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The Green Shoe Option's Effectiveness at Stabilizing the IPO'S Stock Price on the Indonesian Stock Exchange (2000-2013)

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Abstract: The increased of price volatility due to positive initial returns will reduce investor confidence and impact on the overall market. Market stabilization mechanism is needed to control the price volatility. This research is intended to explore the effectiveness of *Green-Shoe Option* in reducing stock price volatility after IPO. This study is done through GARCH model development intended to identify the volatility of IPO shares price. This research compares the volatility price of company shares that apply Green shoe option at IPO with companies that do not apply it. The result of this research on companies that conduct IPO on 2000-2013 periods showed that the green shoe option stabilization program which was used by the issuers was effective in muffing the stock prices' volatility. Therefore, according to researchers Green Shoe Option stabilization program can be used to prevent or ease the drop of shares price under Public offering.

Abstrak: Peningkatan volatilitas harga akibat adanya *initial return* yang positif akan mengurangi kepercayaan investor dan berdampak pada pasar secara keseluruhan. Mekanisme stabilisasi pasar diperlukan untuk mengontrol volatilitas harga. Penelitian ini bertujuan untuk mengeksplorasi keefektifan *Green-Shoe Option* dalam mengurangi volatilitas harga saham setelah IPO. Studi ini dilakukan dengan mengembangkan model GARCH yang dimaksudkan untuk mengidentifikasi volatilitas harga saham IPO. Penelitian ini membandingkan volatilitas harga saham perusahaan yang menerapkan *Green-Shoe Option* pada saat IPO dengan perusahaan yang tidak menerapkannya. Hasil penelitian ini pada perusahaan yang melakukan IPO pada periode 2000-2013 menunjukkan bahwa program stabilisasi *Green-Shoe Option* yang digunakan oleh emiten efektif dalam meredam volatilitas harga saham. Oleh karena itu, menurut para peneliti, program stabilisasi *Green-Shoe Option* dapat digunakan untuk mencegah atau mengurangi penurunan harga saham di bawah harga penawaran publik.

Keywords: GARCH; green shoe option; stock price volatiliy

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Introduction

It is not an easy task for the issuers and underwriters of an IPO to decide the stock price to be offered by predicting the conditions and the market demand for the stock because of uncertainty. The study team of BAPEPAM (2007) said that the initial trading period of the IPO stocks was a critical period. One of the anomalies that was not broadly documented, which related to IPO stocks, was the phenomenon of the positive initial return. This positive initial return would have a tendency for the short-term investor/speculator to sell the stock. Hence, the price volatility would increase. This condition certainly influences the trust of the investors and could have an impact on the market as a whole.

One explanation for this positive initial return phenomenon could be categorized into some mainstream, one of them is the underpricing theory. The explanation based on underpricing said that for several reasons, the offer price was intentionally set by the underwriter at a price below the full information value, hence, after entering the secondary market the price will be higher than the IPO's price. As a consequence, a positive IR is observed. In this mainstream, among others, Baron (1982) and Seha M. Tinic (1988). However, many empirical discoveries did not support the underpricing approach, among others Ritter (1984), Muscarella and Vetsuypens (1989) and Drake and Vetsuypens (1993). The underpricing approach had also failed to explain the other IPO anomaly, the long-run underperformance. The study conducted by Roy Sembel (1996) provided new explanations regarding these IPO anomalies. Underwriters are informed, long-term players. They have 2 reputations which should be protected. First, their reputation among the frequent investors that they had not caused an overprice on an offer. Second, their reputation among the issuing firms that they had not caused an underpriced IPO issue. Both sides of their reputation motivates the underwriters to determine the IPO at its full information value (Sembel 1996). The WIPO model that had been developed was able to explain the anomaly of the positive initial return as well as the long-run underperformance anomaly.

