

LONG-RUN IPO PERFORMANCES AND ITS INFLUENCING FACTORS: THE CASE OF INDONESIAN STOCK EXCHANGE

Mahardhini Fuadillah

Bank Mandiri Jakarta

e-mail: mahardhini@gmail.com

D. Agus Harjito

Fakultas Ekonomi Universitas Islam Indonesia Yogyakarta

e-mail: agus_h@fe.uui.ac.id

Abstract

The objective of this study is to find whether Indonesian stock exchange will also show long-run underperformance of IPO or not, and what are factors influence the long-run underperformance that happens in a company after IPO. Factors influencing IPO performances are represented by four variables are age, time lag, issue size, and company size. Long run IPO performance is represented by Buy-and-Hold Adjusted Return (BHAR). This study employs data from companies listed in Indonesian Stock Exchange (IDX), which are going public from 2000 to 2005. The results show that Indonesian Stock Exchange Market does not show underperformance long-run IPO, and there is a positive relationship between the number of shares offered at the going public period and its long-term performance. However, the other variables used (i.e. age, time lag, and company size) do not influence the long-run IPO performance in Indonesian Stock Exchange.

Keywords: *initial public offering, long run performance, underperformance*

INTRODUCTION

Initial Public Offering (IPO) is the first time the company's stock is sold to the public (Keown, Martin, Petty, and Scott, 2005). This activity becomes the most important moment for a company, because through IPO a private company will become a public one. It happens when the companies firstly listed their stock in stock market, whereas listed in the primary market, based on the regulation ruled by *UU Pasar Modal dan Peraturan Pelaksananya* (regulation in Indonesia). Primary market is a market in which new, as opposed to previously issued, securities are traded (Keown, *et. al.*, 2005).

Initial Public Offerings (IPOs) of equity capital are a common activity in financial market around the world. It has a main purpose to raise fund from public (Puk-

thuanthong and Walker, 2004). Before the companies go public, there are some requirements that have to be fulfilled by the companies. Some of the requirements, the first is companies have some alternatives of fund sources, from either inside of the company or outside of the companies. And the second, before the companies go public, they should make some internal preparation and prepare some documents that will be used to fulfill the go public requirements, and all the requirements from BAPEPAM (*Badan Pengawas Pasar Modal*). And after they have been listed in the capital market, the companies have to obey all regulation made by Capital Market.

There is a change of some conditions inside the companies during the IPO process so the companies do not only have to make

preparations before the listing process, but also some preparations in order to face the changes after they are listed in capital market. A change known as one of the disadvantages of the IPO process is the share ownership of the company. Before they are listed in capital market, the owner of a company has a full ownership toward the company. However, after they are listed in the capital market the owner has to share his ownership with the shareholders because the shareholders have some parts of the company ownership. Some companies who want to go public at the first time will feel worried if they will lose the company control. Even though there is a disadvantage of the IPO process, there are actually a lot of advantages that they can get from go public process. Beside they can raise their fund from outside investors, the regulations that they have to obey are not too difficult and the process is not so complicated, even for small companies. Some of the regulations are such as companies that had have been operated at least 12 years, have net asset at least Rp 5 billion with audited financial statement, and sell at least 50 million stock share.

The changes that happen inside the company after IPO will lead changes to the company performance, whether in short-run or long-run period after the IPO, if the companies are not able to know those changes and how to anticipate the changes. This financial transaction seems simple and normal enough, but there are some interesting phenomena that make a lot of researchers interested to find the answer. The first is that the price of the issue price of a newly listed company's share is below the price at which the share trades in the secondary market at the first time, or known as underpricing. And the second is the poor long-term return performance of IPOs compared to the stock market, or it is usually called the long-run underperformance. This last phenomenon will be the condition that will be analyzed in

this research.

Long-run performance of IPO is a performance of IPO that is being analyzed in the long-run periods, which is two until three years or more after the listing date. A long-run underperformance is a condition of long-run performance of IPO, which shows a decline from year to year. So if there is a comparison between the performance of IPO in short term (just few days after listing date) and the long term, the data will show that the long run IPO has worse performance than the short term. Ritter (1991) explained that there are some possible explanations for the underperformance condition; they are risk miss-measurement, bad luck, and fad and over-optimism. He also concluded that this condition indicates that the offering price is not too low, but the first aftermarket price is too high. On the other hand, a lot of findings showed that the higher the underpricing in the initial return, the higher underperformance happened in that stock exchange market (Corhay, Teo, and Rad, 2002; Goergen, Khurshed, and Mudambi, 2007).

This study also want to find whether Indonesian stock exchange will also show long-run underperformance of IPO or not, and what factors influence the long-run underperformance that happens in a company after IPO are. By analyzing some factors based on some previous findings, this research wants to give guidance for the companies who want to go public in preparing some decisions in order to face the changes that may happen so that the long-run underperformance that will happen in the future can be anticipated.

IPO is a well-known financial activity that has been done by a lot of companies. This financial activity becomes more important and holds an important role in the companies in raising fund from the external company. When companies need huge money, while they cannot fulfill those needs with the internal ability, they will do IPO or sea-

soned equity (seasoned new issue). A seasoned new issue refers to stock offerings by companies that already have common stocks that are traded in the secondary market.

This important activity hopefully can help a better performance of the companies. But if underperformance long-run condition happens, it means that IPO is not a good decision in order to raise more fund for the company. The underperformance condition almost happens in every part in this world, like what Ritter (1991) showed in the U.S, Bessler and Thies (2007) concluded in Germany, or in the other developed markets, and even in the emerging market such as in Sri Lanka (Peter, 2007), China (Gu, 2003), and Greek (Thomadakis, Nounis, and Gounopoulos, 2007; Gounopoulos, Nounis, and Stylianides, 2005). And the research comparison of IPO performance in emerging markets was also conducted by Pracianoy and Cigerza (2007).

A position of IPO procedures is no longer able to fulfill its previous purpose to help companies raising funds from the external parties, if long-run underperformance happens in the market. There is no previous research conducted to analyze long-run underperformance of IPO in Indonesian Market condition. This condition makes a lot of companies in Indonesia unaware of this phenomenon. They do not realize that IPO is no longer a good decision to raise more funds for the company. It needs some treatments and analysis to make a better condition.

IPO long-run underperformance also becomes an important condition to be understood by every investor. Investors sometimes do not understand that even though they earn a large positive abnormal returns in the early aftermarket period, the returns will be diminishing after two or three years of listing. Investors should understand the real condition of the market, so they will not only buy IPO to look for large abnormal returns, but they can also be more sensitive

to every market change, and help the companies raising their fund.

This study is conducted to find whether Indonesian Stock Exchange shows long-run underperformance or not, and if it is "yes", what factors that make those conditions happen are. Goergen, *et. al.* (2007) concluded that there are relationships between IPO and the pre-IPO financial performance, and also with the managerial decision taken before IPO. Thus, through this research there are two objectives that will be accomplished: (1) To get information about long-run performance of IPO in Indonesian Stock Exchange, and (2) to know factors influencing IPO long-run performance.

