Relevance of Income Components and Firms Value – Empirical Study on Listed Industrial Companies (2003-2012)

Dr Thair Adnan Kaddumi

Finance and Banking Science Department, Applied Science University, Jordan

P.O.Box 166 Postal Code 11931, Amman, Jordan

thair_lion@asu.edu.jo

Abstract:-

This paper investigates into the implications of financial information included in financial statements in relation to value relevance and to explain reasons behind fluctuation in stock market value. Based on a sample of 50 industrial listed companies in Amman Stock Exchange – ASE, and by running regression statistical analysis, the study concluded that independent variables (EPS, BV, GP) collectively have a significant positive impact on SMP (R^2 = 63.6%), moreover OCF as independent variable also has a positive impact on SMP (R^2 = 21.9% ; Sig = 0.000), which means that income components affect positively and enhance the firms` value positively. This indicates the importance of accounting information as a denotation for investment decision in stocks.

Keywords: Relevance, Components, Stock, Firm Value, Income, Financial Information.

1. Introduction:-

(IAS – International Accounting standards, 2007), stated that one of the main objectives of financial statements is to provide a complete information regarding the financial performance, financial results and cash flow position of the organization to a large number of users to assist them in decision making.   Accounting information provide investors and other stakeholders with the necessary and comprehensive information regarding the financial position and financial results of the firm, that assist them in decision making, but different users of income statement vary toward the importance of each income component. (Hung, 2001; Ball et al., 2003) stressed on the significance of accounting figures in providing information that sums its effect on firm's value. (Dumontier & Raffournier, 2002; Cheng and Yang, 2003; Collins, 2002) argued that the question here, does these statements represent firms fairly? (Weygandt et al., 2003) stated that, these statements do not represent the actual performance of the firm.

Many empirical studies has been conducted on large developed markets, concluded that the nature of relation associated between earning and stock return is relatively weak. (Ball and Brown, 1968; Beaver, 1970) researches were the most original works that shed the light on price and earnings associated relation and the importance of financial data disclosed by financial statement. (Amir et al. 1993) were the first to employ the term "Value Relevance" in the context of financial statements information. During mid nineteen's researchers started to notice the important use of equity book value in Ohlson and Felthman valuation structure in the context of equity book value and earnings (Feltham and Ohlson, 1995; Callao et al., 2006; Chang et al., 2008; Beisland, 2009)

The main objectives of the study is to investigate into the relationship trait between value relevance figures reflected by income components derived from financial statements and stock market price returns, in order to locate as how do financial statements data do impact stock market price, and if such impact holds a positive or adverse effect on stock market price?

The remainder of the study is structured in the following manner: the next section will go through the previous literatures related to income relevance and income components, followed by data discussion, research methodology and statistical model employed for testing study`s hypothesis, then empirical results discussion followed by last section, summary and conclusion.

2. Value Relevance Concept:-

(Valipour, H., et al. 2012) defined Value relevance as the statistical relationship associated between financial statements information and the change in share market returns, and that measures based on accounting data can explain shares market value in a proper way. (Beisland, 2009) also added that Value relevance can be defined as the ability of accounting figures included in the financial statements to interpret stock market return measures, (Gjerde, Knivsfla and Saettem, 2007) terms such as EPS – Earning Per Share portray value relevant, moreover terms such as ROA and ROA are value relevance terms.

3. Literature preview:-

Many researchers and practitioner examined, discussed and debated the type of factors that is more responsible in explaining the change in market to book value or the change in share book value, whether its comprehensive income or accrual earnings or is it EVA variable that can explain the change associated with market to book value.

(Biddle et al. 1997) study sought to determine which is more capable in determining its effect on stock return and firm`s value, is it EVA variable or earnings variables? They disclosed that EVA is more capable in explaining the change in stock return and firm`s value than accrual earnings. (Stewart, 1991; Wallace, 1997) also emphasized on the role of EVA in determining firms` performance rather than earnings indicators that may give misleading results. (Collins, et al. 1997), concluded that share book values and accrual earnings have been more successful as significant independent variables in explaining stock prices.

