

**THE EFFECT ANALYSIS OF STOCK MARKET AND STOK'S FINANCIAL INDICATORS  
TO IN/OUT SHARES IN LQ-45 INDEX***ANALISIS PENGARUH PASAR SAHAM DAN INDIKATOR KEUANGAN STOK TERHADAP  
MASUK/KELUAR SAHAM PADA INDEKS LQ-45*

by:

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**Abstract:** LQ-45 is a stock market index for the Indonesia Stock Exchange. The LQ-45 index consists of 45 companies that included in the top 60 companies with the highest market capitalization, in a regular market in the last 12 months, have been listed in the Indonesia Stock Exchange for at least 3 months, and have good financial conditions, prospect of growth, high transaction value and frequency. The aim of this study is to determine: The Effects of transaction volume, market capitalization, return of assets, debt to equity ratio toward IN/OUT of Stocks index LQ-45 period 2016-2018. Binary Logistic regression model is used as an analysis tool. The result of the study shows: Trading volume and market capitalization partially have positive and significant impact towards IN/OUT of stocks. While return of assets (ROA) and debt to equity ratio (DER) partially have positive but insignificant impact influence IN/OUT of stocks. Recommendation the company must always improve its performance to the maximum extent possible so that it always produces high profits.

**Keywords:** *transaction volume, market capitalization, return of asset (ROA), debt to equity ratio (DER) and in/out of stock in index LQ-45*

**Abstrak:** *LQ-45 adalah indeks pasar saham pada Bursa Efek Indonesia. Indeks LQ-45 terdiri dari 45 perusahaan : termasuk dalam 60 besar perusahaan dengan kapitalisasi pasar tertinggi, di pasar reguler dalam 12 bulan terakhir, telah terdaftar di Indonesia Bursa Efek minimal 3 bulan, dan memiliki kondisi keuangan yang baik, prospek pertumbuhan, nilai dan frekuensi transaksi tinggi. Tujuan penelitian ini adalah untuk mengetahui: Pengaruh Volume Transaksi, Kapitalisasi Pasar, Return Aset, Rasio Hutang Terhadap Ekuitas Terhadap Masuk / Keluar Indeks Saham LQ-45 Periode 2016-2018. Alat analisis yang digunakan yaitu regresi logistic biner. Hasil penelitian menunjukkan: Volume perdagangan dan kapitalisasi pasar secara parsial berpengaruh positif dan signifikan terhadap Masuk/Keluar saham. Sedangkan return of asset (ROA) dan debt to equity ratio (DER) secara parsial berpengaruh positif tetapi tidak signifikan berpengaruh terhadap Masuk/Keluar saham. Rekomendasi perusahaan harus selalu meningkatkan kinerjanya semaksimal mungkin agar selalu menghasilkan laba yang tinggi*

**Kata Kunci:** *volume perdagangan, kapitalisasi pasar, pengembalian aset (ROA), rasio hutang terhadap ekuitas (DER) dan masuk/keluar saham pada indeks LQ-45*

## INTRODUCTION

### Research Background

The capital market in Indonesia is managed by the Indonesia Stock Exchange. The Indonesia Stock Exchange continuously monitors and evaluates the performance of shareholders included in the LQ-45 (Liquid 45) ranking. LQ-45 is a collection of 45 stocks on the Stock Exchange that have the most liquid transactions (most traded for a period of six months). The LQ-45 index was launched in 1997. The IDX every 6 months, also conducts an assessment of the LQ-45 Index, where stocks with declining performance will be excluded from the index. Some selection criteria to determine an issuer can be included in the LQ-45 index calculation are: 1) Being in the TOP 95% of the total annual average transaction value (trading volume) of shares in the regular market, 2) Being in the TOP 90% of the annual average market capitalization, 3) Represents the highest order representing the sector in the IDX industry classification according to the market capitalization value, 4) Represents the highest order based on frequency of transactions. The purpose of ranking the LQ-45 index is a complement to the CSPI and provides an objective and trusted tool for financial analysts, investment managers, investors, and other capital market observers in monitoring the price movements of actively traded shares. The LQ-45 index shows existence of stocks that have a good level of liquidity, so that they can be a reference for investors, traders, investment broker managers, and stock analysis to monitor the movements of the stocks that are most actively traded on the stock exchange. LQ-45 index becomes a reference for CSPI. This is due to the LQ-45 index correlation with the JCI of 99.99%. Companies listed on the Indonesia Stock Exchange are divided into 9 sectors, namely the agricultural sector, mining sector, basic industry sector, miscellaneous sector, consumer goods sector, property sector, infrastructure sector, finance sector, and trade sector. Each sector has several sub-sectors in it. One of them is the property sector, which consists of 3 sub-sectors such as: property, real estate, and building construction. In this study, the author chose the LQ-45 object of companies listed on the LQ-45 index because in the figure below there is a change from every 6-month semester to the next semester according to the provisions issued by the IDX.