LITERATURE REVIEW

The poor long-run performance of IPO only happened in some companies, while the other companies show positive long-run (Bessler and Thies, 2007), so every company will not show the same long-run underperformance condition. Based on this condition, a lot of researchers are interested in finding the reasons why some companies show underperformance in the long-run IPO, while the others do not. Beatty and Ritter (1986) found that while underpricing is common, the "need" for and extent of underpricing is reduced if the uncertainty about the IPOs future cash flow is reduced. This condition makes many researchers want to examine the role of financial and non financial characteristics of IPOs in explaining initial day underpricing and long term underperformance, like what Dimovski and Brooks (2004) did. They examined financial and non-financial factors that influence the IPO long-run underperformance in Australia, while the other researchers are more interested in the non-financial factors. Goergen, *et. al.* (2007) concluded that there are relationships between IPO and the pre-IPO financial performance, and also with the managerial decision taken before IPO, be-

side the other factor.

There are various characteristics that have been investigated in previous researches. Dimovski and Brooks (2004) use both financial and non-financial factors, which are offer price, capital sought, market sentiment, share options, underwritten, EPS yield, DPS yield, franking and DRP, underwriter options, capital retained, and limited liability. They found that only market sentiment and the underwriter options have positive coefficient, while share option and DPS yield have negative coefficient relationship.

A unique research was conducted by Alvarez and Gonzalez (2001). They believed that the result of long-term IPO performance examination depends on the methodology used, and then they compared three different methods. This finding is supported by Brav and Gompers (1997), which the result of Buy-and-Hold Adjusted Returns (BHAR) is different from the Fama-French's model in explaining the long-run underperformance, and the BHAR gives different result if it is compared to Average Monthly Market Adjusted Return (MMAR) (Pracianoy and Cigerza, 2007). According to Stevenson (2006), the privatization has greater degree underpriced than private sector firms, but tends to be more out-performed in the long term.

The trust to the government will also influence the long-run performance of the IPO. If investors distrust the government involving in the business operation and more confident for the privatization of state enterprise, they will have lower return (Gu, 2003). Whereas the investors trust to the government, IPOs will have better long-run performance (Steen and Kendall, 2004). There are still a lot of variables that can be used to define the underperformance condition in long-run IPO, such as time period chosen (Bessler and Thies, 2007; Tsangarakis, 2004), ownership structure (Yeh, Shu, and Guo, 2008; Li and Hovey, 2007), time

lag (Thomadakis, *et. al.*, 2007), size of issue (Gounopoulos, *et. al.*, 2005), family owned (Jaskiewicz, Gonzalez, Menendez, and Schiereck, 2005; Chahine, 2007), etc.

This research will only take some of those factors to be used as the indicator (independent variable); which are age, time lag, issue size, and company size. This study chooses those variables, because they have been represented almost another variable. For example, the family-owned companies usually seem like a small young company. The family members have strong controls. The family-owned company has become the part of company size, ownership structure, and this will influence which the underwriter is used.

Indonesia IPO's Long Run Performance

Underperformance condition happens almost in every part in this world, like what Ritter (1991) showed in U.S, Bessler and Thies (2007) concluded in German, or in the other develop markets, and even in the emerging market such as in Sri Lanka (Peter, 2007), China (Gu, 2003), and Greek (Thomadakis, *et. al.*, 2007; Gounopoulos, *et. al.*, 2005). And the research comparison of IPO performance in emerging market has also conducted by Pracianoy and Cigerza (2007).

The previous researches explained above were conducted in both developed market and emerging market. Indonesia is included in the emerging market because Indonesia is a developing country. Based on this situation, this study assumes that Indonesia will have the same IPO long-run performance with the other emerging markets. The previous research conducted in emerging markets showed that long-term performance of IPO in most of emerging markets is in an underperformed condition. Peter (2007) conducted a research in Sri Lanka, which relatively has small stock market compared with the other country. The result showed that in the third year, Sri Lanka un-

derperforms -12.9%. In Greek, the market was in underperformed condition by -1.24% after three years of listing (Thomadakis, *et. al.*, 2007). While in Cyprus, a -64.40% underperformance happened in the third year of listing (Gounopoulos, *et. al.*, 2005).

Age

The age of the issuing firm calculated as the difference between the date of registration and the date of listing (Goergen, *et. al.*, 2007). The operating history of a firm prior to going public plays a significant role to its stock price performance (Thomadakis, *et. al.*, 2007). An old company has longer operating history and more information available to the public, neither is young company (Gounopoulos, *et. al.*, 2005). Hence, age influences the long-run IPO performance of a company positively. This condition will influence the long-run underperformance negatively. In the case of family-owned business, the older the firm means the more problems will happen because of multi-generation. This will positively influence the long-run underperformance (Jaskiewicz, *et. al.*, 2002). The condition will make the old company's long-run IPO performance worse than the younger one.

Time Lag

The time lag is the period between the official date of the prospectus announcement (or offer price date) and the listing date of an IPO (Thomadakis, *et. al.*, 2007). It usually starts about four weeks later. This time lag has negative implication for both underwriter and the buying investor. For underwriter, the trading lag will need more distribution cost, to wait before the securities can be able to entry the secondary market. While the investor will get uncertainty, because they have to wait (need more time) to know the actual market value of their purchase security or before can liquidate it in the secondary market (Tsanga-

rakis, 2004). During this period, there are any possibilities of the market condition of economy changing that will affect the price performance, in the initial or after market (Thomadakis, *et. al.*, 2007). Thomadakis, *et. al.* (2007) showed that there is negative effect of time lag to the long-run IPO performance. If time lag increases, it means that the uncertainty about the IPO valuation and listing increases and this will lead the worse long-run underperformance (Gounopoulos, *et. al.*, 2005).

Issue Size

Issue size is defined as the number of share that is offered and the offer price issued (Gounopoulos, *et. al.*, 2005). The size of an IPO can be used as a proxy variable for uncertainty about the ex post value of IPOs (Thomadakis, *et. al.*, 2007). Previous studies used the size of issue to control the issuer's overall risk and issue uncertainty. Better-established firms often make larger issues and this large numbers of share are generally less risky than the smaller (Guo, Lev, and Shi, 2006). According to Brav and Gompers (1997), the long-run performance of non-venture backed IPOs are below than the other in the one until five-years. And the results show that small issuers drive that underperformance of non-ventured backed IPO. There is a finding that size of IPO is negatively related to the cumulative adjusted market return, which will lead less long-run underperformance (Corhay, *et. al.*, 2002). The smaller the size of an IPO, the higher the IPO cumulative market adjusted return, because size is positively correlated to reputation, and more reputable firms will raise more money thus there is no need to underprice as much as smaller firms.

