

A study of economic index effects on return on equity in Iranian companies

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Abstract

All beneficiary groups and of financial statements' users, in a way, interested in analysis of financial statements; stockholders and beneficiaries interested in recognizing effective factors on return on equity. Some of these factors resulted from managers' function and/or other internal factors or some of them caused by external ones. In this study, in addition to introduction of mentioned index, economical index correlation with return on equity will be investigated. Gross national product growth and average share price, considered as an economic index. The study aims to investigating mentioned index effects on return on equity in automobile Industry. For this, all active companies listed on Tehran Stock Exchange selected in automobile industry and these indexes calculated for six-years namely 2004-2010. Results showed that there is a correlation between mentioned indexes and return on that could be a guide for users of financial statements in order to make optimal decisions.

Keywords: Cross National product (GDP), Average share Price, Automobile industry, Return on Equity (ROE), Iran.

Introduction

Almost in all countries stock exchange show an overview of the economy. The capital market is considered the most important and integral part of the economy of each country, the stock market is known as a sign of economic situation. Considering to stock exchange, it seems very important, if it could help the better performance to Exchange (Namazi and Salehi, 2010). In Iran as well as other countries, capital markets are considered to policy makers until in development programs has been special attention to these markets. Stock markets allows to the economy that uses wandering and small capital in the best possible and in larger projects with higher productivity (Rostami and Salehi, 2011). On other hand, stock exchange has created a competition among companies that listed on stock market which can help to increase their production level and quality of products. One of the most important tasks of financial researches and economists is to identify variables that affecting the stock market in the economy of each country (Moradi and Salehi, 2011; Salehi and Ghorbani, 2011).

Every rational investor (independent of his size) is interested in achieving long term wealth accumulation. And of course this wealth creation, also called shareholder value, should be above the average stock market performance and other investment possibilities with a similar risk type. This goal of investing is colloquially also called "putting money in winning bets". In the past there has been a nearly eternal search for winning stocks, both from economists and (financial) practitioners. Letting aside the short term view with all its critics and negative developments it has to be said that in the long run, not speculating but real value counts and also prevails. And it is assumed that certain indicators are relevant for creating this value and therefore are also driving stock returns (in terms of dividends and stock price) as well as pure company performance (in terms of profitability).

Investors interested to nominal value and real stock value, interest acquisition trend and stock output. Stock firms' ownership belonged to many stockholders who interested in profit rate and trends in different years and reality of their special value is so important for them their final attention will be paid to interest and that day value. Financial statement analysis caused firms managers, capital owners, creditors and investors

could be aware of their present and future financial state in stock firms and judge about it in the shadow of this analysis some people depend on future application of these share companies.

The theory of stock price starts with the Markowitz model, which is a single period model, where an investor forms a certain portfolio (Markowitz, 1952). Thereby it is the investor's goal to maximize the portfolio's expected return, given a certain degree (or level) of risk. In the 1960's based on the Markowitz model the researchers Sharpe (1964), Lintner (1965), and Mossin (1965) develop independently what eventually became the Capital Asset Pricing Model (CAPM). The underlying assumptions are the same as in the Markowitz model, however there are some additional remarks and further developments. The model assumes that there exist risk free rates, at which an investor can alternatively also invest.

According to Porter (1985) a firm's relative position within its industry determines whether a firm's profitability is above or below the industry average. The only way to achieve above average profitability in the long run is the so-called sustainable competitive advantage. Put simply, competitive advantage enables the company to create above average value for the customers and thus achieves superior profits. There are two different main types of competitive advantage: cost leadership and differentiation.

Financial statement analysis and ratio analysis assist investors in decision making regarding investments, and also provide basis for forecasting firm's future performance. It may also provide alarming warning about the slowdown process of firm's financial health and condition (Ohlson, 1980). The financial research indicates that the firm's characteristics like growth, company size and efficiency, can forecast the future stock price in a good manner. Johnson and Soenen (2003) investigated the large sized and profitable companies with greater level of advertising expenditure provides better performance in terms of growth, size and efficiency measurements. Hobarth (2006) investigated the correlation among the financial indicators and company's performance, using seventeen financial indicators and three variables to measure firm's performance on the basis of stock market value, dividend per share, and return on investment. In addition, companies with lower book to market ratio, efficient working capital management, higher proportionate of equity with lower size of liabilities, smaller size of total assets, and greater Earnings Before net Interest and Tax (EBIT) margin can provide better market performance as measured by changes in stock price. Daniati and Suhairi (2006) indicated that cash flows from investing activities, company size and gross profit margin, significantly have an effect on expected return on equity shares.

Zubairi (2010) conducted a study about the rate of selected index correlation with profitability to related theories and supplying interpretations for observed variable he introduced return on equity and property output as main index of profitability (dependent variable), while average share price, current proportion and long-term, debt proportion to special value, annual special value growth and gross national production considered as Independent variable stock.

