Volume 23, No. 2, September 2008 ISSN 0854-1493

CONTENT

Economic Journal

Journal of Faculty of Economics Padjadjaran University

Accredited : No. 55/DIKTI/KEP/2005

ISSN 0854-1493

Economic Journal

Published by:
Faculty of Economics Padjadjaran University
Jalan Dipati Ukur No. 35 Bandung, No. Tlp/Fax. (022) 2509055

Accredited by the Directorate General of Higher Education,
Ministry of National Education, Republic of Indonesia
Number: 55/DIKTI/KEP/2005

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Subscription (annual)
Rp. 60.000.-

ISSN: 0854-1493

Economic Journal

Journal of the Faculty of Economics
Padjadjaran University
Vol. 23. No. 2. September 2008

THE PREDICTION OF SHARE MARKET PRICE BASED ON THE COMPANY'S PROFIT USING THE TEST OF REGRESSION AND CORRELATION STATISTICS

(A STUDY IN JAKARTA STOCK EXCHANGE – INDONESIA ON MANUFACTURING SECTOR STOCKS LISTED IN LQ-45)

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Abstract: One way of expanding business activities is to invest in stock exchange. It is highly risky business. The ups and downs of share prices are affected by many factors. The profit shows financial condition of the company can cause the share price to go up or to go down.

This research uses purposive sampling and analytical descriptive method. The samples of shares in LQ 45 are taken from February to July 2004 in manufacturing sector; the profit data are taken from audited financial statement; and all the data of the share market prices are taken from the Jakarta Stock Exchange.

This research's findings show that the share prices are stable during the announcement of the profit. The Correlation coefficient is positive about 0.618 to 0.624. The value of coefficient determination is between 38.2% to 38.9%. The conclusion of those findings is that if the profit increases, the share price will increase as well, but the influence is not significant. Apart from profit, there are some other factors which affect the share price. Therefore, investors and prospective investors should analyze other factors, such as market condition, internal and external company affairs, government policy, political and security condition and other outstanding issues.

Key words: Stocks, Market price, profit, regression, correlation

Introduction

Research background

Currently, stock investment is one of the biggest and popular investments. As we know, there are two types of stock, common stock and preferred stock. Stock in this research refers to common stock. Common stock has a fluctuated share price which depends on internal and external company information. Company`s performance, market condition and other factors also affect the fluctuation of the share price.

The company`s performance is measured from company`s profit in financial statements, and market will respond by predicting the company`s future prospect. If the company has a good performance, the investor will expect the company to have a promising prospect so that demand of the stock will increase and the share price will increase correspondingly.

Based on all the things mentioned above, this research aims at showing the relationship between the information of the company`s profit and the share price. The data used in this research are taken from LQ-45 shares in manufacturing sector listed in the Jakarta Stock Exchange – Indonesia. Therefore, the title of this research is: " The Prediction of share market price based on the company`s profit by using the test of Regression and Correlation statistics" (A Study on Companies in LQ-45, manufacturing sector listed in the Jakarta Stock Exchange).

Problem Formulation

(1) How does the price change before the profit announcement, at the profit announcement, and after the profit announcement?
(2) Is there any significant correlation between company`s profit and share prices?
(3) How is regression equation used to predict the share prices in the future based on company`s profit?

Problem Solution

Theoretical Framework

There are 3 critical points in deciding an investment; they are return, risk, and timing. Return is a degree of revenue that will be expected in the future; risk is a degree of loss in investment that may be faced in the future, and timing is the time when the investor decides in doing an investment.

Share is a part of ownership in corporation. Thus, if an individual purchases or ownes some shares of the company, it means that the individual has a right to own the company which equals to the number of shares he or she owns.

The fluctuation of the share price is affected by some factors such as the company`s performance , the conditions of macro economics and the market power.

The company`s profit can be used to measure the company`s performance. It means if the company`s profit increases, the share price will generally increase. Apart from expecting a capital gain, the share holder also expects to obtain the revenue from the dividend that the company distributs. Therefore, if the profit increases, the dividend will increase as well. As the result, if the demand of the company`s share increases, the price of the stock will also increase.

This research focuses on whether there is a significant influence between the company`s profit (as it is appeared in financial statement) and the share price. And it also uses the correlation statistic to find out the relationship between the share price and the company`s profit. In addition, a regression models are used in order to predict the share prices in the future.

