



A Study on Relationship between Return on Equity and Profitability Accounting Variables of the Companies Listed in Tehran Stock Exchange

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ABSTRACT

As an evolutionary consequence, accounting variables can be utilized in order to increase Return on Equity. The foundation of accounting variables is based on financial statements, and any information helping to estimate the stock yields of a company would be of interest to stockholders, since such investors are trying to maximize their returns. Nowadays, analysis of accounting variables has become a powerful technique and a useful tool for companies that look for evaluating their performance in the past and present as well as predicting the future situation. In this research, the relationship between the stock yields and the accounting variables are studied. According to several reports given by the companies listed in Tehran Stock Exchange (TSE) and the results from data analysis and hypothesis testing, there is no relationship between stocks yields and net profit growth and sales growth. There is, however, a relationship between Return on Equity and operating profit growth.

Keywords: Return On Equity, Net Profit, Sales, Operating Profit.

INTRODUCTION

Most people have some kind of capital that might be an outcome of the services they deliver in the market. In most cases, they make decisions on how to invest and maximize their earnings through investment. Therefore, any obtained information helping to estimate the stock yields of a company would be of interest to stockholders. In the process of investment, yield is a driving force that enhances motivation and is considered as a reward to the investors. In fact, the yields earned from stocks are considered highly important for investors. What we are aiming to obtain in this research is to identify the variables that may affect the stock yields of a company consisting of operating profit growth, net profit growth and sales growth. The investors dealing at the stock exchange need to acquire information about dividends and stock yields. Since the investors play a key role in the capital market, it is essential to develop policies so as to encourage them for investment on the stocks on one hand, and also help minor investors maintain their wealth on the other hand.

In the process of investment, yield is a driving force that enhances motivation and is considered as a reward to the investors¹. In fact, the yield earned from stocks is considered highly important for investors, because investments are made entirely for the purpose of gaining

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To cite this article: Fadaei Heidari, S., Jamalmanesh, A., Heidari, I. (2019). A Study on Relationship between Return on Equity and Profitability Accounting Variables of the Companies Listed in Tehran Stock Exchange. *Academic Journal of Accounting and Economic Researches*, 8 (2), 13-18.

profits². Evaluation of yields is the only logical way through which investors can compare different alternative investments³. For better understanding of investment performance, it is necessary to measure the actual yield (in the past), which in turn can lead to estimate and predict future returns. In other words, stock yield is the ratio of total income (loss) resulted from investment in a given period to the capital expended to gain such profit at the beginning of this period. Stock yields involve some changes in the working capital (share price) and the cash dividends received (D). Generally, yield consists of two parts: *interest received* is the major portion as periodical cash flows from investments, which may be in the form of either interest or dividend⁴. *Capital profit (loss)* is the second portion of yield specific to common stocks. The latter one is resulted from an increase/decrease in asset prices that is caused by a difference between the initial purchase price and that of the time bondholders decide to sell their assets. The level of stock yields explained by operating statements items and balance sheet increases along with lengthening time periods⁵. Harris Stone and Olson⁶ studied the relationship between stock yields and accounting profit assuming that such relationship between the two variables increases along with lengthening time period⁶. Furthermore, they assumed that by lengthening time period of one to ten years, errors are reduced and the real precise profits of a company can be correctly calculated⁷. The profit gained from each share highlighted in the financial reporting does not provide a perfect summary of the accounting information for the users of financial statements⁸.

METHODOLOGY

In this research, the companies listed in TSE were selected as the statistical population. The accounting information under study was derived from financial statements of companies listed in the Iranians stock exchange market during the period 2006-2012.

As for sampling, the systematic method was employed with random starting point, which was conducted as below:

A – *Population size*: the average number of the companies listed in TSE over the period under study was 370, arranged in a serial order and according to the type of industry.

B – *Sample size*: with regard to the central limit theorem about normal distribution and the statistical rule of thumb, the minimum sample size to show normal distribution is 30. Hence, the sample size in this study was determined as 61.