Results confirmed common theories and shadowed that just GDP growth (an external factor) will mainly affect on profitability.

Mais et al. (2005) studied the effect of net profit margin, Return on Assets (ROA), ROE, Debt to Equity Ratio (DER), and Earnings per share (EPS), on stock price. The results of this study reveal that all variables except Debt to Equity Ratio (DER) are significant, and all others have positive impact on stock price. Kennedy and Johnson (2003) studied the impact of ROA, EPS, ROE, Net Profit Margin, Assets Turnover ratio, Debt to Total Asset (DTA), and DER on stock return. The findings of this research conclude that, Total Asset Turnover (TATO), ROA, EPS, and DER have positive impact; while on the other hand, ROE and DTA have negative effect on stock return. Though, all variables remained statistically insignificant in determining the influence on stock return.

Daniati and Suhairi (2006) studied companies listed on Jakarta Stock Exchange. They analyzed the affect of cash flow from operating, investing, financing activities, gross profit margin and company size on firm's stock return and found significant results.

Research problem

Potential investors interested in nominal and real value of stock, profit acquisition trend and stock output. In this study two economic indexes investigated on return equity.

Financial statement analysis varies in the long-term and short-term creditor point of view. Short-term creditors regard liquidity so that current property and turning capital and its trend is so important for them.

While long-term creditors investigate steady properties, special value trend, policy and institution capability in paying debts. In granting loan or credit, banks more likely pay attention to investigate financial state stability, profitability and commercial unit stored volume and also power and ability of a commercial unit for payment.

One-year statement analysis give limited information, because one year experiment is not enough for remarks and on the other hand that year might be not good sample of total financial state of the firm, so that,

investigating institution financial state for several years will be useful and necessary. Therefore, in this study, we selected a 6-years period from recent years, to make better comparison for the users.

This study, investigates selected variable effect on return on equity the purpose of this study, was investigating rate of selected index correlation rate on ROE, so that, helping beneficiary groups and users of financial statements, would be considered for recognizing return on equity trend by using mentioned index.

Importance of the study

Final results consisted of financial activities and any commercial firm application for a special period of time, net profit and/or after tax deduction. These activities could be imagined from management decisions result and environmental internal and external factors.

In profitable firms, the most important purpose is maximizing stockholders wealth and firm profitability therefore, managers and investors consider profitability and interest so important.

In addition to high profitability importance, trends of individualization in Iran state firms during recent years, generalization of these firms ownership and becoming active in Tehran negotiable papers exchange market, made this study necessary for determining firms value and also prepared required information for managers, investors, stockholders, credit-granters, creditors' decision making this study, investigates firms return on equity influenced by economical index then directed beneficiary groups in making decision.

In this study, we intended to investigate effects of two economical index on return on equity which are selected index, gross National product growth and average share price.

Finally, regarding to study subject, targets will be determined as follows:

- 1) Determining the relation between GDP and ROE.
- 2) Determining the relation between share price and ROE.

Hypotheses of the study

Regarding to the problem of the study as well according to study purpose, fundamental hypotheses will be outlines as follows:

First hypothesis: There is a significant relation between GDP and ROE.

Second hypothesis: There is a significant relation between average share price and ROE.

Research's variables

Regarding to the study hypothesis, variables consisted of GNP growth, average share price and ROE.

In this part, brightly describe these variables:

The GDP

A country GDP, usually obtained from adding different economical parts added value in a geographical limit and a special period of time (for example: 1 year) to GDP.

On the other words, all contributions that single parts had in the country domestic product resulted in gross domestic product. But due to related problem in accounting commission it will have some difficulties.

Accounting commission in one hand considered as bank services added value and on the other hand, deduced as mediated cost of added value to different parts.

While, in Iran due to statistical problem, accounting commission separation to different parts (agricultural, industry and mining, structure...) is not possible, therefore adding economic added value caused a kind of re-accounting to solve the problem in national accounts.

Central bank deduces total accounting commission from economical parts added value sum to obtain gross domestic product.

Share price index

Profitability is measured as Return on Assets and is displayed as a percentage figure. It is a ratio that measures how effectively or efficiently a firm uses its assets and is therefore a useful indicator of how profitable a company is relative to its total assets. It also shows how well the company is able to use their assets to generate earnings.

Price index indicates general trend of cost among studying companies and must be influenced by price variation and not other parameters.

Paying attention to index expression indicated that in calculating it not only price but also published share amount will be effective.

So that, the index must be modulated due to published share changes which usually resulted from capital growth

Not to effect mentioned changes on index amount.

Regarding to share price index, in parallel, calculated based on published share current value. Therefore, indicates change trend of share current value.

Tehran exchange share price index calculating expression, based on hospices formula, will be as follow:

$TEPIX \times 100 = (\text{published stock base value} / \text{published share current value})$.

In this formula, number 100, basic number and its date, numerator is first of 1990 March.