Research conducted at this time discusses 14 companies and focuses on property and retail sector in the LQ-45 index period 2016-2018 period (see the data in Appendix page 78-85). Below are a number of property and retail sector companies included and ranked in the LQ-45 index period February 2017 - July 2017

**Table 1. List of Property and Retail Ranking period Feb 17 – July 17**

NO	Company Name	Ranking
1	Alam Sutera Realty Tbk (ASRI)	7
2	Lippo Karawaci Tbk (LPKR)	26
3	PP Properti Tbk (PPRO)	32
4	Pakuwon Jati Tbk (PWON)	35
5	Summarecon Agung Tbk (SMRA)	38

Source: Author's note, 2020/2019

We can see many people who want to allocate funds to invest. Investment is the investment of funds made by a company into an asset (assets) in the hope of earning income in the future (Martono and Agus, 2002). Choosing the right stock for us to invest of course we must know the development of these shares. In making an investment decision that benefits investors, they must be able to understand and predict macroeconomic conditions in the future. Macroeconomic changes related to the capital market are Gross domestic product or can be called the Gross Domestic Product is the value of goods and services in a country produced by factors of production belonging to these citizens and foreign countries (Sukirno, 2010: 35).

A rapidly growing gross domestic product shows that the economy is experiencing growth (Bodie et al. 2009: 177). The stock price is one of the determinants of the selection of shares to be bought by the public. To analyze changes in stock prices there are two approaches, namely fundamental analysis and technical analysis. Fundamental analysis is an analysis that uses financial statement data, as well as external factors that are related to the company. These external factors include government policies, interest rates, inflation and so forth. Through the LQ-45 Index, the public can see stocks with good liquidity and can be a reference for investors. The LQ-45 index is one of the indices on the Indonesia Stock Exchange, where the index is derived from the calculation of 45 companies with various selections and criteria such as an assessment of liquidity taking into account market capitalization. Thus, people will feel calmer by investing their funds in shares in LQ-45.

**Research Objectives**

1. To find out whether market capitalization significantly effect the in/out of stock in the LQ-45 index.
2. To find out whether trading volume significantly effect the in/out of stock in LQ-45 index.
3. To find out whether Return of Assets (ROA) significantly effect the in/out of stock in LQ-45 index.
4. To find out whether Debt to Equity ratio (DER) significantly effect the in/out of stock in LQ-45 index.

**THEORETICAL REVIEW****Financial Management**

Financial Management means planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise. The notion of financial management is all activities or activities that are directly related to the acquisition of funding and asset management (activia) with overall objectives (Horne, 2005). The management of funds both related to an allocation of funds in various forms of investment effectively as well as an effort to raise funds for investment financing or spending efficiently (Sartono, 2001)

**Indonesia Stock Exchange**

Indonesia Stock Exchange is the organizes and provides a system as well as a means to bring together the sale and purchase offer of other parties for the purpose of trading securities between them. Securities Exchange is a Person who organizes and provides a system and / or means to bring together the sale and purchase offers of other parties with the aim of trading Securities between them (Undang-Undang, No. 8 tahun 1995)

**In/Out Share**

Shares listed in LQ-45 are shares that are always updated every 6 months in accordance with the criteria set by the IDX. If there are shares that are not included in the criteria, they will be replaced with other shares that meet the requirements. The selection of LQ-45 shares must be reasonable, therefore the JSX has an advisory committee consisting of experts at BAPEPAM, Universities, and Professionals in the capital market. (factbook 1997, Jakarta Stock Exchange). LQ45 index is an index of a group of stocks with good liquidity levels and can be a good reference for investors, traders, brokers, and stock analysts to see the development of stocks and markets. The Indonesia Stock Exchange sets stock criteria to be included in the LQ45 index, which is ranked in the top 60 in the last 12 months, by looking at the transaction value or trading volume; has the largest ranking based on average market capitalization over the past 12 months; and has been listed on the IDX for at least the last 3 months.