The increased possibility of price volatility due to the phenomenon of positive initial returns (which leads to the tendency for short-term investors to sell their new IPO's shares), will reduce investor confidence and impact on the overall market. In the end, the stock market becomes less attractive to companies that want to raise funds from public sources. To prevent this happening, the BAPEPAM regulation No XI.B.1 permitted the stock underwriter to initiate stabilization for a certain period, with certain prerequisites. The stock price stabilization had to be conducted by the stabilization agency, at a time when the stock price has experienced a price decrease to below its initial offer price, by guarding the stock price for a certain period after the stock has been registered on the stock exchange. This market stabilization is conducted by purchasing and selling the stock, which has the aim of preventing or slowing down the price decrease after the IPO. This stabilization effort is intended to create a more structured secondary market for stocks at their initial offering.

In several countries, the market stabilization mechanism after the IPO uses the greenshoe/over-allotment offer options. The basic idea of the green shoe or the over-allotment options is to create a mechanism which can lessen the volatility of the stock's

price after its registration on the exchange. Hence, the aim of these options is to prevent or to impede the stock price's decrease during a certain period, as a consequence of the existence of the selling pressure caused by the short-term investors, and to create a well organized market for the stock. (The Study Team for the Practice and Regulation of the Green Shoe Option 2007).

In Indonesia, regulations regarding this option have not yet been individually organized, however, they are part of a regulation regarding the price stabilization. However, some companies in Indonesia, which have had an IPO have used this green shoe option, as an instrument to lessen the stock's price volatility after its registration date on the stock exchange. In 2007, the BAPEPAM-LK study team conducted a study, which compared the practice and regulation of the green shoe option in some countries, and at this moment, in accordance with the team's recommendation, the blueprint for the change of BAPEPAM's –LK no XLB.4 regarding the stabilization of the stock price in conjunction with the Initial Public Offering, is already at the discussion stage to accommodate the green shoe regulation.

Based on the basic idea of the green shoe or over-allotment options, that is, they are mechanisms to reduce the stock price volatility after it is registered on the stock exchange, this study has tried to examine how far the implementation of the green shoe option is effective in controlling the stock price volatility after its registration. According to the writer's observation there has been no similar study that has already been conducted to complete this BAPEPAM-LK's study. Therefore the writer hopes that the findings of this study can contribute to the enrichment of the input into the discussions conducted by the *Otoritas Jasa Keuangan* (Indonesia Financial Services Authority) or *OJK*.

The study of the green shoe was conducted by the BAPEPAM-LK team, however, only with respect to the comparison between the practices and regulations in some countries. A comprehensive study about the effectiveness of this stabilization program at muffling the stock price volatility after its registration on the stock exchange, has not yet been done until now. Therefore, the formulation of this study is to find out how effective the green shoe option is in stabilizing a stock's price after its IPO. Therefore this study aimed to study the green shoe option's stabilization program to lessen the stock price volatility of companies that have done an IPO.

To study the effectiveness of the green shoe option, this study used data of the stock prices of the issuers who have used the green shoe option, and the issuers who now use it. The analysis of the green shoe option conducted by this study may, hopefully, become an important input to complete the BAPEPAM-LK's study and the study conducted by the *OJK*.

Literature Study

The green shoe option is one of several forms of stock price stabilization. It is a stock purchasing mechanism used by the stabilizing agent to prevent the stock price from decreasing to below the initial offer price, after the finish of the initial offering period. This stabilization policy is still regulated by a decree by the Head of BAPEPAM no. Kep-SS/PM/1996 regarding price stabilization, focused on the initial offer price. However, this decree still does not specifically include the green shoe option. The aim of the price stabilization is to stabilize the stock's price on

the stock exchange and to provide a safety net for the investor.

This green shoe option also known as the over-allotment option, pioneered by the Green shoe manufacturing company (now called Stride-rite corp.) in the United States in 1919. The green shoe option is a clause found in the underwriting agreement for a company conducting its IPO, which enables the underwriter to sell more than 15 percent of the agreed quantity of shares if the demand from the public is greater than the number of shares on offer. As long as the underwriter can increase the stock when the market is oversubscribed by employing the green shoe option, price stabilization can be created during the IPO.