(Jing at el.; Sloan 1996; Charitou at el. 2000; Holthousen and Watts. 2001) In relation to value relevance their literature has investigated the significance of value relevance based on accrual basis versus cash basis. (Hellstrom, K., 2006), addressed the need for financial disclosure and accounting extent that may affect the relevance importance of accounting data. (Hadi, M., 2006) study on Jordan market found that there is a very strong relation between different income components with market-to-book value.

(Dhaliwal at el.1999) excluding financial firms, they found that there is no statistical evidence that comprehensive income is significantly associated to the change in market to book value ratio than net income. (Mingyi Hung 2000) in his study of accrual basis versus cash basis, concluded that the accrual basis information are negatively related to the value relevance of financial statement. (Jindrichovska, 2001; Jarmalaite Pritchard, 2002) tested the statistical relation between accounting earnings and market returns in Czech Republic, Both studies reached to a significant relation associated between accounting earnings and market returns.

(Vishnani and Shah, 2008) studying the impact of financial statements reporting impact on listed companies in India security market, detected that value relevance of disclosed financial statements owns a negligible relationship with value relevance perspectives. (Aba Ibrahim et al., 2009) revealed that earning and share book value is strongly associated with Financial statements data contents that are used in firm valuation, it means that accounting data plays a very significant role in valuation of firm's value in Malaysian security market.

(Shamki and Abdul Rahman, 2011) found that net income is more relevance in explaining the change in stock market value in industrial sector as well as service sector, but the degree of relevance was more significant in service sector rather than industrial sector. A study by (Valipour, H., et al. 2012) on Tehran Stock Exchange – TSE found that income components represent a useful information for users, they added that firm size has no realizable impact on the related the components of income levels. (Dahmash, A. and Qabajeh, M., 2012)

4. Study Objectives and Hypothesis:-

4.1 Study Objectives:

(Rimerman, 1990 & Jenkins, 1994) pointed out that value relevance of financial statements in relation to firm`s valuation has been under dispute, but according to (Collins, et al., 1997; &Francis et al.1999) these disputes and arguments necessitated the need to investigate into the issue whether or not accounting data has lost its relevance to firm`s value or not. Many researchers has discussed the value relevance of accounting information with stock returns, (Brimble, 2003) discovered that the significant importance of financial statement has not declined and it's obvious in the value relevance of balance sheet information which is in consistency with other studies results (for instance, Shevlin, 1991; Barth, 1994; Amir & Lev, 1996 and Ibrahim, et al. 2001;). (Valipour, H., et al. 2012) the income levels and it's components that is represented in the statement of financial results (income statements) is the main criteria for assessing the firm operational results.

The main objectives of the study is to investigate into the relationship trait between value relevance figures reflected by income components derived from financial statements and stock market price returns, in order to locate as how do financial statements data do impact stock market price, and if such impact holds a positive or adverse effect on stock market price? Moreover to enhance the understanding of the relevance of income components to change in share market price that may be a helpful tool for different users of financial information, especially investors and decision makers, moreover it will be an addition and compliment to emerging markets.

4.2 Hypothesis:-

In order to attain the above mentioned objectives and test the value relevance of accounting figures and firm`s valuation, the following the following hypothesis were formulated to serve the aforementioned objectives:-

$H_{01:}$ There is no positive relationship associated between Income Components jointly with SMP.

$$SMPi,t = α + β1 EPSi,t + β2 BVi,t + β3 GPi,t + β4 Salesi,t + Ɛi,t \quad ……………(1)$$

$H_{02:}$ There is no positive relationship associated between cash flow – CF and firm share market price.

$$SMPi,t = α + β1OCFi,t + Ɛi,t \quad ……………(2)$$

Where:

SMPi,t = Share market price at time t

EPSit   = Earnings per share at time t

BVit   = Share Book value at time t

GPi,t   = Gross profit value at time t

Si,t   = Sales value at time t.

OCFi,t   = Operational Cash Flow value at time t.

β   = Regression Coefficient Slope.

Ɛi,t = Error term

5. Data and research methodology:-

Referring to previous studies this study used pooled panel data analysis by combining time series and cross sectional data. The study provides a thorough analysis into value relevance (income components) of financial information of all industrial companies listed in Amman Stock Exchange-ASE market (50 industrial companies) out of 72 industrial listed companies as on 31 / 12 /2012, the exemption of 22 industrial company due to non-availability of all the financial information's required for the study. The time horizon for the study was for 10 years 2003 to 2012.

