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INVESTOR'S REACTION TOWARD EXCHANGE RATE IMPACT ON INDONESIAN MANUFACTUING COMPANY

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The aim of this study is to analyze investor reaction toward the impact of exchange rate fluctuation on Indonesian manufacturing multinational company (MNC) and domestic company (DC). There are two hypothesis developed with simple linear regression as the statistic formula to test the hypothesis. Research methodology used are descriptive method. The object of the study companies listed in manufacturing sector in 2010 Indonesia stock exchange, with export less than ten percent classified as DC and more than ten percent classified as MNC. The empirical result find that the exchange rate fluctuation negatively significantly affects the stock price of MNC but does not affect DC.

Keywords: ***exchange rate fluctuation, stock price, multinational company, domestic company***

INTRODUCTION

International trade involves the transfer of goods, services, technologies and integrates markets, production, competition and industries among countries involved. It has increasingly had significant impact on the prosperity of nations involved in it (Tomlinson, 1999). Furthermore, Tomlinson (1999) argues that it gives countries to have a chance for getting higher-quality products or services from other countries with lower price to fulfill unmet needs.

Operational boundary wise, companies in a country involved in international trade can be classified into multinational company and domestic company. Multinational company (MNC) refers to a firm that has business activities and interests in multiple countries (Eun & Resnick, 2007) while domestic company (DC) activities limited only or generate most of its income and disburse most of its expense in home country. Whenever a company trade with another company across border, it is exposed to fluctuation of exchange rate.

According to Patro & Wu (2002), exchange rate is an exchange value of a currency transferred to another currency. The exchange rate fluctuates overtime and affects foreign currency transaction of company involved (Morley, 2000). Hatemi (2005) states that exchange rate fluctuation is a crucial problem for any foreign currency transaction since its fluctuation cause exposure on exchange rate risk. This fluctuation would highly affects company's earnings.

According to enterprise value theory, decreasing in earnings affects the company's profitability index, and leads the investor and other stakeholders interpreting that the company's performance is also decreasing (Mansor, 2000). The impact of exchange rate fluctuation toward company's earning is reflected in financial statements. Thaller (1999) explains that rational investor tends to make the best possible and logical decisions with limited cognitive ability in understanding and interpreting financial information.This decision includes to hold, buy or sell the stock of listed companies (Rapach, 2001).

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So far, there has not been study conducted to analyze the effect of exchange rate fluctuation toward multinational and domestic companies listed in Indonesia Stock Exchange (IDX).

This study conducted to analyze the investor reaction toward the impact of exchange rate fluctuation on multinational and domestic companies. In particular, the object of the study is manufacturing companies listed in IDX on 2010.

Research Questions. This research aims to analyze the investors' reaction toward the effect of exchange rate fluctuation in multinational company and domestic company. Furthermore, this research tries to be able to meet the aforementioned aim through answering these questions: Does the fluctuation of exchange rate affect the stock price of multinational company in manufacturing industry listed in 2010 Indonesia stock exchange? Does the fluctuation of exchange rate affect the stock price of domestic company in manufacturing industry listed in 2010 Indonesia stock exchange?

Hypothesis. To answer research question 1 $H_0 1$ is developed as follow: the fluctuation of exchange rate does not affect the stock price of multinational company in manufacturing industry listed in Indonesia stock exchange in 2010. To answer research question 2, $H_0 2$ is as follow: the fluctuation of exchange rate does not affect the stock price of domestic company in manufacturing industry listed Indonesia stock exchange in 2010.

Significance of the Research. The result of this study would provide empirical evidence related to the rationality of investor in assessing the impact of exchange rate fluctuation toward MNC and DC.

LITERATURE REVIEW

Globalization is the main cause the existing of international trade. According to Held (1999), globalization is a stretching of social, political and economic activities across frontiers such as events, decisions and activities in one region of the world can come to have significance for individuals and communities in distant regions of the globe. Generally, international trade is not different with domestic trade (Scholte, 2000).

The motivation and the behavior of parties involved in a trade do not change fundamentally regardless of whether trade is across a border or not. Arquette (2003) suggests two differences between domestic trade and international trade. Firstly, international trade is typically more costly than domestic trade. The reason is a border typically imposes additional costs such as tariffs, time costs due to border delays and costs associated with country differences such as language, the legal system or culture. Another difference between domestic and international trade is factors of production such as capital and labor are typically more mobile within a country than across countries.

Problem arises when a country doing export and import is the different currency from every country's. For solving the problem, exchange rate is the solution. According to Phylakist (2005), currency exchange rates specify how much one currency is worth compared to another. Currency valuations are determined by the flows of currency in and out of a country (Morley, 2000). Fluctuation of currency valuation would impact the earnings of companies in a country involved in international trade.