The green shoe option has been used many times in several countries, such as the United States, the United Kingdom, Hong Kong, and Australia. This gives an opportunity to the issuer's guarantor to allocate more shares than offered by the issuer. The role of the underwriter is conducted when the stock price experiences a decrease to below that of the IPO, by guarding the stock price for a certain period after the stock has been registered on the stock exchange. The price stabilization is proposed to prevent or at least to slow down the stock price's decrease after the IPO. This is done to make the buying and selling of the shares on the stock exchange more organized and stable.

According to the BAPEPAM-LK study team (2007), the stock price decrease generally happened because of the increased circulation of the shares, or because there was a mistake in the allocation and pricing process. Until now, the price stabilization policy is still regulated by the decree of the BAPEPAM head no. Kep-88/PM/1996 regarding the Price Stabilization to Ease the Public Offering. The decree of the BAPEPAM head No. Kep-88/PM/1996 is to change the Kep-17/PM/1991. However, the decree of the BAPEPAM head No. Kep-88/PM/1996 does not yet include the green shoe option.

In general the Green Shoe Option is used by big companies and it is not in general use by small companies. In the United States, the Green Shoe Option is not specifically regulated by a certain regulation, however, it is included in the regulation regarding price stabilization which is SEC regulation M Rule 104 regarding Stabilization and other Activities with regard to the public offering. This M regulation was introduced by the SEC on December the 20th, 1996 and came into effect in April 1997. The regulation regulates the issuer, underwriter, the stock holders and other parties' activities with regard to the stock offering. The aim is to prevent a market manipulation by parties that want to make a profit from the distribution of the stock, which would not have been limited in a genuine market. The green shoe option is not specifically defined in the M Regulation. It is a right, but not an obligation, given to the underwriter to purchase extra shares at the public offering price to safeguard the short position of the stock's distribution, which can be used at any time, from the beginning of the public offering until about 30 to 45 days after it. With this option, the issuer gives the underwriter the chance to purchase extra shares from the issuer, so that the underwriter can allocate more shares to the investors than permitted or accorded in the share allocation contract to purchase the shares from the issuer. The result of this allocation is an increase in the shares received by the underwriter, who can then sell more shares that were offered at the IPO. Hence, the underwriter has created a 'short' position. The SEC

does not specifically state the quantity of shares which can be given by the issuer to the underwriter. However, the National Association of Securities Dealers (NASD), regulates the limit for the green shoe, which is 15 percent of the total shares offered at the public offering. The option to purchase extra shares from issuer will be executed by the underwriter if the stock's price on the secondary market has increased higher than its offering price. The option will not be executed if the stock price is below the offering price. In general, the underwriter will conduct the green shoe option at the end of the stabilization period, exactly before the closing of the IPO. It can sell as much as the 15 percent in the agreement or less than that or none at all, depending on the stock's price on the exchange. 'Penalty bids' are also allowed, when the underwriter can get back the commissions from the broker when their clients quickly sell their allocated shares.

In Australia, the stabilization regulation is directed at influencing the stock price, which may not happen without the existence of this regulation. The Australian Securities and Investments Commission (ASIC) permits market stabilization with the conditions that the market stabilization must first fulfill certain situations and conditions. The stabilization conducted must facilitate the stock offering and it cannot cause or create the possibility of the market being wrong or not to be well informed.

The provisions concerning the stabilization of prices in Hong Kong published by the Hong Kong Securities and Futures Commission, as outlined in the Securities and Futures Regulation No. L.N. 218 year 2002/ 282 and 306 (Cap. 571), which specifically regulates the procedures and requirements for those who undertake acts of price stabilization at the time of the issuance of securities. This regulation not only regulates the price stabilization of the stock, it also regulates the futures. The price stabilization in this regulation, as published by the Securities and Futures Commission of Hong Kong, is divided into two separate activities. *First*, the primary stabilizing action. During this stabilization period, the stabilizing manager can do one or all of the following actions: (i) To purchase, or agree to purchase stock; (ii) to offer, or try to do everything as intended by the first step, with the single aim of preventing or to minimize the decrease of the stock's price on the market.