Aiming at determining the aggregate ASE market`s reaction (measurement perspective) to accounting figures – firm earnings, EPS , Gross profit, Share book value and Operational Cash Flow.

6. Testing Hypothesis (H_{01}):

Running Multiple Linear Regression Test, in order to test hypothesis (H_{01}) that is based on accrual basis accounting information, and for that purpose, stepwise model analysis was adopted, in order to expose which one of the study independent variables that has t-statistics greater than 5% that was excluded by the model. The predictors – independent variables (EPS, BV, GP and Sales) and the dependent variable (SMP), and the output of the test were as follows:

Table (1): Multi-Linear Regression between Income Components and SMP

	R2	Sig.
(EPS, BV, GP, Sales) on SMP	0.636	0.000

The Sales predictor was excluded by the model, and this can be explained that if the predictor Sales is entered into the model it will not have a significant impact on the model's ability to predict SMP, t=0.301, $p>0.05$. Also the Beta value is extremely close to zero.

From the above table we can notice that the value of the coefficient of determination R^2 is equal to 0.636, which gives an indication of how relevant are the predictors in describing the amount of variation in the value of dependent variable, so the model`s Income Components here can describe about 63.6% of the variation occurrence in the SMP, which is considered highly relevant to value fluctuation.

The p-value (Sig.) is less than 5%, which means that there is a positive relationship associated between Income Components collectively with SMP. So we reject the null hypothesis.

Table (2): Coefficients of Multi-linear Regression between Income Components and SMP

	EPS	BV	GP
Beta	0.425	0.313	0.204
p-value (Sig.) for T-Test	0.000	0.000	0.000
$β$	2.988	1.254	0.522

When we look to the table (2) of coefficients above we can find the influence of each Income Components on SMP, so earning per share has the strongest influence on the share market price by 42.5% then comes the book value with influence of 31.3% and the gross profit value with influence of 20.4%,

what is worth mentioning that all of the Income Components have a positive relationship with the SMP. Also all of the p-value(s) associated with T-Test are less than 5%, which means the Income Components are making a significant contribution to the model in predicting SMP.
Finally the equation of Multiple Linear Regression is:

$$\text{SMP}_{i,t} = -7.04 + 2.988 \, \text{EPS}_{i,t} + 1.254 \, \text{BV}_{i,t} + 0.522 \, \text{GP}_{i,t} + 2.95 \quad \text{……………(1)}$$

7. Testing Hypothesis (H_{02}):

Based on cash basis accounting information (Operational Cash Flow), simple Linear Regression testing model was adopted for the sake of testing hypothesis (H_{02}), and this is attributed that this hypothesis is based on a single predictor, and the outcome of the model test were as follows:

Table (3): Simple Linear Regression Outcome

	β	R	R^2	Sig.
Cash Flow on SMP	1.189	0.468	0.219	0.000

Table (3) above shows that the value of the coefficient of determination R^2 is equal to 0.219, which means that operational cash flow value can describe about 22% of the variation in the dependent variable.

This is considered a very good and a significant impact by Operational Cash Flow over the Stock Market Price with a Percentage of 46.8% and the p-value associated with T-Test is 0.000 which is less than 0.05. (Note: Beta=R in a Simple Linear Regression)
The p-value (Sig.) of the model is less than 5%, which means that there is a positive relationship associated between cash flow – CF and firm share market price. So we reject the null hypothesis.

The Simple Linear Regression equation is:

$$\text{SMP}_{i,t} = -13.389 + 1.189 \, \text{CF}_{i,t} + 4.322 \quad \text{……………(2)}$$

8. Conclusion:

Investors in stocks are very reluctant to determine the factors that affect stock market price in order to determine their investing decision. Factors such as company`s financial position, demand and supply, economic conditions etc. are some of the factors that may affect investing investor`s decision. This research is an attempt to figure out the relevance of accounting information with stock market price in which the study concluded that accounting information (accrual and cash basis). The study concluded that accounting information are statistically and significantly relevant and associated with the change in stock market value, therefore investor`s should take the study predictors as a bench mark for their investment decision. The results of this study was consistent with many studies such as (Vishnani and Shah, 2008; Valipour, H., et al. 2012). Thus investing decision should not be taken randomly and unawareness, on the contrary it should be based on some bench marks to decide the which investment opportunity should be acquired in order to achieve the expected capital gain from such investment.