C – *Sampling frequency*: it is calculated through the population size (370) divided by the sample size (61) as follows: $f_s = 370/61 = 6 / 7$

D – Using random number table, a value from 1 to 7 was chosen. Then, by adding 7 to the random number, the first sample was picked out from the population. In the same procedure, the rest of the random samples were selected until the desired size was completed. Each sample was returned back to the population after reselection. Next, the relationship between independent variables (net profit growth, net sales growth, and operating profit growth) and the dependent variable (Return on Equity) were tested using regression analysis. Since all the variables under study were quantitative, Pearson's correlation coefficient (r) was employed so as to find out whether there was any relationship between the variables. To test hypotheses so formulated, two statistical software including *Minitab11* and *Spss12* were used.

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Research Variables

Using the current literature, the accounting variables contributing to stock yields were examined in this investigation. Moreover, subject and calculation procedure of each variable were illustrated along with how to calculate Return on Equity as below:

Return on Equity:

$$\text{ROE} = \frac{\text{Net earnings}}{\text{Average Shareholders' equity}}$$

Growth Net earnings:

$$\text{GNE} = \frac{\text{Net earnings year (t)} - \text{Net earnings year (t-1)}}{\text{Net earnings year (t-1)}}$$

Growth sales:

$$\text{SG} = \frac{\text{Sales year (t)} - \text{Sales year (t-1)}}{\text{Sales year (t-1)}}$$

Growth operating earnings:

$$\text{GOE} = \frac{\text{Operating earnings year (t)} - \text{Operating earnings year (t-1)}}{\text{Operating earnings year (t-1)}}$$

RESULTS

Bivariate analysis: For bi bivariate analysis of hypotheses, Pearson's correlation was first employed. The values of coefficient for Return on Equity and accounting variables can be seen in the table below:

Table1.Correlation Pearson

Description	stock yields
Growth Net Earnings (GNE)	0.18
Growth Sales (GS)	0.16
Growth operating Earnings(GOE)	0.29

7. Hypothesis Testing

7.1. Hypothesis one: Having the data collected and the calculations done, the relationship between Return on Equity and net profit growth were tested. The results obtained from the regression test of relationship were illustrated in table 2. Analysis of variance and regression coefficients are as below:

Table 2. Regression coefficients for testing hypothesis one

$$SY = 0.481 + 0.684 \text{ GNE}$$

Predictor	Coef	Stdev	T	P
Constant	0.481	0.177	2.72	0.009
GNE	0.684	0.4925	1.40	0.167
S=0.7186	R-sq= 3.2 %		R=sq(sdj) 1.6%	

Analysis of variance

SOURCE	DF	SS	MS	F	P
Regression	1	1.008	1.008	1.95	0.167
Error	59	30.464	0.516		
Total	60	31.473			

The P-value of statistical significance test was 0.167, which is higher than α at 5% ($H_1: \beta \neq 0, H_0: \beta = 0$). Therefore, no significant relationship was observed between the two variables. Coefficient of determination and the corrected coefficient of determination for the regression line were 3.2% and 1.6% respectively. It can be stated with confidence interval of 95% that there is no significant relationship between the two variables, which means hypothesis one is rejected.

7.2. Hypothesis two: Having the data collected and the calculations done, the relationship between Return on Equity and sales growth were tested. The results obtained from the regression test of relationship were illustrated in table 3. Analysis of variance and regression coefficients are as below:

Table 3. Regression coefficients for testing hypothesis two

$$SY = 0.126 + 0.661 \text{ SG}$$

Predictor	Coef	Stdev	T	P
Constant	0.126	0.1954	0.64	0.522
GS	0.661	0.5434	1.22	0.229
S= 0.7929	R-sq = 2.4%		R-sq(adj) .8%	

Analysis of variance

SOURCE	DF	SS	MS	F	P
Regression	1	0.9308	0.9308	1.48	0.229
Error	59	37.089	0.6286		
Total	60	38.020			

The P-value of statistical significance test was 0.229, which is higher than α at 5% ($H_1: \beta \neq 0, H_0: \beta = 0$). Therefore, no significant relationship was observed between the two variables. Coefficient of determination and the corrected coefficient of determination for the regression line were 2.4% and 0.08% respectively. It can be stated with confidence interval of 95% that there is no significant relationship between the two variables, which means hypothesis two is rejected.