As company's earnings affected, investor's investment decision would also change. According to the behavioral finance's theory, human often make irrational decisions—particularly, related to the buying and selling of securities—based upon fears and misperceptions of outcomes. The irrational trading of securities can often create securities prices which vary from rational, fundamental price valuations (Shiller, 1998). In other words, whenever the exchange rates changes and affects the company's income statement, theoretically the investment decision that investor made would be changed also (Hatemi, 2005).

METHODOLOGY

Research Design. Descriptive method is used in this research. According to Sugiyono (2007), descriptive method describes the nature of a situation as it exists at the time of the study and to explore the course of a particular phenomenon. The descriptive method is used in this research in order to identify the significant relationship between independent variable (Indonesia Rupiah to US Dollar exchange rate) and dependent variable (stock price), then briefly explain some factors related to these two variables.

Research Population and Sample Techniques. Technique sampling used in this research is purposive sampling in determining the targets of estimated population elements are the best suited for data collection because there are some criteria that have to be fulfilled. All of the criteria must be fulfilled in order to be free from any bias(es). Sample of this research needs to meet some criteria namely listed in 2010 Indonesia Stock Exchange, in manufacturing sector, availability of daily stock price change during 2010 and disclosure of export date.

Scope and Limitation. This research will use the term of MNC (multinational company) as the company operates in Indonesia whose sales consists of more than 10% to other countries. The domestic company is defined as the company that has it headquartered only in Indonesia but doing export in less than 10 percent from it sales as disclosed in notes to financial statement. This term is adopted from the IFRS regulation that every company which doing export in more than 10 percent from total sales have to show in the income statement per territory (Hoyle, Schaefer, and Doupnik, 2002).

Statistic Formula. Simple Linear Regression is applied in examining this research shown in equation below: $\mathbf{Y = \alpha + \beta x + \varepsilon}$

Where:

$$\alpha = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2}$$

$$\beta = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

X: Independent Variable → Currency Exchange Rate
Y: Dependent Variable → Stock Price
n: sample amount or observation
β : Intercept

To answer the first hypothesis (H_01), the statistic equation is shown below:

$$\Delta SoM = \alpha + \beta\, \Delta\, CER + \epsilon$$

where :
ΔCER = currency exchange rate (independent variable)
Δ SoM = stock price of multinational company (dependent variable)

To answer the second hypothesis (H_02), the statistic equation is shown below:

$$\Delta SoD = \alpha + \beta\, \Delta\, CER + \epsilon$$

where :
ΔCER = currency exchange rate (independent variable)
Δ SoD = stock price of domestic company (dependen variable)

This study is designed at 95% level of confidence. Therefore, every result of statistic test is interpreted with 5% error with the equation using t-test:

$$t = \frac{b_1}{S(b_1)}$$

where:

$$S(b_1) = \frac{S}{\sqrt{SS}}$$

$$S = \sqrt{\frac{\sum (y_1 - y)^2}{n-z}}$$

$$SSx = \sum x^2 - \frac{(\sum x)^2}{n}$$

S(b)	: Standard Error of S	SSx	: Sum of Square
S	: Standard Error		
y	: Predicted Value	y1	: Variable
b1	: Regression Coefficient		

RESEARCH FINDINGS

Exchange Rate Fluctuation Impact Toward Multinational Company Stock Price. The result of the statistical test of H_01 is shown in Table 1.1 below.

Dependent Variable: SP
Method: Least Squares
Date: 10/29/12 Time: 15:06
Sample: 1 24440
Included observations: 24238

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ER	-68.82699	3.789696	-18.16161	**0.0000**
C	-0.091303	0.034168	-2.672134	0.0075

R-squared	0.013427	Mean dependent var	-0.080396
Adjusted R-squared	0.013386	S.D. dependent var	5.354665
S.E. of regression	5.318704	Akaike info criterion	6.180419
Sum squared resid	685602.9	Schwarz criterion	6.181087
Log likelihood	-74898.50	Hannan-Quinn criter.	6.180636
F-statistic	329.8441	Durbin-Watson stat	2.009667
Prob(F-statistic)	**0.000000**		

Table 1.1
Relationship between Exchange rate fluctuation and Stock Price of MNC

Table 1.1 shows that the p-value is 0.0000 which less than 0.05, therefore the changes of exchange rate (ΔMNC) is concluded not equal to zero. Therefore, H_01 is rejected and the equation for H_01 is as follow:

$$\Delta SPMNC = -0.091303 - 18.16161\ (\Delta ER) + \varepsilon$$

It means that for every percentage of change in the exchange rate fluctuation, would cause the stock price of MNC to change by 18.16% times by changes in exchange rate (ΔER), in the opposite direction.