According to Lawrence J. Gitman (1994: 39), common stocks are unit of ownership interest or equity, in a corporation.Thus, a share can be defined as a right in ownership of a company by an individual or a corporation. The process of a stock trade and other securities can be conducted in the capital market.

Stock's Characteristics

Stock is permanent or fixed in nature, so it does not have a maturity date and it will be valid as long as the company still operates and the investor does not sell his or her stock. A stock has a par or intrinsic value which is determined by the company. In addition, the stock has a market value, which fluctuates continuously in accordance with the market condition.

According to its rank in stock trade, stocks can be classified into:

1. Utility Stocks
   Stocks issued by a company that performs business activities in a public structure and

infrastructure, such as telecommunication, power, energy, and other things related to public interest

2. Blue Chips Stocks
   Stocks classified into this category are the stocks that are issued by a big and established company, such as the multinational companies, like IBM,and General Electric

3. Establish Growth Stocks
   Stocks issued by a rapid growing company. This kind of stock promises a large benefit in future. The company has a good growth , but it lacks in financial power, so it needs a large amoun of investment in order to support its business.

4. Emerging Growth Stocks
   Stocks issued by a new growing company and new entrant into the market.

5. Penny Stocks
   Stocks issued by a company which just starts its business and needs a large fund in order to perform its business

The Risk and Benefit in Stock Investment

Some benefits in stock investment are:

a. Capital gain is gain that comes from the revenue of stocks trade
b. Dividend is a portion of the company`s profit that will be distributed for stockholders

In contrast, there are some risks that the investors may face; they are:

a. Capital loss, is a reverse of capital gain, it implies the loss because of the stock trade
b. No dividends
   The company will not be able to distribute the dividends if the company bears the loss.
c. Liquidated company
   When the company is liquidated, the shareholder will be in the lower position than the creditors or bondholders. It means that after all the company`s assets are sold, the revenue goes to the creditors first and the rest will be distributed to the stockholders
d. Delisting, the company`s stock may not be included in the stock listing
e. Suspended Stock . The authority of the stock exchange terminates the trading of those stocks.

Forming Stock prices

The investors will purchase a stock when they predict that stocks value is higher than market value (undervalued stock) and they will sell it if they feel that the market price is higher than its actual value (overvalued).

The exchange of demand and supply in stock trading will determine stock price. If the supply exceeds the demand, it will cause the decreasing movement of stock prices. In contrast, if the demand exceeds the supplies, it leads to the increasing movement of the stock prices. Some factors that determine the supply and demand of a stock are:

a). Investors' liquidity needs, b) Attractiveness of the alternative investment, c) the change of revenue expectation of the traded stock in the future. The last factor is the main factor in determining the supply and demand of stocks.
The price of stock will fluctuate according to both the internal and external information of the company. The internal internal Information includes the evaluation of the company's performance, and the replacement of the company's management. The external information includes the country's stability, and the development of the competitor's company.

Relationship between earning power of the company and stock prices

The income information within the financial statements can give an indication about the company's cash flow, so the income can affect the investor's expectation on the stock's return. This happens because the investors will assume that the more the company's income increases in a certain period, the better the company will perform. Based on the fact, the investor is of the opinion that the risk rate will be smaller whereas the return rate of investment will be bigger. It causes the stock price of the company will be valued higher. Furthermore, by knowing the company's performance, regarding the income, the market will give response by predicting the prospect of the company's stock.

If the company has a good performance, the investor expects that the company will have an excellent prospect in the future, so that the increase in stocks demand will increase stock price as well.

Research methods

This research uses analytical descriptive method. By collecting, processing, analysing, and interpreting the data, new information will be obtained to analyse the research problem.

The selected sample is the manufacturing sector stocks that are grouped in LQ-45 for the period from February 2004 until July 2004. The LQ-45 stocks are selected because they are liquid and preferred by many investors.

There are 2 statistical tests that are used in this research: they are correlation and regeression equations. For the regression analysis, there are 2 types of variables: the company`s profit as an independent variable (X) and the stock price as a dependent variable (Y). The regression model can determine the impact of changes in one variable on the other variable (in the case of predicting the share price). The Correlation is a measure to describe the relation among variables in a linear relationship.The coefficient range is between –1 up to 1. The SPSS statistical program is used to compute the correlation and also the regression.