7.3. Hypothesis three: Having the data collected and the calculations done, the relationship between Return on Equity and operating profit were tested. The results obtained from the regression test of relationship were illustrated in table 4. Analysis of variance and regression coefficients are as below:

Table 4. Regression coefficients for testing hypothesis three

$$SY = 0.231 + 0.194 \text{ GOE}$$

Predictor	Coef	Stdev	T	P
Constant	0.231	0.030	7.70	0.000
GOE	0.194	0.083	2.33	0.023
S=0.1219	R-sq= 8.4 %		R-sq(adj) 6.9%	

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Analysis of variance

SOURCE	DF	SS	MS	F	P
Regression	1	0.08	0.08	5.41	0.023
Error	59	0.876	0.014		
Total	60	0.953			

The P-value of statistical significance test was 0.023, which is lower than $\alpha=0.5$ ($H_1: \beta \neq 0$, $H_0: \beta=0$). Therefore, at significance level of 5%, the null hypothesis (no relationship) is rejected ($H_0: \beta=0$), and the alternative hypothesis is proven ($H_0: \beta \neq 0$). It may be concluded that at significance level of 5%, there is a relationship between stock yields and operating profit growth. Since β is positive (0.194), there is a direct relationship between stock yields and operating profit growth.

CONCLUSION

Table 5. The results obtained from statistical tests are briefly shown in table 5

Hypotheses	Statistical methods	Results of statistical test	Interpretation of results
Hypothesis One: GNE	Correlation test and linear regression	H_0 is not rejected	There is no significant relationship between net profit and Return on Equity
Hypothesis Two: GS	Correlation test and linear regression	H_0 is not rejected	There is no significant relationship between sales growth and Return on Equity
Hypothesis Three: GOE	Correlation test and linear regression	H_0 is rejected	There is a significant relationship between operating profit and Return on Equity

In this research, the relationship between accounting variables (i.e. net profit growth, operating profit growth, and sales growth) with Return on Equity of companies listed in TSE was studied. In fact, it was attempted to examine the relationship and correlation between the mentioned variables and stock yields and finally to determine whether such variables can explain stock yields or not.

Empirical evidence related to the relationship between dividend and stock yields suggest that although investors make use of the dividends, their benefits are limited. This is due to a weakly instable relationship between stock yields and dividends as well as poor capability in predicting future price and yield of stocks. Various reasons can be considered for poor performance of dividends as partly a result of methodology in the studies conducted on stock yields and dividends, and partly from irrational attitude of investors. A third reason for the weak correlation between stock yields and dividends is the information content of currently reported earnings, management manipulations, and other financial variables. Considering the intricacy of the market, diversification of investments, and different decision-making models exercised by investors, it will be too difficult, if not impossible, to determine the usefulness of information such as stock yields and its effect on prices. On top of that, due to the prevalence of an efficient capital market, the rapid dissemination of relevant information, which can influence the market and prices in short-terms, it can be stated that accounting profit will not be able to solely affect the prices like it did previously, because the major portion of the information about profitability will be accessible to the market in real time. In the Iranian capital market, investors often take into account several factors including stock yields and price-to-earnings ratio before making predictions. In addition, economic boom would bring a great opportunity for investors to put

their money into TSE companies. In other words, investors would prefer to invest in such companies, because they think that key factors in decision-making for investment are profitability and the company's yield.

REFERENCES

1. Gerald, R., Jensen, R., Johnson, R., Mercer, M. (1997). New Evidence on size and price to book Effects in stock Returns, *Financial Analysts Journal*, November/ December, PP.34-41.
2. Jhankhany, A., Parsayyan, A. (2011). Financial management, - Raymond Novo Foundation, translation and adaptation, the first volume, Tehran, SAMT. (Persian)
3. Tehrani, R., Norbaksh, A. (2010). Investment Management: Charles P. Jones wrote, translated and adapted, at Knowledge Publications, spring.
4. Dactgir, M. (2009). Financial Management, Van Horn. Jay. C, translation and printing of publications, academic Khuzestan. (Persian)
5. James, A. Olson. (1992). Disaggregated accounting data as explanatory Variables for returns, *Journal of Accounting, Auditing & Finance*.
6. Easton, H. ohlson, (1992) Aggregate Accounting E earnings can explain most of security returns, *Journal of Accounting and economics*, 119-142.
7. Robert, C. (1996) "THE Information contained in the components of earning" *Journal of Accounting Research*, Vol .24.
8. Cook, T., Rozeff, M. S. (1984). Size and Earnings / price Ration Anomalies: one Effect or two? *Journal of Financial and Quantitative Analysts*, vol .19, PP .449-466.