References:-

Aba Ibrahim, M. B., Binti Bujang, H.F., Madi, N., Abu Samah, A.B., Binti Ismai, U.S., Jusoff, K. and Narawi, A. (2009). *Value-Relevance Of Accounting Numbers For Valuation.* Journal of Modern Accounting and Auditing, Volume 5, No.9, pp. 30-39.

Amir, E., Harris, T.S. & Venuti, E.K. (1993). *A Comparison of the Value Relevance of U.S. versus non-U.S. GAAP Accounting measures using Forms 20F reconciliations.* Journal of Accounting Research, Issue 31.

Amir, E., Lev, B., (1996). V*alue-Relevance Of Non-Financial Information: The Wireless Communications Industry*. Journal of Accounting and Economics, Issue 22, pp. 3-30.

Ball, R. and Brown, P. (1968). *An Empirical Evaluation of Accounting Income Numbers.* Journal of Accounting Research, autumn: pp. 159–78.

Ball, R. et al. (2003). *Incentives Versus Standards: Properties of Accounting Income in Four East Asian Countries.* Journal of Accounting and Economics, Vol. 36, pp. 235–270.

Barth, M.E., (1994). *Fair value accounting: Evidence from Investment Securities and the Market Valuation Of Banks*. The Accounting Review, Issue 69, No. 1,pp. 1-25.

Beaver, W. H. (1970). *The Time Series Behavior of Earnings*. Journal of Accounting Research, Vol. 8, Issue (3), pp. 62-99.

Beisland, A.E. (2009). *Essays on the Value Relevance of Accounting Information*. Working paper of Norwegian school of Economics and Business Administration.

Beisland, L. A, M. Hamberg and J. Novak (2009). *The Value Relevance Across Industries: What Happened to the New Economy*, http://www.fma.org/Prague/Papers/Value_Relevance_across_Industries.pdf

Biddle, G. C., Bowen, R. M., & Wallace, J. S. (1997). *Does EVA Beat Earnings? Evidence on Associations With Stock Returns and Firm Values*. Journal of Accounting and Economics, 24(3), 301–336.

Brimble, M. A., (2003). *The Value Relevance of Accounting Information for Valuation and Risk*. Unpublished PhD thesis, School of Accounting, Banking and Finance, Griffith University, Brisbane Australia.

Callao, S., B. Cuellar and J. I. Jarne (2006). *International Differences in Value Relevance of Accounting Data and Explaining Country Factors.* International Journal of Accounting, Auditing and Performance Evaluation, Volume 3, No. (4), pp. 387-408.

Chang, H., Y.Chen, C. Su and Y.Chang (2008). *The Relationship between Stock Price and EPS: Evidence Based on Taiwan Panel Data.* Economic Bulletin, Volume 3, No. (30), pp. 1-12.

Charitou, Clubb and Andreou, (2000). *The Value Relevance of earnings and Cash Flows: Empirical Evidence for Japan.* Journal of International Financial Management and Accounting, Volume 11, No. 1

Cheng, C.S.A. & Yang, S.S.M. (2003). *The Incremental Information Content of Earnings and Cash Flows from Operations affected by their extremity*, Journal of Business Finance & Accounting Volume 30 (1&2).

Collins, D., Maydew, E., Weiss, I.. (1997). *Changes in Value-Relevance Of Earning And Book Values Over The Past Forty Years.* Journal of Accounting and Economics 24, 39-67.

Dahmash, F. N., & Qabajeh, M. (2012). *Value relevance of Ohlson model with Jordanian Data*. Interdisciplinary Journal of Contemporary Research in Business, 3(11), 551-560.

Dhaliwal, D., Subramanyam, K. R. and Trezevant, R., (1999). *Is Comprehensive Income Superior to Net Income as a Measure of Firm Performance?* Journal of Accounting and Economics, Issue 26,pp. 43-67.

Dumontier, P., & Raffournier, B. (2002). *Accounting and Capital Markets: A survey of the European Evidence*. The European Accounting Review, Vol. 11, pp. 119−151.