**Market Capitalization**

The market capitalization, is the total value of shares of a firm, a sector, or a market. If a company has common and preferred shares, the market cap is the sum of its common and preferred shares multiplied by the current stock price. Market capitalization is the value of public companies that have listed their shares on the stock exchange (Fakhrudin, 2008; 115). From this understanding, it can be concluded that market capitalization is the market value contained in a company used to determine the size of a company on the stock exchange.

**Volume of Trade**

Volume of trade is the number of shares traded daily. Volume of trade is the total quantity of shares or contracts traded for a specified security (Jogiyanto, 2010). It can be measured on any type of security traded during a trading day. Volume of trade or trade volume is measured on stocks, bonds, options contracts, futures contracts and all types of commodities.

**Financial Performance**

Financial performance is an analysis conducted to see the extent to which a company has implemented the rules of financial implementation properly and correctly. Performance evaluation of each company is different because it depends on the scope of the business it runs (Fahmi, 2011).



### **Stock Market**

The stock market is a publicly held stock trading market and related financial instruments (including stock options, trading and stock index forecasts). Capital market is a place where various parties, especially companies sell shares and bonds with the aim of the proceeds of the sale will be used as additional and or strengthen the company's capital (Fahmi, 2013)

### **Return of Assets (ROA)**

Return Asset is the profitability ratio that shows the company's ability to generate profits from the assets used. The company's performance is said to be better if it produces high ROA and shows the rate of increase from time to time. The higher the ROA the more efficient the company's operations and vice versa. Positive ROA shows that of the total assets used for the company's operations are able to provide profits for the company. Therefore, shares of companies with good profitability will attract investors and will increase demand for these shares. Furthermore, the increase in demand will boost the stock price so that it will have a good impact on the company. The rate of return on assets can be measured by the formula as follows: net income divided by total assets times 100% (Hanafi and Halim, 2013)

### **Debt to Equity Ratio**

The debt to equity ratio is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. Closely related to leveraging, the ratio is also known as risk, gearing or leverage. The two components are often taken from the firm's balance sheet or statement of financial position (so-called book value), but the ratio may also be calculated using market values for both, if the company's debt and equity are publicly traded, or using a combination of book value for debt and market value for equity financially. The definition of debt to equity ratio is a financial ratio used to assess debt to equity. The ratio is used to see the total funds provided by the borrower (creditor) and the owner of the company. In other words, regardless of the value of each rupiah of the company's capital that is used as debt collateral (Kasmir and Jakfar, 2010)

### **Stock prices and types of shares**

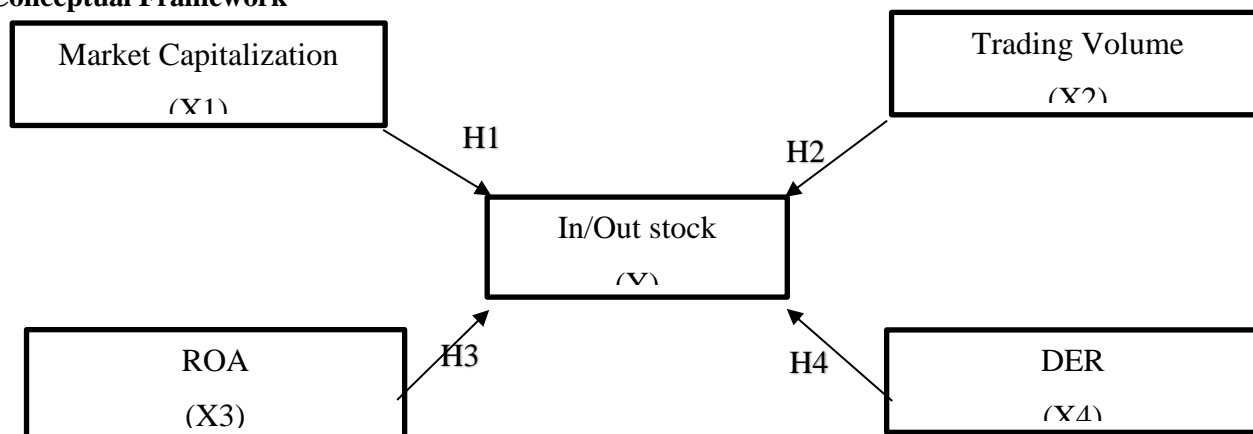
The stock price index is the main indicator that describes the movement of stock prices. In the capital market, an index is expected to have five functions (BEI, 2008), namely: as an indicator of market trends, financial level indicators, as a benchmark for the performance of a portfolio, facilitate portfolio formation with a passive strategy, facilitate the development of derivative products.