Company Size

Large company has a negative relationship to the poor long-run performance. Drobotz, Kammermann, and Walchli (2005)

said that in Swiss, IPO has poor long-run performance, in both of using BHAR and CAR, and the fact showed that those firms tend to be small firms. Gounopoulos, *et. al.* (2005) said that smaller firms tend to be more risky. Larger firms have a higher association with a larger flow of external information and the market's expectation is related to firm size. There was investigation to the family owned businesses that are small, have more negative long-run performance (Jaskiewicz, 2005). That result has been supported by Chahine (2007) who said that family owned business had a strong blockholder (defined as the largest share holder ownership) toward their business. This condition will make the company difficult to accept investors from the outside. This condition will lead the decreasing trust from the investor. Moreover, Jaskiewicz, *et. al.* (2005) showed that the family-owned company cannot be indicated as a small business and gives the significance long-run under-performance.

Large company usually used reputable underwriting, while the small company will use not-reputable underwriter or even self-underwritten. The companies that used self-underwriting and have poor long-run performance are the companies who issued the non-penny stock or small company

(Dempere, 2008). Bradley, *et. al.* (2006) also investigated the penny and non-penny stock, which is divided the research into the small (non-penny stock) and large companies (penny stock). Chin, Lee, Kleinman, and Chen (2006) showed that the innovation has strongly positive effect to give better result in long-run performance, while large company does innovation in Research and Development (RandD). On the other research showed, big company will need higher transaction cost in doing IPO (Ritter, 1991). It will mean nothing because they meet difficulties in raising their fund, and will influence the stock price performance. While small companies do not necessarily face a higher cost of equity capital. This study assumes that company size actually has a relationship with long-run performance of IPO. The total asset of the company defines this company size in the date of listing.

Theoretical Framework and Hypotheses Development

This study uses two groups of indicators that represent the long run performance of IPO and factors influencing it to measure the relationship between long run performance of IPO and the influencing factors. The formulas are as follows:

Table 1: Indicator and Proxies of the Research

INDICATORS	PROXIES
Long run performance of IPO (Buy-and-Hold Adjusted Return)	Closing price of first day of trading Closing price of each time period used Indonesian Compound Index (IHSG) of first day of trading Indonesian Compound Index (IHSG) of each time period used
Factors influencing long run performance of IPO	Age of Company Time Lag Issue Size (amount of share) Company Size

Some previous researchers, who conduct research in some emerging market in the world, showed that there are significant underperformance conditions in those countries. It was showed in the research conducted by Peter (2007) in Sri Lanka, Thomadakis, *et. al.* (2007) in Greek, and Gounopoulose, *et. al.* (2005) in Cyprus. From those researches, this study assumes that Indonesia as an emerging market will also have a same long-run IPO performance with those three countries. Thus this study formulate the hypotheses as follows:

H1: Indonesian Stock Exchange Market shows underperformance long-run IPO.

There are some factors that will influence the performance of long-run IPO. In this research, there are four factors that will be analyzed. The first factor is age of the company (Age). Thomadakis, *et. al.* (2007) said that old of a firm plays a significant role, because an older company, will have more experience in running the business. An old company will also has longer operating history and more information available to the public (Goergen, *et. al.*, 2007), thus the public can get the information about the company easily. So, looking at those results, this study formulate the hypotheses as follows:

H2: The older the firm, the better the long-run performance of IPO.

The second factor is Time Lag, a period between the offer price date and the listing date of an IPO. According Tsangarakis (2004), the longer the time period, the more worry the investor. That is because the investor will get uncertainty in that waiting time, while there are any possibilities of the

changes of market condition during the waiting time (Thomadakis, *et. al.*, 2007). Thus, this study formulate the hypotheses as follows:

H3: The longer the waiting period of a firm to go public, the lower the long-run performance.

The next factor is Issue Size (IS), the size of the stock. Issue Size is being used as proxy variable for uncertainty about the ex post value of IPOs (Thomadakis, *et. al.*, 2007). The more the Issue Size, the lower the uncertainty of ex post value. A better-established firm also will issue a large number of shares, which is less risky than the smaller one (Guo, *et. al.*, 2006). Thus, a large number of stocks offered will lead a lower underperformance of long-run IPO. Thus, this study formulate the hypotheses as follows:

H4: There is a positive relationship between the size of stock (number of share) at the going public period and its long-term performance.

The last factor is Company Size (CS). Gounopoulos, *et. al.*, (2005) said that smaller firms tend to be more risky. Chahine (2007) who said that family owned business had a strong block-holder (defined as the largest share holder ownership) toward their business, while the family owned businesses, that are small, have more negative long-run performance (Jaskiewicz, 2005). Thus, the size of the company (CS) will influence the long-run IPO performance positively. Thus, this study formulate the hypotheses as follows:

H5: The company size will influence the long-run performance positively.

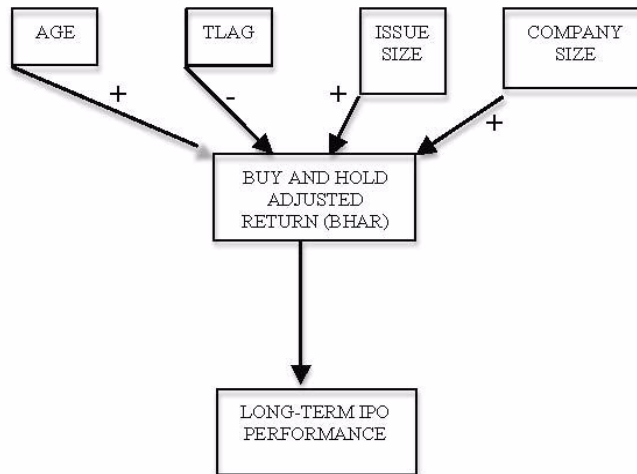


Figure: 1. Theoretical Frameworks Chart

This research contains two stages. The first stage is calculated Buy-and-Hold Adjusted Return to know the long-run IPO performance in Indonesian Stock Exchange. The second one, using multiple regressions, assesses the influencing factor's relationship with long-run IPO performance in Indonesian Stock Exchange Market.

RESEARCH METHOD

This research uses quantitative secondary data because the data are reported numerically and taken from *Pojok BEJ* in Faculty of Economics, Universitas Islam Indonesia, which has real time on line with Indonesian Stock Exchange in Jakarta. There are also two kinds of quantitative data, which are discrete and continues data. Discrete variables assume only for certain values, and usually there is a gap between the values. This variable comes from counting process. While continues variables can assume any values in any specific range, and it comes from measurement process. For this study, the researcher uses continues data.

In this research, there are two kinds of test used. Which are behavior analysis, and causality test. The behavior analysis is a

test to observe long run performance of IPO in Indonesian Stock Exchange (IDX) and uses a particular formula to know the IPO's pattern of long run performance in IDX. And, the causality test is used to analyze the performance of each factor toward the long run performance of IPO. In this test there are one independent variable and four dependent variables. The independent variable is Buy-and-Hold Adjusted Return (BHAR), as the method of long run performance of IPO. The dependent variables are Age, Time Lag, Issue Size, and Company Size. This study uses a multiple regression to find the relationship among those variables.

Indonesian Market Condition

To find whether Indonesian market condition show a long-run underperformance or not, this research will calculate it by using Buy-and-Hold Adjusted Return (BHAR) method. It is calculated by using two criteria that are used in international literature: the raw and the excess or adjusted returns (Thomadakis, *et. al.*, 2007). This research will calculate the market adjusted return of three-year period for each company in the time period used in this research.