Feltham, G. and J. Ohlson (1995). *Valuation and Clean Surplus, Accounting for Operating and Financial Activities*, Contemporary Accounting Research, Volume11, No. (2), pp. 689 – 731.

Francis, J. and Schipper, K.. (1999). *Have Financial Statements Lost Their Relevance?* Journal of Accounting Research, Issue 37, No. 2, pp. 319-352.

Gjerde, O., K. Knivsfla and F. Saettem (2007). *The Value-Relevance of Financial Reporting in Norway. 1965- 2004,* Working Paper.

Hadi, Mahdi M., (2006). *The Value-Relevance of Income Levels and Components Reported*. International Research Journal of Finance and Economics, Issue. 4, pp 133 – 142.

Hellstrom, K., (2006). *The Value Relevance of Financial Accounting Information in a Transition Economy: The Case of the Czech Republic.* European Accounting Review, Volume 15, No. 3, pp. 325–349.

Holthousen, R.W. & Watts, R.L., (2001). *The Relevance Of The Value Relevance Literature For Financial Accounting Standard Setting*, Journal of Accounting and Economics, Volume 31.

Hribar, P. & Collins, D.W. (2002). *Errors in Estimating Accruals: Implications for Empirical Research*, Journal of Accounting Research Issue 40, No.(1).

Hung, M. (2001). *Accounting Standards and Value Relevance of Financial Statements: an International Analysis*. Journal of Accounting and Economics, Vol. 30, pp. 401−420.

Ibrahim, M. K., Marzita, M. S., Radziah, A. L. and Zaleha, A. S. (2001). *Value Relevance Of Accounting Numbers: An Empirical Investigation Of Purchased Goodwill*. Accounting discussion paper, University Technology Mara Malaysia.

International Accounting Standard (IAS), (2007). EU IAS1: *Presentation of Financial Statements*.

Jarmalaite Pritchard, N. (2002). *The Relationship Between Accounting Numbers And Returns In The Baltic Stock Markets*. Working paper, CERT, Heriot-Watt University, Edinburgh.

Jenkins, E.. (1994). *An Information Highway in Need of Capital Improvements*. Journal of Accountancy, Issue, 172, pp. 77-82.

Jindrichovska, I. (2001). *The Relationship between Accounting Numbers and Returns: Some Empirical Evidence From The Emerging Market Of The Czech Republic*. The European Accounting Review, Volume 10, pp. 107−131.

Jing Liu, Doron Nissim, and Jacob Thomas, (2007). *Is Cash Flow King in Valuation*s. Financial Analysts Journal Volume 63 No. 2, CFA Institute

Mingyi Hung, (2000). *Accounting Standards and Value Relevance of Financial Statements- An International Analysis*, Journal of Accounting and Economics, Volume 30, No.3.

Rimmerman, T.. (1990). *The Changing Significance of Financial Statements.* Journal of Accountancy, pp. 79-83.

Shamki, D., and Abdul Rahman, A., (2011). *Net Income, Book Value and Cash Flows: The Value Relevance in Jordanian Economic Sectors.* International Journal of Business and Social Science, Volume 1, No. 1, pp. 123-135.

Shevlin, T. (1991). *The valuation of R & D Firms with R & D Limited Partnerships*. The Accounting Review, Issue 66, No. 1, pp. 1-21.

Sloan R.G., (1996). *Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings?* The Accounting Review, Issue 71, No. (3).

Stewart III, G.B., (1991). *The Quest for Value. Harper Business*, New York, page 66.

Valipour, H., Shahabi, A., and Moradi, J., (2012). *Relevance of Income Levels and Income Components for Determining Firm Value*. European Journal of Economics, Finance and Administrative Sciences, Issue 44, pp 36 – 44.

Vishnani, S. and Shah, B. K. (2008). *Value Relevance of Published Financial Statements- with Special Emphasis on Impact of Cash Flow Reporting*. International Research Journal of Finance and Economics, Issue 17, pp. 84-90.

Vishnani, S. and Shah, B., (2008). *Value Relevance of Published Financial Statements- with Special Emphasis on Impact of Cash Flow Reporting.* International Research Journal of Finance and Economics, Issue 17, pp. 84-90.

Weygandt J, Kieso D, Kimmel P, (2003). *Financial accounting* (UOPHX special edition series). New York: John Wily and Sons.