### **Previous Research**

Research conducted by Antou and Tasik (2017) with the title Spillover Analysis On Stocks Entered In Index LQ45 and Non the variable used are return of assets and market capitalization, and trading volume influences the entry of shares in LQ45. This study aims to investigate whether the volume of trade, return on assets, market capitalization and net profit margin has an influence on the inclusion of shares in the LQ45 index resulting in spillover effect on non-LQ45 shares. With expectation of a positive effect that can be an information from shares listed in Index LQ45 against non LQ45. This analysis uses panel data regression. The result shows that market capitalization variable has significant and most consistent effect so it has positive information to non-LQ45 stock.

Research conducted by Tobbarry (2009) with the title Analysis of influence, exchange rate, interest rate, inflation rate and GDP growth on stock price index property sector the variable used are Exchange rates, interest rates, inflation rates, GDP growth, stock price indexes using empirical studies in Indonesia stock exchange period 2000-2008. The purpose of this research is to analyze some factors that influence the stock price index in the property sector. This research examines the effects of currency rates, interest rates, inflation rates and GDP growth in the property stock price index during the 2000-2008 period.

Research conducted by Tasik and Prasetya (2017) with the title The Analisisi od Stock Financial variable impact on IN/OUT of Stock in LQ-45 (2014-2015 period) the variable used are Transaction volume, market capitalization, and ROA. This research aims to find out whether these variables have significant influence on IN-OUT of stocks in LQ-45. Logistic regression model is used as an analysis tool. The result shows that Market Capitalization, ROA, and GDP have positive but insignificant influences. While Transaction Volume has positive and significant influence to IN-OUT stocks in LQ-45

**Conceptual Framework****Figure 1. Conceptual Framework***Source: Data Processed, 2019***Hypothesis**

H1: It is suspected that Market Capitalization have a significant effect on the in/out stock in LQ-45

H2: It is suspected that Trading Volume have a significant effect on the in/out stock in LQ-45

H3: It is suspected that ROA have a significant effect on the in/out stock in LQ-45

H4: It is suspected that DER have a significant effect on the in/out stock in LQ-45

**RESEARCH METHODOLOGY****Type of Research**

In this study the population is property and retail sector companies listed on the Indonesia Stock Exchange in 2016-2018. The data used in this study are secondary data from 2016-2018 by taking 14 companies incorporated in LQ-45 on the Indonesia Stock Exchange by accessing the page [www.idx.co.id](http://www.idx.co.id). The secondary data used is quantitative. Quantitative method by (Indrianto and Supomo, 2014) is research that seeks to understand and solve problems based on positive or empirical, which emphasizes testing the theory through measurement of research variables with numbers and analysis of data with statistical analysis.

**Population, Sample Size, and Sampling Technique**

The study population is companies listed and joined in LQ-45 on the Indonesia Stock Exchange with a research period of 2016-2018. Then obtained 14 company samples that fit the criteria for this study that have a fixed position in the LQ-45 Index. The sample of companies studied were companies that during this period met the requirements that companies listed on the Indonesia Stock Exchange during the period 2016-2018 had complete information on financial performance and GDP.

**Data Collection Method**

Data collection techniques used and implemented are literature research to be used as a basis for research, field research that is data obtained from certain institutions, in this case the Indonesia Stock Exchange.

**Operational Definition and Measurement of Research Variable**

This discussion is about the definition of the variable that will use in this research. Variables can be described as any aspect of a theory that can vary as part of the interaction within the theory. In other words, variables are anything can effect or even change the results of a study. Every study has variables as these are needed in order to understand differences

## Data Analysis Method

### Binary Logistic Regression

The analysis used in this study is binary logistic regression using SPSS assistance to process data. This technique is used to determine the relationship or relationship of independent variables with the dependent variable. The independent variable consists of market capitalization, Trade Volume, and ROA. While the dependent variable is IN / OUT. The binary logistic regression method can produce a causal analysis for the dependent and independent variables. From this method we can analyze the chances of a stock to exit or enter LQ-45 based on value or if there is a change in the value of the independent variable used. To test the model, the Logistic Regression analysis (Anderson, Stenly, and William 2012) is used, where by using the variables examined it can be formulated as follows:

$$E(S) = \frac{e^{b_0+b_1MC+b_2TV+b_3ROA+b_4DER}}{1 + e^{b_0+b_1MC+b_2TV+b_3ROA+b_4DER}}$$