This study will calculate the Buy-and-Hold Adjusted Return based on the listing price of IPO, and the returns are calculated by using this following time points:

1. The first day trading period in the IDX (Indonesian Stock Exchange)
2. The six month trading period in the IDX (the 126th day of trading)
3. The one year trading period in the IDX (the 250th day of trading)
4. The one and a half year trading period in the IDX (the 376th day of trading)
5. The two-year trading period in the IDX (the 500th day of trading)
6. The two and a half year trading period in the IDX (the 626th day of trading)
7. The three-year trading period in the IDX (the 750th day of trading)

(Note: 1st, 2nd and also 3rd time points are defined as the short term IPO. If the result is true, only the 4th, 5th, 6th and also 7th of time points that are significant defined as long-run IPO performance).

Those time points are being used to make this research easier to conduct and analyze the data. This research analysis the performance of Buy-and-Hold Adjusted Return (BHAR) of IPO until three years after go public, because it will be very difficult if daily data is being analyzed. Those time points do not only to help the process of this research, but also want to define the long-run period of IPO. This research defines the long-run period of IPO performance as the performance a year after the listing date. The

To define whether Indonesian Stock Exchange Market shows underperformance in the Initial Public Offering process in long-run condition, the market adjusted return will show negative and more negative in the following year, or we can say that the performance of market adjusted return in IPO process decreases after three-years. It can be seen by using Mean Compare Test

(One Sample t-test) for every year in three-year period. The criteria used to reject or approve the hypotheses are if p (mean adjusted return each year) $< \alpha(0.05)$, H_0 is rejected; but if p (mean adjusted return each year) $> \alpha(0.05)$ H_0 is accepted. At the same time, mean adjusted return $t_1 > \text{mean adjusted return } t_2 > \text{mean adjusted return } t_3 > \text{mean adjusted return } t_4 > \text{mean adjusted return } t_5 > \text{mean adjusted return } t_6 > \text{mean adjusted return } t_7$, where t shows time points that will be used in this research.

Influencing Factors

On the other hand, to find the relationship between each factor and the long-run performance, this research will use the multiple regression method of each factor. The criteria used to reject or approve the hypotheses are if p (AGE, TLAG, IS, CS) $< \alpha(0.05)$, or we can say that p of each variable is less than $\alpha(0.05)$, then the null-hypotheses (H_0) is rejected; but if p (AGE, TLAG, IS, CS) $> \alpha(0.05)$, then the null-hypotheses (H_0) is accepted. And the standard coefficient (Beta) is used to define the relationship (whether positive or negative) between each independent variable and the dependent one (market adjusted return).

Research Subject

As the population, this research will use companies listed in Indonesian Stock Exchange Market. The researcher limits the sample to companies doing IPO from 2000 to 2005. This study uses this sample because the condition after 1998 crisis and before America's 2007 crisis makes the company's condition at that time more flexible than conditions during the crisis. Thus, the condition can be more acceptable. Data will be observed for 3 years after listing date. Those companies have different years of listed, thus the data must be collect based on the year of each company.

The sample of this study is derived from a sampling method; it means that the sample is selected by using some particular criteria. The criteria used are:

1. This study is conducted to private and public companies listed on Indonesian Stock Exchange.
2. The samples are the companies doing IPO from 2000 until 2005.
3. The sample will be observed for 3 years after the listing date.

Research Variables

There are two kinds of variables used in this research, dependent and independent variables. Long-run performance of IPO measured by Buy-and-Hold Adjusted Return (BHAR) method acts as the dependent variables. On the other hand, Age of the Company (AGE), the Time Lag (TLAG), Issue Size (IS), and Company Size (CS) are independent variables.

Technique of Data Analysis

Buy-and-Hold Adjusted Return

The Buy-and-Hold Adjusted Return (BHAR) that is defined as the raw return minus the corresponding market return is calculated by (Thomadakis, *et. al.*, 2007): $BHAR_{i,t} = \text{Raw return}_{i,t} - \text{Market return}_{i,t}$. Raw return is the individual return for each company, while market return is the average return from all company that is listed in stock exchange market (in this case is in Indonesian Stock Exchange Market). From that formula, we can know that if a company's raw return is more than the market return, which will result a positive BHAR, thus it means that the performance of that company is better than the average performance of company listed in stock exchange market. On the other hand, if the BHAR is negative, because the company's raw return is lower than the market return, it means that the performance of that company is worse than the average performance of company listed.

Raw Return

The proportion return or the raw return of the IPO trading is calculated by (Thomadakis, *et. al.*, 2007):

$$\text{Raw return} = \frac{(\text{Closing price of } n \text{ day trading}) - (\text{Closing price of first day of trading})}{\text{Closing price of first day of trading}}$$

where:

n = the day of trading that the long-run calculated performance is based

Market Return

The market return is calculated as follows (Thomadakis, *et. al.*, 2007):

$$\text{Market return} = \frac{IHS G_1 - IHS G_0}{IHS G_0} \times 100\%$$

IHSG = Compound Index (Index Harga Saham Gabungan), it is a general market index in Indonesian Stock Exchange. 0 = the base point, while 1 = the end point for the calculation of the return $IHS G_0 = IHS G$ taken in the closing price of n day $IHS G_1 = IHS G$ taken in the $n-1$ day of trading

Multiple Regression

The regression that being used is (Thomadakis, *et. al.*, 2007): $BHAR_t = a + \beta_1 (AGE) + \beta_2 (TLAG) + \beta_3 (IS) + \beta_4 (CS) + \epsilon_i$ Where t = time point used in this research and ϵ_i = error term

From that model, we can see that AGE, TLAG, IS and CS will influence BHAR as β_1 , β_2 , β_3 , and β_4 respectively. It is mean that if there is a change AGE as one, the BHAR will changes as β_1 , while if there is a change of AGE as two, the BHAR will change as $2(\beta_1)$, and so on. From the hypothesis, AGE, IS, and CS will influence BHAR positively, it means that the β_1 , β_3 , and β_4 will positive, while β_2 will negative because TLAG influences BHAR negatively.

RESULTS AND DISCUSSION

This session discusses about the research and the deep implication and explains about the measurement of variables used in this research, the analysis of data and the interpretation of hypotheses testing that contain explanation of research findings, implication and research implication.

The samples used in this research are companies doing IPO from 2000 to 2005. From the total of 103 companies did IPO in Indonesian Stock Exchange at that time, only 84 companies that fulfill the requirements needed in this research, because some of data needed are not available in *Pojok BEJ* that have real time online connection with Indonesian Stock Exchange in Jakarta.

Descriptive Statistics

This descriptive statistics is used to define the total sample, the minimum of the data, maximum of the data, the mean the data, and the standard deviation of the data for each variable. From this descriptive statistics, it shows the summary of data used in this research.

