

## **THE EFFECT OF FINANCIAL RATIOS, FIRM SIZE AND CASH FLOWS FROM OPERATING ACTIVITIES ON EARNINGS PER SHARE: (AN APPLIED STUDY: ON JORDANIAN INDUSTRIAL SECTOR)**

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### **—Abstract —**

The objective of this study is to examine the effect of accounting information on earning per share (EPS) by using five categories of financial ratios. A sample of 40 companies listed in the Amman Stock Market was selected. To measure the impact of financial ratios on EPS multiple regression method and stepwise regression models are used by taking profitability, liquidity, debt to equity, market ratio, size which is derived from firm's total assets, and cash flow from operation activities as independent variables ,and EPS (Earning Per Share) as dependent variable. The results show that profitability ratio (ROE), Market ratio (PBV), cash flow from operation/sales, and leverage ratio (DER) has significant impact on earning per share.

**Key Words:** *financial ratio.; Earnings per share; Amman Stock Market*

**JEL Classification:** G

### **1. INTRODUCTION**

Accounting information from financial reports can describe firm's condition. The financial reports are affected by two factors, firms' activities and accounting system adopted by the firm (Palepu, Healy & Bernard, 2004). There are many researches in value of financial reports information (both annual and interim reports). Some researches study accounting information in predicting firms' future financial performance, such as earnings and growth (Lev Trigrajan, 1993), while other researches measure the effect of accounting on share price (Abarbanell & Bushee, 1998).

This research reinvestigates the relationship between financial reports information and return on share by using five categories of commonly used financial ratios (Ross, Westerfield & Jordan, 2006) including profitability, long term solvency/leverage, short term solvency/liquidity, asset utilization/turnover, and market value. In addition it uses two additional variables from previous research; Size which is derived from firm's total assets (Johnson & Soenen, 2003; Hobarth, 2006), and cash flow from operation (Daniati & Suhairi, 2006; Sussanto & Ekawati, 2006; Meythi, 2006).

The reminder of this study is organized as follows. The next section contains literature review and followed by methodology. The third section discusses research result. Conclusions and suggestion for future researches discussed in the final section.

## **2. LITERATURE REVIEW**

Financial ratio analysis can help investors in making investment decision and predicting firm's future performance. It can also give early warning about the slowdown of firm's financial condition (Ohlson, 1980).

Research in finance shows that firm's characteristics (such as growth, company size, efficiency) can predict the future stock price. Johnson and Soenen (2003) analyzed 478 firms in USA during 1982-1998 and concluded that big sized and profitable firms with high level advertising expenditure have better performance in terms of those three measurements.

Hobarth (2006) studied the correlation between financial indicators and firm's performance of listed firms in USA for 19 years period by using 17 financial indicators and three variables to measure firm's performance, namely market performance (measured by changes in stock market value), cash flow performance (dividend per share), and profitability (ROI). The result shows that firms with low book to market ratio, efficient working capital management, low liquidity, more equity and less liabilities, and high retained earnings have high profitability based on ROI. Firms with unqualified opinion from auditor, more liabilities and less equity, low total assets and retained earnings have better cash flow performance (measured by cash dividend). Furthermore, firms with low book to market ratio, efficient working capital management, more equity and less liabilities, low total assets and high EBIT margin have better market performance (measured by changes in stock price).

Research about accounting information for predicting return on shares is also conducted in Indonesia. Daniat and Suhairi (2006) showed that cash flow from

investing activities, gross profit, and company size significantly affect expected return on shares. On the other hand, cash flow from operating activities does not affect expected return significantly. Meythi (2006) researched 100 manufacturing firms in BEJ during 1992-2002 and concluded that, with profit persistence as intervening variable, cash flow from operating activities does not affect stock price. Hamzah (2007)(1) analyzed the correlation between financial ratios, including liquidity ratio (Current ratio), profitability ratio (Return on Investment), activity ratio (Total Assets Turnover), and solvability ratio (Debt to equity), and both capital gain (loss) and dividend in 135 manufacturing companies listed on Jakarta Stock Exchange. This research discovers that all ratios have positive correlation with capital gain (loss). However, only Current ratio which is statistically significant ( $\alpha=5\%$ ). Furthermore, for correlation with dividend yield, only Total assets turnover that is proved significant ( $\alpha=10\%$ ).

In Jordan, Al-Malay, Al-Mary and Ayed (2010) performed a research on the relationship between P/E ratio, dividend yield, size and stock returns in Jordanian companies. The result showed that there is long run equilibrium between dividend yield, P/E ratio, size and the return on the stocks of Jordanian companies.