Where:

MC = Market Capitalization  
 TV = Trading Volume  
 ROA = Return of Assets  
 DER = Debt to Equity Ratio  
 S = IN/OUT Share

## RESULT AND DISCUSSION

### Test significant models simultaneously (Omnibus test)

**Table 2. Omnibus Tests of Model Coefficients**

		Chi-square	Df	Sig.
Step 1	Step	43.149	4	.000
	Block	43.149	4	.000
	Model	43.149	4	.000

Source: SPSS Output, 2020

Based on Table 2, known the value of Sig. 0,000 < 0.05, then the model which involves independent variables is significant (simultaneously) good. So it can be concluded that the model can be used for further analysis.

### Test significant models Partial (Wald test)

**Table 3 Partial Test**

#### Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1 <sup>a</sup>	InVP	.976	.333	8.576	1	.003	2.654
	InKP	2.823	.788	12.835	1	.000	16.819
	ROA	.106	.078	1.843	1	.175	1.112
	DER	1.677	.924	3.295	1	.070	5.350
	Constant	-56.992	15.785	13.035	1	.000	.000

a. Variable(s) entered on step 1: InVP, InKP, ROA, DER.

Source: Output SPSS, 2020

The level of significance to be used is 5%. From the table above it can be shown that: InVP variables we can see a significance level of 3% or below 5%. For the InVP variable because the significance level is less than the 5% standard, the null hypothesis is rejected. So, it can be concluded that the InVP variable influences the IN / OUT of LQ-45 shares. Variable InKp we can see the significance level of 0% or below 5%. For the InKp variable because the significance level is less than the 5% standard, the null hypothesis is rejected. So, it can be concluded



that the InKp variable influences the IN / OUT of LQ-45 shares. We can see the variable ROA significance level of 17.5% or above 5%. For the ROA variable because the significance level is more than the 5% standard, the null hypothesis is accepted. So, it can be concluded that the ROA variable has no effect on the IN / OUT of LQ-45 shares. We can see the variable DER significance level of 7% or above 5%. For the DER variable because the significance level is more than the 5% standard, the null hypothesis is accepted. So, it can be concluded that the DER variable has no effect on the IN / OUT of LQ-45 shares

$$E(S) = \frac{e^{-56,992+0,976+2,823+0,106+1,677}}{1 + e^{-56,992+0,976+2,823+0,106+1,677}}$$

e = eksponen value is 2, 71828

In interpreting these results using the Odds Ratio of each variable. Odds ratios for each variable are obtained from  $e^{\beta}$ . For the odds ratio value  $\ln VP = 2.71828^{0.976}$  (results from spss) = 2.654. The  $\ln VP$  odds ratio value of 2,654 indicates that the probability of a company entering into LQ-45 shares is 2,654 times greater if  $\ln VP$  increases to 10x with the assumption of ceteris paribus. For the value of the odds ratio  $\ln KP = 2.71828^{2,823}$  (results from spss) = 16,819. From the  $\ln KP$  odds ratio value of 16,819, it is identified that the probability of a company entering LQ-45 shares is 16,819 times greater if the  $\ln KP$  increases to 10x with the assumption of ceteris paribus.

Odds ratio will be changed into a form of probability with the equation

$$P(Y) = \frac{NilaiOdds}{1 + NilaiOdds}$$

$$P(\ln/Out) = \frac{2.654}{1+2.654} = 0.726327 = 72.63\%$$

From this result we can conclude that: the transaction volume increases 10 times (because the value used in the model is converted to logarithmic form), the probability of a company going into LQ45 shares is 94% with the assumption of ceteris paribus (things / other variables are considered do not change).

$$P(\ln/Out) = \frac{16.819}{1+16.819} = 0.094725 = 94.72\%$$

From this result we can conclude that: the Market Capitalization increases 10 times (because the value used in the model is converted to logarithmic form), the probability of a company going into LQ45 shares is 94% with the assumption of ceteris paribus (things / other variables are considered do not change).

We do not change the other variables into odds ratios because based on the significant values we have previously concluded that these variables do not affect the entry and exit of LQ-45 shares.