Table 2 shows the number of data being used in this research is 84. As explained before that there are only 84 companies that fulfill the requirement needed from the total number of 103 companies listed in Indonesian Stock Exchange (IDX) during 2000-2005. The table 2 shows the minimum, maximum, mean and standard deviation of data for each variable being used.

Table 2: Table of Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age TLAG Issue	84	0 -11	209 7346	17.20	26.557
Size Company Size	84	30000000	5E+009	110.01	799.997
BHAR 1st day	84	2E+010-	4E+014	3E+008	712364456.7
BHAR 6th month	84	3.1763-	10.3571	1E+013	5.735E+013
BHAR 1st year	84	93.2632-	343.6779	0.113623	1.7783084
BHAR 1.5th year	84	98.1667-	478.0574	1.580787-	70.2294039
BHAR 2nd year	84	97.7584-	210.0139	4.095999-	81.9821491
BHAR 2.5th year	84	98.7926-	368.3598	14.5297-	66.6892764
BHAR 3rd year	84	99.0516-	563.9123	2.239194-	91.6516877
	84	98.4784	653.4606	4.425551-	102.4889879
	84			4.958079	113.6176624

Source: Primer data, 2009

Compare Mean Test

Table 3: Compare Mean Test

Variables	t-Stat	Prob.	Result
BHAR 1st	0.586	0.560	H0 is accepted
BHAR 6 month	0.206	0.873	H0 is accepted
BHAR 1st year	-0.458	0.648	H0 is accepted
BHAR 1.5th year	-1.997	0.049	H0 is rejected
BHAR 2nd year	-0.224	0.823	H0 is accepted
BHAR 2.5th year	-0.396	0.639	H0 is accepted
BHAR 3 year	-0.400	0.690	H0 is accepted

Source: Secondary data, 2009

To know whether Indonesian market condition shows an underperformance or not, this study uses compare mean test using one-sample t-test method in SPSS program. The result shows as Table 3.

From Table 3 above, only Buy-and-Hold Adjusted Return (BHAR) in the 1.5th year that is significant, because the p-value (0.049) is below the α (0.05), while the others are above the α . Thus, only H0 in the 1.5th year is rejected. This research defines the long-run IPO performance as the performance of Buy-and-Hold Adjusted Return (BHAR) after one year listed in Indonesian Stock Exchange (IDX). From the time point used in this research, the table 4.2 shows and proves that only BHAR in the 1.5th year is significant showing a long-run underperformance condition, where the t-Stat is -1.997. Based on the hypotheses, this research concludes that H0 is accepted. Thus, it can be concluded that Indonesian market condition does not show long-run IPO underperformance. It can be seen that the model used in this research shows insignificant results of long-term underperformance condition in Indonesia, because the other long-run period of IPO (2nd year, 2.5th year, and 3rd year) do not show significant results. However, the data shows that Indonesian market condition is underperformance in long-term, since t-Stat of t1 (BHAR in the 1st day) > t-Stat of t2 (BHAR in the 6th month) > t-Stat of t3 (BHAR in the 1st year) > t-Stat of t4 (BHAR in the 1.5th year) > t-Stat of t5 (BHAR in the 2nd year) > t-Stat of t6 (BHAR in the 2.5th year) > t-Stat of t7 (BHAR in the 3rd year). This condition is consistent with the result found by Goergen, *et. al.* (2007), where long-run IPO performance is not significant in U.K.

This happens because of the previous research finding conducted in countries that have a worse condition than Indonesia (Sri Lanka and Cyprus). Peter (2007) said that Sri Lanka's stock market is relatively small

compared with the other country, even compared with some regional markets in South Asia, while Cypriot is the smallest market the international evidence that has ever searched (Gounopoulos, *et. al.*, 2005). That is why the market performance shows underperformed condition in three years after listing and after twelve-months listed in Sri Lanka and Cyprus respectively. Indonesia is the country that has bigger and better market condition.

In Gounopoulos, *et. al.* (2005), there is data that show International Empirical Evidence of some countries in the world. The data shows that companies, which have very good financial performance or bad financial performance, tend to have lower long-run IPO performance. While companies, which have an average financial performance, are having better long-run IPO performance. It was showed that U.S has -20.0% and Japan has -27.0% of long term returns, while Korea and Singapore have 4.64% and -9.2% of long-term returns respectively.

The other reason that could be explained is that this insignificance is the method that is used. Alvarez and Gonzalez (2001) explained that the result of long-term IPO performance examination depends on the methodology used. This finding is supported by Brav and Gompers (1997) in which the result of Buy-and-Hold Adjusted Returns (BHAR) is different from the Fama-French's model in explaining the long-run underperformance. BHAR also gives different result if it is compared to Average Monthly Market Adjusted Return (MMAR) (Pracianoy and Cigerza, 2007). It might be needed more time points to show a long-run IPO underperformance in Indonesia, because Gu (2003) showed that China had a long-run IPO underperformance five years after go public.

Regression Result

This research analyzes the performance of IPO in Indonesia for long term. Thus this study examines the condition of each company for three years. The condition causes the three-year analysis, the results shown in Table 4.

In the first day, the Buy-and-Hold Adjusted Return is showed as above. From the data we can see that this regression is not

significant, because the p-value is 0.571. The factors that influence the regression (BHAR in the first day) are also not significant because all of the p-values are more than $\alpha(0.05)$. Thus, we can say that based on BHAR in the first year, H0 is accepted. It means that all of the factors are not related with the long-run IPO performance in the first day.

Table 4: BHAR in the first day (t1)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	0.241	0.248	0.974	0.333	H0 is accepted
Age	0.001	0.008	0.009	0.993	H0 is accepted
TLAG	-0.013	0.000	-0.116	0.908	H0 is accepted
Issue Size	-0.252	0.000	-1.656	0.102	H0 is accepted
Company Size	0.215	0.000	1.407	0.163	H0 is accepted

Dependent variable = BHAR₁; Probability = 0.571 and R² = 0.036

Table 5: BHAR in the 6th month (t2)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	-9.272	9.640	-0.962	0.339	H0 is accepted
Age	0.136	0.298	1.203	0.233	H0 is accepted
TLAG	-0.091	0.010	-0.829	0.409	H0 is accepted
Issue Size	0.188	0.000	1.253	0.214	H0 is accepted
Company Size	-0.045	0.000	-0.299	0.766	H0 is accepted

Note: Dependent variable = BHAR₂; Probability = 0.272; R² = 0.062

Table 6: BHAR in the 1st year (t3)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	-17.857	11.099	-1.609	0.112	H0 is accepted
Age	0.062	0.343	0.557	0.579	H0 is accepted
TLAG	-0.048	0.011	-0.447	0.656	H0 is accepted
Issue Size	0.316	0.000	2.131	0.036	H0 is rejected
Company Size	-0.069	0.000	-0.462	0.645	H0 is accepted

Dependent variable = BHAR₃; Prob. = 0.118; R² = 0.088

From the table above, it can be seen that BHAR in the 6th month shows almost similar condition with BHAR in the first day, where the p-value (0.272) is more than $\alpha(0.05)$. It also happens with all p-values of each factor. This makes the regression in this time point not significant. So, in this second time point (BHAR in 6th month), the H0 is also accepted. This condition makes this research conclude that all of the factors are not related with the long-run IPO performance in Indonesia 6th month after go public.