To know the fluctuation of the stock prices, this research will try to analysis the stock price data in the period of time schedule: before the announcement of income (9 days before) , at the date of announcement of income, and (9 days) after announcement of income. It is implies that this research wanted to observed a closed prices of stocks on 7 days before the announcement of the financial statement , at the announcement, and trading on 7 days followed the annual financial statements . To replace the trading time in the stock exchange, which off in Saturday and Sunday, there was time added for two days in a week. So then, this research is an event study, that is the study based on an event. In 9 days the investor will have enough time to analyse the development and to study the company's profile. The movement of the fluctuation of stock prices in around of the announcement date will be presented on table 1.

Result and Discussion

Table 1 represents the list price of stocks which are selected as a sample

Table 1
The List of Stock Prices in The date of Announcement, D – 9 and D + 9

Name of the corporation	Stock Price (D-9)	Stock Price (D)	Stock Price (D + 9)
Astra International Corp.	Rp 5.300	Rp 5.350	Rp 5.600
Astra Otoparts Corp.	Rp 1.400	Rp 1.400	Rp 1.400
Dankos	Rp 625	Rp 700	Rp 675

Laboratories Cor			
Gudang Garam Corp	Rp 13.050	Rp 13.000	Rp 13.250
Gajah Tunggal Corp	Rp 525	Rp 525	Rp 500
HM Sampurna Corp	Rp 4.525	Rp 4.425	Rp 4.575
Indofood Sukses Corp	Rp 775	Rp 775	Rp 800
Ondocement Corp	Rp 2.150	Rp 2.150	Rp 1.975
Kimia Farma Corp	Rp 195	Rp 180	Rp 190
Kalbe Farma Corp	Rp 485	Rp 470	Rp 475
Semen Gresik Corp	Rp 7.950	Rp 8.000	Rp 8.000
Trias Sentosa Corp	Rp 230	Rp 220	Rp 230
Tempo Scan Corp	Rp 5.650	Rp 5.350	Rp 6.050
Unilever Corp	Rp 3.450	Rp 3.475	Rp 3.625

Sources: Data from Jakarta Stock exchange - Indonesia

Table 2 represents the list of earning for each company's profit for 2003:

Table 2
Company's profit for the year 2003

Corporation	Earning 2003 (M)
Astra International Corp.	Rp 3.397.794
Astra Otoparts Corp.	Rp 148.670
Dankos Laboratories Cor	Rp 219.548
Gudang Garam Corp	Rp 2.930.647
Gajah Tunggal Corp	Rp 224
HM Sampurna Corp	Rp 2.392.602
Indofood Sukses Corp	Rp 2.008.795
Ondocement Corp	Rp 814.376
Kimia Farma Corp	Rp 88.657
Kalbe Farma Corp	Rp 566.335
Semen Gresik Corp	Rp 945.203
Trias Sentosa Corp	Rp 117.546
Tempo Scan Corp	Rp 380.976
Unilever Corp	Rp 1.749.120

Souces: Data from Jakarta Stock exchange – Indonesia

Table 3 represents the correlation standard

Table 3
The Standard Correlation

Absolute value of correlation coefficient	Interpretation
0.90 - 1.00	Very high correlation
0.70 - 0.89	High correlation
0.40 - 0.69	Moderate correlation
0.20 - 0.39	Low correlation
0.00 - 0.19	Very low correlation

Sources: The Priciples of Inventory and Materials Management, 1994:51

A correlation result existing between the variables of the stock prices and the company`s profit for D-9 period is 0.618, on the date (D) of announcement is 0.624 and on the D+9 period is 0.622. A positive value on the correlation coefficient shows that the high company`s profit will increase the stock price. This means that there is a relationship between company`s profit and the stock prices in the same degree of moderate correlation (Tersine: 1994).

To test whether a correlation obtained is significant, by using 5% significant level, we can conclude that the correlation between stock price and the company`s earning is significant enough. P- value of the coefficient correlation result is 0.009

The coefficient regression for D-9 is 0.382, which implies that in 38,2% of the stock price can be explained by the company`s profit variable, whereas the rest (61.8%) can be explained by other factors, such as economics stability, and social development.