**Cox & Snell R square and Nagelkerke R square**

**Table 4. Model Summary**

Step	-2 likelihood	Log Cox & Snell R Square	Nagelkerke R Square
1	57.378 <sup>a</sup>	.446	.597

Source : SPSS Output, 2020

Based on the SPSS results from the summary model table, the ability of Cox & Snell's R square is 0.446, this value means that the size of the joint effect between the independent variables is 44.6%. Whereas, the value of Nagelkerke R square is 0.597, this value can be likened to R square obtained from multiple linear analysis (MLR). It can be concluded that the independent variables ( $\ln Vp$ ,  $\ln Kp$ , ROA and DER) in the model can only predict around 59.7% of the variation of the dependent variable. While 57% of the variation of the dependent variable is explained by errors or variables not included in the model.

## Discussion

### Effect of Trading Volume toward In/Out shares in the LQ-45.

Regression test results in the first hypothesis can be seen that the value of the probability of trading volume of 0.003 or 3% which indicates that the trading volume has a positive and significant effect on the entry and exit of shares in LQ-45. The results of this study are consistent with research conducted by (Prasetya and Tasik, 2017) which states that trading volume has a positive and significant effect on the entry and exit of shares in the LQ-45 index with the significance calculation result of 0.020.

### Effect of Market Capitalization towards In/Out shares in the LQ-45

The results of the regression test on the second hypothesis can be seen that the Market Capitalization value is 0,000 or 0% which indicates that the trading volume has a positive and significant effect on the entry and exit of shares in LQ-45.

### Effect of Return of assets towards In/Out shares in the LQ-45.

Regression test results on the third hypothesis can be seen that the value of Return of assets (ROA) of 0.175 or 17.5% which indicates that the variable ROA is not significant to the entry and exit of shares in LQ-45 because it has a significant value above 5%. The greater the value of ROA, shows the company's performance is getting better too, because the greater the rate of return on investment. This value reflects the company's return from all assets (or funding) given to the company (Wild, Subramanyam, and Halsey, 2005: 65). The results of this study are consistent with research conducted by (Prasetya and Tasik, 2017) which states that return of assets (ROA) is not significant to the entry and exit of shares in the LQ-45 index with the significance calculation result of 0.553.

### Effect of Debt to Equity Ratio towards In/Out shares in the LQ-45.

Regression test results on the fourth hypothesis can be seen that the value of Debt to Equity Ratio (DER) of 0.070 or 7% which indicates that the DER variable is not significant or does not affect the stock of shares in the LQ-45 index because it has a significance value of more than 5%.

## CONCLUSION AND RECOMMENDATION

### Conclusion

Based on the results of the discussion in the previous chapter, this research has several conclusion such as:

1. Trading Volume has a positive and significant effect on the IN / OUT of LQ-45 stocks in the 2016-2018 period. The existence of a positive influence indicates the benefits obtained from the company will be higher. Means that all company operational activities will run well. With that can increase the value of profitability, and it means that these companies are much in demand by investors and able to manage cash finance efficiently.
2. Market Capitalization has a positive and significant effect on the IN / OUT of LQ-45 stocks in the 2016-2018 period. The existence of a positive influence indicates the benefits obtained from the company will be higher. Means that all company operational activities will run well. With that can increase the value of profitability, and it means that these companies are much in demand by investors and able to manage cash finance efficiently.
3. Return of assets (ROA) has a positive but not significant effect on IN / OUT of shares incorporated in LQ-45. The existence of a positive influence indicates the benefits derived from the company will be higher. Means that all company operational activities will run well. Thus it can raise the value of profitability, and it means that these companies are much in demand by investors and able to manage finances efficiently.
4. Debt to assets ratio (DER) has a positive but not significant effect on IN / OUT of shares incorporated in LQ-45. The existence of a positive influence indicates the benefits obtained from the company will be higher. Means that all company operational activities will run well. Thus it can raise the value of profitability, and means that these companies are much in demand by investors and able to manage finances efficiently.

### Recommendation

1. Investors to be more selective in determining which companies are more profitable. Based on the results of this study investors or better invest in companies that enter the LQ45 index because the index has a better financial ratio.



2. Investors to be more selective in determining which companies are more profitable. Based on the results of this study investors or better invest in companies that enter the LQ45 index because the index has a better financial ratio.
3. Investors should always pay attention and use information about company performance in terms of ROA and DER because the information has an effect on the merits of a company and In / Out of shares
4. The company must always improve its performance to the maximum extent possible so that it always produces high profits
5. The sample used in this study is still limited, it is hoped for further research to examine more variables and companies.

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