The same as the two previous conditions, BHAR in this third time point also shows an insignificant condition, where the p-value is 0.118, more than 0.05 (α). However there is a different condition compared with the previous one, where Issue Size factor is significant because the p-value is more than 0.05. The Issue Size influences the long-run performance of IPO positively which is 0.316. Moreover, the H0 is still

accepted because the overall p-value is below 0.05, which means insignificant. It means that all of the factors are not related with the long-run IPO performance in Indonesia.

Different from the previous conditions, in this time point the regression starts to be significant because the p-value shows 0.000 where it is below the $\alpha(0.05)$. Thus this research concludes that in this time point (BHAR in the 1.5 year) H0 is rejected. The data also shows that only Issue Size that significantly influences the long-run IPO performance positively. This condition is consistent with the previous condition in the first year (t3) of Buy-and-Hold Adjusted Return. It means that actually all of the factors are related to or influence the long-run IPO performance in Indonesia, but only Issue Size that gives a significant influence, while the others are influencing the performance insignificantly.

Table 7: BHAR in the 1.5th year (t4)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	-35.704	7.821	-4.565	0.000	H0 is rejected
Age	0.116	0.242	1.204	0.232	H0 is accepted
TLAG	-0.004	0.053	0.572	0.569	H0 is accepted
Issue Size	0.536	0.000	4.176	0.000	H0 is rejected
Company Size	-0.022	0.000	-0.174	0.862	H0 is accepted

Dependent variable = BHAR4 ; Prob. = 0.000; R² = 0.316

Table 8: BHAR in the 2nd year (t5)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	-22.455	11.901	-1.887	0.063	H0 is accepted
Age	0.082	0.368	0.767	0.445	H0 is accepted
TLAG	-0.074	0.012	-0.718	0.475	H0 is accepted
Issue Size	0.392	0.000	2.757	0.007	H0 is rejected
Company Size	-0.037	0.000	-0.216	0.795	H0 is accepted

Dependent variable = BHAR5 Probability = 0.007 and R² = 0.401

Table 9: BHAR in the 2.5th year (t6)

Variables	Coefficient	Std. Error	t-Stat	Prob.	Result
C	-38.071	12.239	-3.111	0.003	H0 is rejected
Age	0.163	0.379	1.665	0.100	H0 is accepted
TLAG	-0.025	0.012	-0.268	0.790	H0 is accepted
Issue Size	0.473	0.000	3.619	0.001	H1 is rejected
Company Size	0.005	0.000	0.036	0.971	H0 is accepted

Dependent variable = BHAR6; Probability = 0.000 and $R^2 = 0.539$

Consistent with the previous condition, BHAR in the 5th time point (in the 2nd year) shows a significant condition where the p-value is 0.007. It is the same as the previous condition where only the Issue Size that significantly influences the long-run IPO performance positively. This condition means that actually all of the factors are related to or influence the long-run IPO performance in Indonesia, but only Issue Size that gives a significant influence, while the others are influencing the performance insignificantly.

In this data, this research has proven that a condition in 2.5th year is also significant and is consistent with the previous condition, where the probability is 0.000 and only the Issue Size that significantly influ-

ences the long-run IPO performance positively which is 0.473. Based on the data, this research concludes that H0 is rejected. This condition also proves that all factors are related to or influence the long-run IPO performance in Indonesia. However, since only Issue Size is significant, this factor influencing the long-run IPO performance significantly, while the other factors influence the condition insignificantly.

After three years listed in IPO, the condition shows that actually the factors influence the condition (the long-run IPO performance in Indonesia) because the regression is significant, but only the Issue Size factor that positively influences the long-run IPO performance which is 0.551.

Table 10: BHAR in the 3rd year (t7)

Variables	Coefficient	Std. Error	t-Stat	Prob	Result
C	-46.464	12.918	-3.597	0.001	H0 is rejected
Age	0.178	0.400	1.907	0.060	H0 is accepted
TLAG	-0.035	0.013	-0.388	0.699	H0 is accepted
Issue Size	0.551	0.000	4.429	0.000	H0 is rejected
Company Size	-0.032	0.000	-0.253	0.801	H0 is accepted

Dependent variable = BHAR7 ; Probability = 0.000 and $R^2 = 0.597$

To give an explanation about the regression, this research will only discuss about the 3rd year of Buy-and-Hold Adjusted Return. Moreover the explanation of this condition is also the same for the 1.5th year, 2nd year, and 2.5th year, because those time points are defined as long-run period of IPO performance, and shows a significant condition. From the regression result summary, the regression equation is:

$$\text{BHAR}_7 = -46.464 + 0.178 \text{ AGE} - 0.035 \text{ TLAG} + 0.551 \text{ IS} - 0.032 \text{ CS} + \epsilon_i$$

From this regression equation, an assumption of each parameter could be derived that Age coefficient parameter (β_1) = 0.178. This condition means that on each one percent increase of BHAR, there would be an impact on 0.178 percent increase of Age percentage, with the assumption that TLAG, Issue Size (IS), and Company Size (CS) will remain the same.

Time Lag coefficient parameter (β_2) = -0.035. This condition means that on each one percent increase of BHAR, there would be an impact on 0.035 percent decrease of TLAG percentage, with the assumption that Age, Issue Size (IS), and Company Size (CS) will remain the same.

Issue Size (IS) coefficient parameter (β_3) = 0.551. This condition means that on each one percent increase of BHAR, there would be an impact on 0.551 percent increase of total share, with the assumption that Age, TLAG, and Company Size (CS) will remain the same.

Company Size (CS) coefficient parameter (β_4) = -0.032. This condition means that on each one percent increase of BHAR, there would be an impact on 0.032 percent decrease of total asset percentage, with the assumption that Age, TLAG, and Issue Size (IS) will remain the same.

Now, this research will discuss the result of the hypotheses testing for each variable one by one.

H2: The older the firm, the better the long-run performance of IPO.

Table 7, 8 and 9 show conditions of BHAR of long-run IPO performance in Indonesia. From those tables, this research shows that age has a positive coefficient to the Buy-and-Hold Adjusted Return. It means that, the older the company in Indonesia, the better the long-run IPO performance. It is consistent with the hypotheses, where the old company will have lower underperformance condition. Moreover, this condition fails to explain that age influences the long-run performance of IPO significantly because the p-value shows an insignificant relationship. This condition is consistent with the research's result conducted by Gøergen, *et. al.* (2007) that shows an insignificant result of age in influencing the long-run IPO performance positively, and the research conducted by Thomadakis, *et. al.* (2007) showing that age does not influence the long-run IPO performance. Hence, in this research H0 is accepted.

This condition happens because investors in Indonesia do not consider the age of the company when they want to buy a share. Even though the previous research said that the age of the company will influence the availability of information about the company, but underwriter can be used to compose information available (Brav and Gompers, 1997). Thus, a young company is able to provide a lot of information in public. This condition can happen in Indonesia to avoid lack of information in the public.