For the date of announcement (D) the result is 0.389 which implied that 38.9% of the stock price can be explained by the company`s profit, whereas the rest (61.1%) can be explained by other factors.

The coefficient regression for 9 days after anouncement is 0.387 which means about 38.7% stock prices can be described by the company`s profit and the rest (61.3%) can be explained by other factors. All results of R2 adjusted are not very large, so it is obvious that the impact of earning value on changing the stock price is not very significant.

The results of the model of regression are as follows:

D-9 period: Y = 1058,321 + 1,998.1 X
D period: Y = 1031,581 + 2,004.1 X
D+9 period: Y = 1068,683 + 2,005.1 X

Y = stock prices
X = Company`s profit

The significant level of the coefficient regression results between 0.017 up to 0.018. This means less than 0.05, so the zero hypothetical has been rejected and an alternative hypothetical is accepted. This means that the company`s profit significantly affects the stock prices.

Using the regression result, we can predict the stock price example for quarterly period or the following year. Using a model of Y = 1031,581 + 2,004.10 X for example, the stock price of Astra Autoparts equal to Rp. 1.152 comparable with the actual price is Rp. 1.425 (with using the first quarter earning 2004 is Rp 60.156 M)

Conclusion

As we discussion above, there is the changes of the stock price as well as any changes in company's earning, before the date of announcement, the date of announcement and after the date of announcement, with the degree of correlation is moderate.

All the models of regression result in positive value, so it can be concluded that if company's profit increase, the stock price will increase too. The regression models can be used for predicting the stock price with high conformity rate with reality as seen above (for example prediciting the stock price of Astra Autopart corporation).

References:

Alwi, I.Z., *Pasar Modal: Teori dan Aplikasi*, Jakarta: Yayasan Pancur Siwah, 2003

Gitman, L. J., *Principles of managerial Finance*, 7th edition, New York: Haper Collins Colledge Publisher Inc., 1994

Godfrey J., Hodgson A., Holmes S., *Accounting Theory*, 3 rd edition, Singapore: John Wiley & Sons, Inc., 2003

Ikatan Akuntan Indonesia, *Standar Akuntansi Keuangan*, Jakarta: Penerbit Salemba Empat, 2002

Jones C.P., Investments: Analysis and Management, 8 th edition, New York: John Wiley & Sons, Inc., 2002

Kieso D.E., Jerry J. Weygandt, Paul D. Kimel, *Accounting Principles*, United State of America: John Wiley & Sons., Inc., 2005

Kieso D.E., Jerry J. Weygandt and Terry D. Warfield, *Intermediate Accounting*, 10th edition, United State of America: John Wiley & Sons, 2001

Meigs, R.F., Jan R. Williams, Susan F. Haka, and Mark S. Bettner, *Financial and Managerial Accounting: The Basis for Business Decisions*, 13rd edition, New York: The Mc. Graw – Hill Companies., Inc., 2005

Santoso, S., SPSS (*Statistical Product and Service Solution*), Jakarta: PT Elex Media Komputindo, 1999

Schroeder, Richard G., Myrtle W. Clark, *Accounting Theory*: Text & Reading, 6th edition , United States of America: John Wiley & Sons., Inc., 1998

Sumantono, *Pengantar Pasar Modal di Indonesia*, Jakarta, 1995

Sundjaja R.C., Inge Barlian, *Manajemen Keuangan*, 3rd edition, Jakarta: PT Prenhallindo, 2002

Tersin R.J., *Principles of Inventory and Materials Management*, 4th edition, London: Prentice-Hall, 1994

Urusan Riset Ekonomi dan Kebijakan Moneter, *Pasar Keuangan Di Indonesia*, Bank Indonesia, Jakarta, 1998

Usman M., dkk, *ABC Pasar Modal Indonesia*, Jakata: Lembaga Pengembangan Perbankan Indonesia – Institut Bankir Indonesia dan Ikatan Sarjana Ekonomi Indonesia

Wiwik, U., Suhaarmadi, Pengaruh Informasi Penghasilan Perusahaan terhadap Harga saham di Bursa Efek Jakarta, *Jurnal Riset Akuntansi Indonesia*, 1998, I(2): 255-268

Wolk Harry, I., James L. Dodd, Michael G. Tearney, *Accounting Theory*, 6th edition, Thomson South Publisher, 2004