence, and also indicate that there is at least one indicator of asset utilization efficiency affects earnings persistence. According to the results appearing in Table 5, these results indicate that the rate of growth of assets, turnover rate, and working capital turnover have a positive significant effect on earnings persistence, based on 0.05 predetermined coefficient of significance. While the results showed that the turnover of current assets has a positive significant effect on earnings persistence, since the computed p-value is 0.049. The author believes that the management of the industrial included firms in the sample are generally use assets, whether these assets are current or noncurrent, in an efficient form to achieve a type of continuous earnings to manage the challenges they face to achieve persistence in its earnings. This result agrees the findings of Abdul Jalil (2014) with respect to asset turnover, and growth rate.

Table (5): Test the Third hypothesis

Model ₁	$PE_{i,t+1} = \beta_0 + \beta_4 GRWR_{i,t} + \beta_5 ATR_{i,t} + \beta_6 WGR_{i,t} + \beta_7 CAR_{i,t} + \varepsilon_{i,t}$		
	β	T	Sig.
Constant	-0.039	-3.386	0.001
$GRWR_{i,t}$	0.176	3.23	0.002*
$ATR_{i,t}$	0.036	2.03	0.049*
$WCR_{i,t}$	0.018	2.70	0.01*
$CAR_{i,t}$	0.013	1.92	0.062**
R^2	0.421		
Adjusted R^2	0.358		
F-Test	6.728		
p-value	0.0003*		
Durbin - Watson	1.669		

*Sig. at $\alpha \leq 5\%$.

**Sig. at $\alpha \leq 10\%$.

Testing the Fourth Hypothesis

The second hypothesis had been developed to enable testing the entire effect of the capital structure and the efficiency of assets utilization together on the persistence of earnings of listed firms at ASE. The multiple linear regression method based on the Pooled Data Regression is used in testing this hypothesis. Table (6) presents the related results of analysis for the hypothesis. It reveals 5.536 computed f-value at 0.0003 coefficient of significance. When the computed f-value is compared with its corresponding tabulated one, it is apparent that the computed one is higher. Moreover, when the computed coefficient of significance is compared with the predetermined one that equals 0.05, it is apparent that the computed one is less than the predetermined. Based on these comparisons, and because the computed f-value is higher than the tabulated, and the computed coefficient of significance is less the corresponding one, the null hypothesis is rejected,

where instead, the alternative one is accepted. This result means that the capital structure and the efficiency of assets utilization together have a grouped effect together on earnings persistence. The results also demonstrate that the value of Adjusted R^2 equals 44.9%, where this means that both of capital structure and assets utilization efficiency, together explain about 44.9 percent of the change taking place in earnings persistence. In addition, the results show that debt ratio, growth rate, working capital turnover rate, and current assets turnover have a positive significant effect on earnings persistence at 95 percent level of confidence (0.05 Coefficient of significance), while the other variables have no statistically significant effect. The author believes that the debt ratio has a positive impact on earnings persistence because managements of firms companies decide to use debts when it sees that these debts are economically feasible, and these managements take into account the expected total return that can be achieved, and the cost of financing. The author believes that the corporate debt is directed towards investing in current assets and operating activities, where both of the turnover of working capital rate and the turnover current assets rate support this opinion. Moreover, the ratio of financing fixed assets of total debt is 13.2 percent, so based on these results, the capital structure and the efficiency of asset utilization have an impact on firms' earnings persistence. Thus, managements of firms enhance the firms' survival based on their practices and economic activities, because the survival and persistence of firms depend on the results of financing and investing decisions. Investment decisions are related to how money is allocated and used efficiently in current and fixed assets, in order to achieve its strategic objective of the persistence and firms' value maximization.

Table (6): Test the Fourth hypothesis

Model	$PE_{i,t+1} = \beta_0 + \beta_1 DR_{i,t} + \beta_2 DER_{i,t} + \beta_3 LDLAR_{i,t} + \beta_4 GRWR_{i,t} + \beta_5 ATR_{i,t} + \beta_6 WGR_{i,t} + \beta_7 CAR_{i,t} + \varepsilon_{i,t} \dots \dots \dots (1)$		
	β	T	Sig.
constant	-0.05750	-4.6569	0.0001*
$DR_{i,t}$	0.00133	2.1327	0.040*
$DER_{i,t}$	-0.02087	-1.2055	0.236
$LDLAR_{i,t}$	-0.0279	-1.0909	0.2834
$GRWR_{i,t}$	0.14635	2.63772	0.012*
$ATR_{i,t}$	0.00978	0.48154	0.6334
$WGR_{i,t}$	0.0150	2.374	0.024*
$CAR_{i,t}$	0.0166	2.445	0.02*
R^2	0.5477		
Adjusted R^2	0.4488		
F-Test	5.54		
p-value	0.0003*		
Durbin - Watson	2.021		

*Sig. at $\alpha \leq 5\%$.

** Sig. at $\alpha \leq 10\%$.

Findings & Conclusions

Based on data analysis and hypotheses testing that presented in section 5, the following are the key conclusions of the study.

1. The study finds that the industrial listed firms at ASE have a manner of earnings persistence.
2. There is a positive significant effect capital structure on earnings persistence of listed industrial firms at ASE.

3. Assets utilization efficiency has a positive significant effect as measured by assets growth rate, working capital turnover, current assets turnover, and assets turnover rate on earnings persistence of listed industrial firms at ASE.
4. Debt to equity ratio and the ratio of long-term debt to long-term assets have insignificant effect on earnings persistence of listed industrial firms at ASE.
5. The capital structure of listed industrial firms at ASE is a mix of both debt and equity.

In addition to the above direct findings, the following are indirect conclusions.

- 1- The listed industrial firms at ASE finance its assets based on a combination of both borrowed and shareholders contributions.
- 2- The majority of the debts of listed industrial firms at ASE are directed toward investment in current assets of these firms.
4. There is a wide disparity between the listed industrial firms at ASE in achieving assets growth rate and asset turnover rate, and some of these firms reported a decline in these rates.
5. Earnings persistence that the listed industrial firms at ASE achieve reveals that these firms have earnings quality, despite the surrounding unstable economic, military, and political conditions.
6. There is a moderate efficiency of utilizing assets of the listed industrial firms at ASE, based on measures of assets turnover rate, working capital turnover, and current assets turnover.

Based on the findings of the study, especially the direct findings, the managements of listed industrial firms at ASE are required to maintain this manner of earnings persistence, and required to make more efforts to reduce the effects of the surrounding bad conditions. Managements of firms are required to achieve more efficiency in utilizing the valuable assets in order to increase the profitability and to maintain earnings persistence. Managements, shareholders, creditors, and other stakeholders are invited to consider the findings and recommendation of the study. More and more related studies are recommended to be carried out by authors, where more variables are recommended to be included and the effect of capital structure and assets utilization efficiency are recommended to be taken into consideration.

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