Dwi Martani, Malone, Ratfink Khairurizka(, 2009) studied the effect of financial ratios, firm size, and cash flow from operating activities in the interim report to the stock Return. Using 39 manufacturing companies listed on Indonesia Stock Market. The result shows that profitability, turnover and market ratio has significant impact to the stock return.

### **3. METHODOLOGY**

The diversity of research results on the correlation between stock return and financial ratios stimulates further research. This paper will discuss that correlation using the data from Amman Stock Exchange. The hypothesis that will be examined is

Hi: Net profit margin, return on equity, current ratio, debt to equity, total asset turnover, price to book value, cash flow from operating activities, and company size, each of them has significant correlation with stock return.

The regression model tested in this research and the description for each variable are as follow:

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<sup>(1)</sup> - Dwi Martani, Mulyono, Rahfiani Khairurizka( Jun, 2009) The effect of financial ratios, firm size, and cash flow from operating activities in the interim report to the stock return.)

### 3.1 Model

The equation and variables used for the study are given below:

$$EPS = \beta\alpha + \beta_1NPM + \beta_2ROE + \beta_3CR + \beta_4DER + \beta_5TATO + \beta_6PBV + \beta_7CFO / Sales + \beta_8LogTA$$

The dependent variable is Earnings per Share, while independent variables are: NPM, ROE, CR, DER, TATO, PBV, TA, and CFO/Sales.

Table 1 Variables description

Category	Symbol	Description	Hypothesis
Return	EPS	Earnings per share	Dependent
Profitability	NPM	Net profit margin	Independent
Profitability	ROE	Return on equity	Independent
Liquidity	CR	Current ratio	Independent
leverage	DER	Debt to equity ratio	Independent
Turnover	TATO	Total asset turnover	Independent
Market ratio	PBV	Price to book value	Independent
Size	TA	Total asset	Independent
Cash flow	CFO/Sales	Cash flow from operation/Sales	Independent

Notes: RET = return on stock; NPM = Net profit margin; REO = Return on equity; CR = Current ratio; DER = Debt to equity ratio; TATO = Total asset turnover; PBV = Price to book value; CFO/Sales = Cash flow from operation/Sales; Log TA = Log (Total assets).

### 3.2 Research sample

This research used primary data from financial statements, including income statement, balance sheet, and cash flow statement, issued by manufacturing companies listed on Stock Exchange. Moreover, other resources such as text book, newspapers, and Journals are also utilized to review the theoretical framework from previous researches. The sample in this research is manufacturing firms listed on ASE (Amman Stock Exchange) which are selected by purposive sampling.

In choosing the sample, there were pre-determined criteria as follow:

- The firm has published its complete financial statements for ten year period from 2000 to 2009.
- The firm's fiscal year –end is December.
- The firm does not have negative equity.
- The firm's stock has been actively traded during 2000-2009.

It is determined by reviewing stock trading day every month. Transaction must take place at least in one day every month during 2000- 2009.

The purposive sampling with the predetermined criteria above resulted in 40 firms as sample. The data used for the analysis are relating to the selected Industrial Companies for the period of Ten years (2000-2009). After choosing dependent and independent variables, the next step is processing the data to get the appropriate model.

To analyze the data, the statistical tools that have been used are Mean, Standard Deviation, multiple regression technique and stepwise method to ascertain best model for predicting the financial ratios impact on stock return. The significance of various explanatory variables has been tested by computing t- values. To determine the proportion of explained variation in the independent variable, the coefficient of determination ( $R^2$ ) has been worked out. The significance of ( $R^2$ ) has also been tested with the help of F-Value.

#### 4. RESULTS

Descriptive statistics of each variable in this research is shown in Table 2. It can be seen from descriptive statistics that the net profit margin (NPM) of the firms was fluctuated from one year to another. The maximum Value of earnings per share is 3.74, while the minimum value is -1.06. The Std. Deviation is 0.366 which means stability.

**Table.2 Descriptive statistics**

Variable	Std. Deviation	Mean	Maximum	Minimum	N
Earnings Per Share	.36623	.125	3.74	-1.06	379
Log Total Assets	.01111	1.00	1.10	.96	371
Cash Flow From Operation Activities/Sales	34.00383	5.76	284.32	-134.46	380
Price To Book Value (Times)	1.01262	1.43	7.47	.00	380
Net Profit Margin %	2004.87921	-103.71	101.57	-39075.00	380
Return On Equity %	19.98069	1.43	57.21	-145.04	380
Debt To Equity Ratio %	1.22908	.74	15.02	.00	380
Total Assets Turnover (Times )	.37994	.64	2.24	.00	380
Current Ratio (Times)	2.48326	2.90	18.05	.00	380

Table (3) shows that there are impact of some independent variables (Return on Equity % , Price to Book Value (Times), Cash Flow from Operation Activities/sales, debt to equity ratio %) on EPS, whenever (t) value reached (10.51, 6.75, 2.96, 2.16) respectively, these value are significant at level ( $\alpha \leq 0.05$ ), but there are no impact of some independent variables as (log total assets, Profit Margin %, Total Assets Turnover (Times ), Current Ratio (Times)) because are Excluded Variables.