H3: The longer the waiting period of a firm to go public, the lower the long-run performance.

The data above shows that time lag (TLAG) influences the long-run IPO performance negatively. It is consistent with the previous result that a long time period will make the investor get uncertainty, because

they need more time to know the actual market value of their purchase security or before can liquidate it in the secondary market (Tsangarakis, 2004). Moreover, this research fails to explain a significant relationship within those conditions, because the p-values are below $\alpha(0.05)$. It is constant with the research conducted by Gounopoulos, *et al.* (2005), that time lag does not influence the long-run performance of IPO. Hence, in this research H0 is accepted. This insignificance happens in Indonesia because time lag in Indonesia is almost the same in average. Thus, investors in Indonesia are not too worried to the long period between offer price and listing date.

H4: There is a positive relationship between the size of stock (number of share) at the going public period and its long-term performance.

Considering the hypotheses testing result, the data shows that the result is significant because p-value from those three time points for long-run period are below 0.05. The condition is also consistent with the hypotheses where there is a positive relationship between the Issue Size (IS) and its long-term performance. It is constant with the previous research findings. Hence, in this research H0 is rejected.

Issue Size (IS) is a significant factor influencing long-run IPO performance in Indonesia positively. This condition shows that investors in Indonesia consider the total number of share offered in IPO. A company, which offers a high number of shares, indirectly shows that this company is a big company, because to issue a share, it needs a lot of money. Only big companies that are able to issue shares in a large number. It is easier for investors to know the reputation of the company from the number of the total share offered. That is why investors consider the number of share offered before they buy a share.

H5: The company size will influence the long-run performance positively.

Table 7, 8 and 9 show a condition that the Company Size (CS) does not influence the long-run IPO performance. It can be seen from the p-value which is more than $\alpha(0.05)$, while the coefficients are not the same one and another. At that time, the condition shows a positive relationship, while the other condition shows a negative relationship. Those conditions are not consistent with the previous research. A research conducted by Thomadakis, *et al.* (2007) showed that CS influences the long-run IPO performance negatively. This is inconsistent with the previous research and hypotheses. Hence, in this research H0 is accepted.

This condition means that investors in Indonesia do not consider the total asset before they buy the share. It could happen because it is much easier to know the number of share offered and information about the company available in public, to define or judge the performance or reputation of the company. Thus, investors in Indonesia will only look at the information of number of share offered that can be used to interpret the size of the firms.

Implications

As discussed above, this research concludes that Indonesian Stock Exchange Market does not show a long-run IPO underperformance condition. Even though t-Stat of t1 (BHAR in the 1st day) > t-Stat of t2 (BHAR in the 6th month) > t-Stat of t3 (BHAR in the 1st year) > t-Stat of t4 (BHAR in the 1.5th year) > t-Stat of t5 (BHAR in the 2nd year) > t-Stat of t6 (BHAR in the 2.5th year) > t-Stat of t7 (BHAR in the 3rd year), but only p-value in the 1.5th year that shows a significant condition. It is inconsistent with the previous hypotheses. It can happen because the previous research finding conducted in countries that have worse condi-

tions than Indonesia (Sri Lanka and Cyprus). Peter (2007) said that Sri Lanka's stock market is relatively small compared with the other country, even compared with some regional markets in South Asia, while Cyprus is the smallest market the international evidence that has ever searched (Gounopoulos, *et. al.*, 2005).

The other results also show that all of the factors influence or are related with the long-run IPO performance in Indonesia, but only the Issue Size that influences the long-run IPO performance significantly. This research has proven that those four factors are influencing 59.7% of this model, while 40.3% are influenced by other factors.

Age of the Company (AGE) influences long-run IPO performance positively until the third year after IPO. It means that, the older the company in Indonesia, the better the long-run IPO performance. It is consistent with the hypothesis, where the old company will have lower underperformance condition. But this research shows that this condition is not significant, or it means that age does not influence the long-run IPO performance in Indonesia significantly. It is constant with Thomadakis, *et. al* (2007) showing that age does not influence the long-run IPO performance.

Time Lag (TLAG) influences long-run IPO performance negatively. It means that the longer the waiting time period, the lower the long-run IPO performance. This condition indicates that company should not make longer waiting period, because this can make the investor worried. Moreover, this factor does not influence long-run IPO performance in Indonesian Stock Market significantly, thus H_0 is accepted. It is constant with the research conducted by Gounopoulos, *et. al.* (2005) that is time lag does not influence the long-run performance of IPO.

Issue Size (IS) is the only factor in this research influencing long-run IPO per-

formance significantly. It happens since the 1.5th year after go public because long-run period of IPO is defined as one year after go public. It is consistent with the previous findings and the hypotheses. It means the more the number of shares offered, the better the long-run IPO performance.

Company Size (CS) influences the long-run IPO underperformance in Indonesian Stock Exchange Market insignificantly. In one time point, the condition shows a positive relationship, but in the other time point shows a negative condition. It is consistent with the result found by Thomadakis, *et. al.* (2007).

For investors in Indonesia, the implication of this research can be an indicator. Even though the long-run underperformance in Indonesia does not show a significant condition, but the condition tends to be declined if seen from the compare t test's result. It has proven that the condition in Indonesia is easier to be worse (the underperformance significantly happen in Indonesia) when the economic condition is getting worse. Thus, investors in Indonesia should be more careful before they decide to invest in IPO activity. The investors should also be more careful with the factors influencing the long-run IPO performance. Even though, from those four factors, only Issue Size influencing the long-run IPO performance significantly, but other factors actually are also related with the long-run performance. On the other hand, those four factors only influence 59.7% of the method, while the 40.3% are influenced by other factors. It could be the political factor, economical factor, government regulation, etc. Since Indonesia is an emerging market that is very sensitive with those factors. And the way to invest in Indonesia could be different from the way to invest in America or Europe.

For company, this research can be used, thus company can be more careful in making go public decision. Company should

know what factors are influencing the long-run IPO performance. By knowing the influencing factors, company can prevent a negative condition that may occur in the future, for example, to give a short waiting period for the investor, to issue higher number of share, to become old enough before go public, etc. This activity can help reducing the negative effect of those factors to the long-run IPO performance. Hopefully, IPO activity can be a good activity for a company to raise fund from the investor, because by making the investor trusts the company to invest in, the company can get fund from the public easier.

For the researcher, this research shows that those four factors only influence this method 59.7%, while the other 40.3% are influenced by other factors. This condition means that there are still a lot of factors that must be found, which factors influencing the long-run IPO performance in Indonesia. Thus, more information for the company and also investor to get better long-run IPO performance in the future can be provided.

CONCLUSIONS AND RECOMMENDATIONS

This session provides some conclusions and recommendations based on the analysis, which have been undertaken in the previous chapter. This research conducts an analysis of long-run IPO performance in Indonesian Stock Market using companies listed in Indonesia Stock Market during 2000-2005. This data is expected to be a good data, because company's conditions are relatively stable after 1998 crisis and before 2007 crisis. From 103 companies listed in Indonesian Stock Exchange Market during 2000-2005, only 84 companies fulfill the requirement, thus they can be used as the sample. This research is finding the long-run IPO performance and measuring factors that influence the performance, which are age,

time lag, total share, and total asset of the company.