Calculating fraction obtained from multiplying any acceptance firms published stocks by the last share price and then adding total share value.

Above expression in capital market is so called market capitalization.

Fraction denominator indicated total published share base value from the product of any member firms published share number by (21 March 1990) basic price.

In the other words, Index calculation formula based on index of mathematical concepts will be as follow:

$$TEPIX = \frac{\sum_{i=1}^n P_{it} \times Q_{it}}{\sum_{i=1}^n P_{io} \times Q_{io}} \times \text{BASE VALUE}$$

Where:

n= number of accepted firms.

i= determined variable between 1 to n

t_i= index calculation time

O= base

P_{it}= firm share price rank i in time t

Q_{it}= number of rank i firm published stock by time t

P_{io}= firm rank i share price by time o

Q_{io}= firm rank i published share number by time o

Base value= number 100

It must be said that in time (base date) is practically, Q_{io} = Q_{it}.

But, gradually, number of (share no Q) changed by capital growth and changes resulted from experience with stock gathering.

Regarding to this, by increasing share number, share price will be decreased.

So that, product won't be changed if stock price balanced.

ROE

Share owners wage output rate called ROE or special value output rate.

By using this proportion, firm interest calculated per each Rials (Iranian Currency) of share owners wage, so that, divided "after tax deduction profit" by "stock owners equity".

Research methodology

Since, the aim of the study was discovering correlation relation between economic index with ROE, through existing items in financial numerators and accompanied notes will be calculated.

In order delete effect of using different firms that are active in varied industries, all active companies selected automobile industry in 2004 – 2010 (27 firms) and considered as statistical population.

Then, no sampling has been observed.

In the next step, in order to calculate these proportions, required data of firm financial statement extracted and by entering information to excel software, calculate by using this software function, mentioned proportions each year for selected firm that considered as statistical calculation base.

In the next step, by using SPSS software, independent variable correlation calculated with dependent variable.

In the next step, correlation coefficient used for statistical analysis and their correlation rate calculated regarding to this coefficient.

Testing of hypotheses

H₁: there is a significant relation between GDP growth and ROE.

Table No. 1 shows the result of first hypothesis testing.

Table 1. GDP growth correlation and ROE

		GDP	
ROE	Pearson correlation	0.172*	
	Sig.	0.029	
	Sample size	162	

As observed in the above table, GDP and ROE has correlation coefficient 0.172 and it could be concluded that these two variables have positive correlation.

Also, since sig. = 0.029 < 0.05, then, there is significant relation between GDP and ROE therefore this hypothesis accepted by confidence coefficient 95%.

In the manner, by increasing a variable, another variable will be increased.

H₂: there is significant relation between average share price and ROE.

Table 2. Correlation between share price and ROE

		Share price index	
ROE	Pearson correlation	0.248 *	
	Sig.	0.001	
	Sample size	162	

As observed in Table No. 2, ROE and share price index have correlation coefficient 0.248 could be concluded that these two variables have positive correlation and also, sig. = 0.001 < 0.05, then, there is significant relation between ROE and share price index. Therefore, this hypothesis accepted by confidence coefficient 95%.

It must be noted that, calculated P-value considered for any assumption less than 5%, therefore regression linearity is significant which the results have shown in Table No. 3.

Table 3. Variance analysis

		Model	sum Square	D.f	Average square	F statistics	Sig.
Hypothesis 1	Regression		1.382	1	1.382	4.853	0.029
	Remained		45.573	160	0.285		
	Total		46.956	161			
Hypothesis 2	Regression		2.887	1	2.887	10.843	0.001
	Remained		44.068	160	0.275		
	Total		46.956	161			

For extracting optimal, must regard R-square which the results have shown in Table No. 4.

Table 4. Durbin-Watson test

		Model	Correlation coefficient	Determination coefficient	Modulated determination coefficient	error	Durbin-Watson test
Hypothesis	1		0.172 ^a	0.029	0.023	0.53370	2.232
	2		0.248 ^a	0.061	0.056	0.52481	2.310

Regarding to R-square second hypothesis, reached the highest amount, therefore, presented for predicting dependent variable (In automobile industry), its optimal model will be as follow:

$$CCC = \beta_0 + \beta_1 AR$$

$$ROE = 9.987 E^{-5} SP$$

Conclusion

The study aims to investigating mentioned index effects on return on equity in automobile Industry. For this, all active companies listed on Tehran Stock Exchange selected in automobile industry and these indexes calculated for six-years namely 2004-2010. Results showed that there is a correlation between mentioned indexes and return on that could be a guide for users of financial statements in order to make optimal decisions. GDP growth has a significant positive impact on profitability. So GDP is one the

primary indicators used to gauge the health of a country's economy. It represents the total dollar value of all goods and services produced over a specific time period - you can think of it as the size of the economy. According to the finding of the study it has great effect on ROE, so it is highly recommended in order to increasing the level of ROE we can modify as well increase the GDP.

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