As evidenced by table 3, ROE (Return on equity), has significant positive correlation with return. A higher ROE shows that the firm can earn higher return on shareholder's equity. A higher ROE also indicates a higher efficiency in spending money invested by shareholder to earn profit growth. Therefore, it can be concluded that investor will pay attention on ROE

**Table 3 The result of stepwise regression for Earnings per Share with financial ratios**

Step	Independent variable	(Constant )	Beta	T	Sig.	R	R <sup>2</sup>	F	Sig.
1	Return on Equity %	0.11	0.57	13.22	0.00	0.57	0.32	174.65	0.00
2	Return on Equity%	-0.04	0.50	11.92	0.00	0.63	0.39	119.61	0.00
	Price to Book Value (Times)		0.28	6.64	0.00				
3	Return on Equity%	-0.05	0.47	11.00	0.00	0.64	0.41	84.27	0.00
	Price to Book Value (Times)		0.29	6.95	0.00				
	Cash Flow from Operation Activities/sales		0.12	2.94	0.00				
4	Return on Equity%	-0.07	0.53	10.51	0.00	0.65	0.42	65.01	0.00
	Price to Book Value (Times)		0.28	6.75	0.00				
	Cash Flow from Operation Activities/sales		0.12	2.96	0.00				
	debt to equity ratio %		0.10	2.16	0.03				
Excluded Variables			Beta	T	Sig.				
log total assets			0.066	1.50	0.135				
Profit Margin %			0.009-	0.21-	0.828				
Total Assets Turnover (Times )			0.069	1.50	0.098				
Current Ratio (Times)			0.055	21.-	0.190				

Investors/shareholders consider current earnings, future earnings, and stability are important, thus they focus their analysis on firm's profitability. They concern about financial condition which will affect firm's ability to pay dividend and avoid bankruptcy (Horne, 2002).

The debt to equity ratio (DER) has significant effect on earning per share. This positive correlation supports the research result by Kennedy (2003), and Hamzah (2007). DER represents firm's capital structure. A high DER suggests that the firm uses debt financing aggressively. The fund can be used to support long term growth for the firm so it can earn profit.

The market ratio reflected by PBV (Price to book value) also has significant effect on return. This supports the research result by Manao and Nur (2001). A low PBV can be an outcome of fundamental problem within the firm.

Liquidity ratio has insignificant effect on earning per share. Another variable, total asset turnover (TATO) has negative correlation with return. This contrasts the theory which states that TATO should have positive impact on return. It is also contrast with the result of research performed by Kennedy (2003) and Roswati (2007). TATO reflects efficiency in asset management to earn revenue from operating activities. Thus a higher TATO is a benefit for the firm and can give positive effect on stock return. The result of negative correlation of TATO on return might be caused by big firms' domination on high stock return, whereas big firms usually cannot increase their TATO easily. Another factor that caused negative correlation is that stock return is also affected by non operating profit which is not gained from sales.

The company size which is indicated by total assets has positive but insignificant correlation with return. This correlation can be explained by some factors such as risk diversification, dominant market position, and a better access to capital market.

The last variable CFO/sales has significant effect on earning per share. A higher cash flow from operating activities will give positive impact on earning per share. This is also concluded by Manurung (1998).

## **5. CONCLUSION**

Based on regression result, it can be concluded that financial ratios, return on equity, debt to equity, price to book value, and cash flow from operating activities altogether affect earning per share.

The variables which are consistently significant on earning per share are profitability ratio (ROE), market value ratio (PBV), cash flow from operating activities, and leverage ratio (DER). It shows that from investors' point of view financial ratios are used in making decision on investment.

This research also exposes that the movement of earning per share is affected much by factors other than firm's financial performance. From all models used in this research, the highest  $R^2$  is only 42%. It suggests that there is other information other than internal fundamental factors that also affect the movement of firm's return. In certain period, the changes in stock return do not reflect the firm's financial performance. Macro economic condition, political situation,

government industrial policy, and technical aspects within firms are factors other than financial performance that can affect the changes in stock return.

Considering the limitation in numbers of firms and observed period, it is suggested to increase the sample in both number of firms and observation period for the next research. Furthermore, other macro level variables which can influence stock return such as interest rate, economic growth (GDP), and inflation can be used to expand the next research.

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