The rejection of the first null hypothesis indicates that exchange rate fluctuation negatively significantly affects the stock price of multinational company listed in 2010 Indonesia stock exchange. It concludes from the equation that as the IDR depreciates (ΔER), the multinational company's stock is also decreased (ΔSPMNC).

The finding of this research is similar to some earlier research conducted. Abdelaziz, Chortareas and Cipollini (2008) found that the depreciation in the value of IDR against USD has a negative effect towards the stock price on multinational company. The research conducted on exporting company which is known as multinational company in this thesis. Muhammad & Rasheed (2003) also states that the exchange rates and stock price are related negatively, examining the long run relationship from 1994 to 2000 in South Asian countries including Pakistan, India, Bangladesh, and Srilanka.

The empirical evidence of this study could be explained by the following explanation. First, the company's cost of good sold might be affected by import activity conducted by the company as an excluded factor in this research. Charles (1996) states that import is one of the determinant factors of company's performance. It might be whenever the IDR depreciates, some materials imported from another countries become more expensive. Since selling price is sensitive and cannot be changed at any time (Lettau, Ludvigson, & Steindel, 2001), then IDR depreciation negative effects toward import become more significant.

Furthermore, the increase of the cost of materials might lead to the decreasing in net income and vice versa (Sartono, 1996). Along with the rational investor assumption, decreasing amount in net income might lead to an negative expectation of company's performance thus selling the stock (Rapach, 2001).

Second, the company's payable might be affected by exchange rate fluctuation. For instance, when the IDR depreciates against USD, MNC's payable converted into Rupiahs will increase and it will be recognized as loss in the income statement. The decreasing amount in income statement will lead the rational investor to interpret that company's performance is also decreasing then will sell the stock (Rapach, 2001). This second case might exist when the company does not hedge its exchange rate risk exposure.

Lastly, the investor might be doing stock trading without considering any information about exchange rate and doing the trading activities only by speculative (Morris, 1996). Furthermore, a speculative investor makes investment decisions by following the market trends. Whenever the trend is going up, a speculative investor will buy the stock and vice versa (Morris, 1996)

Exchange Rate Fluctuation Impact Toward Domestic Company Stock Price. To test the hypothesis, simple linear regression is applied. The result of the statistical test of H_{02} is shown in Table 1.2 below.

Dependent Variable: SP

Method: Least Squares

Date: 10/29/12 Time: 15:25

Sample: 1 5855

Included observations: 5807

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ER	0.180635	0.154050	1.172574	0.2410
C	-0.003772	0.001390	-2.714139	0.0067

R-squared	0.000237	Mean dependent var	-0.003801
Adjusted R-squared	0.000065	S.D. dependent var	0.105887
S.E. of regression	0.105884	Akaike info criterion	-1.652603
Sum squared resid	65.08214	Schwarz criterion	-1.650307
Log likelihood	4800.334	Hannan-Quinn criter.	-1.651805
F-statistic	1.374930	Durbin-Watson stat	1.979823
Prob(F-statistic)	0.241015		

Table 1.2
Relationship between exchange rate fluctuation and stock price of DC

The finding of the second null hypothesis indicates that exchange rate fluctuation does not affect the stock price of domestic company listed in 2010 indonesia stock exchange significantly. It concludes that as the IDR whether depreciates or appreciates against USD, the domestic company's earnings will still be stable, and it would not be any good nor bad signals to the investor. In other words, the investor decision whether they would buy or sell the domestic company's stock is not affected by the exchange rate fluctuation.

One explanation for this phenomenon could be that there are other information more relevant to investor than exchange rate fluctuation. For example, Subiyantoro & Andreani (2003) list 4 internal factors such as company news and performance as proxied by announcement of dividends, news releases on earnings and profit, and accounting errors or scandals tend to overweight other external information.

CONCLUSION

Exchange rate fluctuation negatively affects the Stock Price of multinational company listed in 2010 Indonesia Stock Exchange, while it does not affect stock price of domestic company on that same observation year.

RECOMMENDATION

For further research, it is recommended to classify company into MNC and DC with considering export and import since this research excludes import as one of determinant factors. Future reseach may also conduct the reseach with a broader time frame, because short term and long term time frame might result different output. This reseach only covered time frame within 2010 period. Furthermore, using the larger sample, not only from manufacturing sector but from other sectors also that listed in IDX.

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