Having done a test and analysis, the general conclusion of this research is that Indonesian Stock Exchange Market does not show underperformance long-run IPO. From the variable used, the results show that there is a positive relationship between the issue size (number of share) at the going public period and its long-term performance. However, the other variables used (age, time lag, and company size) do not influence the long-run IPO performance in Indonesian Stock Exchange Market. It is constant with the finding of Thomadakis, *et. al.* (2007) and Gounopoulos, *et. al.* (2005). The conclusions are:

1. There is no significant long-run IPO underperformance in Indonesia. However during the research period, it is proved that the condition shows a declining IPO performance, because the IPO performance is getting worse year-to-year.
2. All of the factors are influencing the long-run IPO performance, but only Issue Size influencing it significantly.
3. From the hypotheses:
 - a. Indonesian Stock Exchange Market does not show underperformance long-run IPO.
 - b. The company age does not influence positively the long-run performance of IPO.
 - c. Time lag does not influence negatively the long-run performance of IPO.
 - d. The size of stock at the go public period influences positively the long-term performance.
 - e. Company size does not influence the long-run underperformance of IPO in Indonesia.
4. Investors in Indonesia do not really consider those factors before they buy the share, but the total number of stock offered is something easy to think be-

fore deciding to buy the share, and indirectly related to the size and the reputation of the company.

The result of this study is not too successful to show the influencing factors really have relationship with the long-run IPO performance in Indonesian Stock Exchange Market. It might be because the period used is too short or the other factors that could influence the investment condition in Indonesia. So, this study gives the following recommendations. For researcher

The next researcher can extend the period become longer one, for example five years after go public, or other longer periods. It is suggested for the next researcher to add variables, such as under writer, hot-cold market condition, ownership structure, security factor, and shareholder decision, or macroeconomic factor such as inflation and currency rates, and government regulations. It is better for the next researcher to use other methods, such Fama-French's, Average Monthly Adjusted Return (MMAR), or Tobin's Q method to provide different condition. b. For investor

Even though there is no proved that long-run IPO performance shows a significant underperformance condition, but the condition indicates that the IPO performance is getting worse year-to-year. Thus, it is better for the investors not to hold the stock in long time period, but in short time period. Because the IPO performance in long-term is getting worse and it is too risky to hold the stock in long period.

REFERENCES

- Alvarez, S., and Gonzalez, V.M. (2001). Long-run performance of initial public offering (IPOs) in the Spanish Capital Market. *Working Paper, University of Oviedo*. Retrieved October 6, 2008, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=274086
- Bessler, W., and Thies, S. (2007). The Long-run performance of initial public offerings in Germany. [Electronic Version]. *Managerial Finance*, 33(6), 420-441.
- Bradley, D.J., Cooney, J.W., Dolvin, S.D., and Jordan, B.D. (2006). Penny stock IPOs. [Electronic Version]. *Financial Management*, 35(1), 5-30.
- Brav, A., and Gompers, P.A. (1997). Myth or reality? The long-run underperformance of initial public offerings: evidence from venture and nonventure capital-backed companies. *The Journal of Finance*, 52(4), 1971-1821.
- Chahine, S. (2007). Block-holder ownership, family control and post-listing performance of French IPOs. [Electronic Version]. *Managerial Finance*, 33(6), 388-400.
- Chin, C.L., Lee, P., Kleinman, G., and Chen, P.Y. (2006). IPO anomalies and innovation capital. [Electronic Version]. *Review of Quantitative Finance and Accounting*, 27(1), 67-91.
- Corhay, A., Teo, S., and Rad, A.T. (2002). The long run performance of Malaysian Initial Public Offerings (IPOs): value and growth effects. [Electronic Version]. *Managerial Finance*, 28(2), 52-66.
- Dempere, J.M. (2008). Self-underwritten IPOs. [Electronic Version]. *Journal of Global Business and Technology*, 4(1), 1-18.
- Dimovski, W., and Brooks, R. (2004). Initial Public Offerings in Australia 1994 to 1999, recent evidence of underpricing and underperformance.

- [Electronic Version]. *Review of Quantitative Finance and Accounting*, 22(3), 179-199.
- Drobetz, W., Kammermann, M., and Walchli, U. (2005). Long-run performance of initial public offerings: the evidence for Switzerland. [Electronic Version]. *Schmalenbach Business Review*, 57, 253-275.
- Eckbo, B.E., and Norli, O. (2004). Liquidity risk, leverage and long-run IPO returns. [Electronic Version]. *Tuck School of Business Working Paper No. 2004-14, Journal of Corporate Finance*, 11, 1-35.
- Goergen, M., and Renneboog, L. (2007). Does ownership matter? A study of German and UK IPOs. [Electronic Version]. *Managerial Finance*, 33(6), 368-387.
- Goergen, M., Khurshed, A., and Mudambi, R. (2007). The long-run performance of UK IPOs can it be predicted? [Electronic Version]. *Managerial Finance*, 33(6), 401-419.
- Gounopoulos, D., Nounis, C., and Stylianides, P. (2005). The short and long term performance of Initial Public Offering in the Cyprus Stock Exchange. *Working Paper, University of Surrey, University of Athens and City Univesity* Retrieved October 8, 2008, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1002974
- Gu, A.Y. (2003). State ownership, firm size, and IPO performance-evidence from Chinese-a-share issues. [Electronic Version]. *American Business Review*, 21(2), 101-109.
- Gujarati, Damodar and Zain, Sumarno. (1988). *Ekonometrika dasar*. Jakarta.
- Guo, R.J., Lev, B., and Shi, C. (2005). Explaining The short and long-term IPO anomalies in the US by RandD. *NYU Working Paper No. 2451/27474, UIC College of Business Administration Research Paper No. 08-02*. Retrieved September 19, 2008, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1280695
- Jaskiewicz, P., Gonzalez, V.M., Menendez, S., and Schiereck, D. (2005). Long-run IPO performance analysis of German and Spanish family-owned businesses. [Electronic Version]. *Family Business Review*, 18(3), 179-193.
- Keown, A.J., Martin, J.D., Petty, J.W., and ScottJr, D.F. (2005). *Financial Management: Principle and Application* (10th ed.). New Jersey: Pearson Prentice Hall.
- Li, L., and Hovey, M. (2007). Does IPO underpricing in China explain a firm's long-term performance? *Working Paper, La Trobe University and University of Southern Queensland*. Retrieved October 23, 2008, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1009417
- Peter, S. (2007). Performance of Initial Public Offerings and Privatized Offers, evidence from a developing country. [Electronic Version]. *Managerial Finance*, 33(10), 798-809.
- Pracianoy, J.L., and Cigerza, G.C. (2007). IPOs in emerging markets: a comparison of Brazil, India and China. *Working Paper Universidade Federal do Rio*.