Second, Ancillary stabilizing action. The stabilizing manager can conduct extra actions, called ancillary stabilizing actions, in which the stabilizing manager can do one of, or all the actions necessary, to allocate a larger amount of stock than that initially offered (the over-allotment condition); to sell or agree to sell stock in such a way as to create a short position, realizing an option to purchase or to order stock; and to sell or agree to sell stock which was obtained because of a primary stabilizing action in connection with the liquidation of any position caused by this primary stabilizing action.

In the United Kingdom, the green shoe option is more commonly known as the over-allotment option, and is a short-time option provided by the issuer to the stabilization manager to allocate or to sell extra stock at the initial public offering with the intention of increasing the newly offered stock's price at the IPO. The green shoe option and the stabilizing regulation are regulated by the Regulations of the markets' conduct, especially the MAR. 2 FSA's Handbook of Price Stabilizing Rules. The goal of the over-allotment is not free from the creation of the price stabilizing at the IPO as well as at the secondary offering. Stabilizing is beneficial as a

safe harbor for an unhealthy market, caused by a market manipulation or misinformation. The over-allotment option conducted during the IPO has a time span which began with the stock's sale announcement at the stock exchange and ends not more than 30 calendar days after that announcement. Whereas, the over-allotment option during the secondary offering has a time span beginning with the announcement date to the public regarding the stock's final IPO sale price and ending not more than 30 calendar days after the allocation. The implementation period of the green shoe option must be the same as with the stabilizing period. The total green shoe option will not be more than 15 percent of the total offering. The green shoe option can only be exercised by the underwriter if the stock is over allotted. The green shoe option in the United Kingdom cannot be separated from the price stabilization. Basically, the price stabilizing activity is an activity to manipulate the price in the market. However, this is permitted under certain conditions.

In Indonesia, price stabilization is done by the issuer aiming to guard or to defend the issuer's stock market after the stock exchange's registration of the stock, in order prevent it from going down to below the IPO's price. When implementing the option, the investor is provided with the opportunity to sell if the price tends to decrease. This option is conducted through two methods, over subscription and allotment subscription. Over subscription is permitted by the stockholder for the underwriter to increase the amount of shares to be offered, the action begins since the offering period until the allocation date, or before the stock issued is registered on the stock exchange. The over-subscription method is aimed at increasing the amount of the offering, if there is more demand during certain periods. The over-subscription period generally lasts about 3 to 5 working days.

Over-allotment is an option given by the stock holder to the underwriter to increase the amount of the offered stock, beginning from the registration date. The over allotment is targeted to increase the offered amount if there is more demand and it is also used to stabilize the stock price or to slow down the decrease of the stock's price beneath the public offered price on the secondary market from the first time the stock was registered on the stock exchange until a certain time. The implementation time for the offering is about 30 working days up to maximum 38 working days after the stocks registered on the market. The working of the green shoe option is relatively easy. At the beginning, the underwriters act as the representatives of the issuer to find and sell the shares to the investor at the public offering. The stock price offered to the investor is a result of an agreement between the issuer and the underwriters. When the stock price has been settled, the shares can immediately be sold to the investor. The underwriters must make sure that the stock price cannot be less than the offered price. It is not easy for the underwriters to ensure that this will happen. Therefore, the underwriters can sell more IPO stock than agreed upon before to the investor. The additional stock sold by the underwriter is useful to lessen the fluctuation or volatility of the price because of the change in demand of the stock. If having entered the secondary market the price decreases, until it is below the public offering price, the underwriter will repurchase the extra stock sold to the investor so that the price will increase again. At this stage, the underwriter has already received a profit because when selling the extra stock, the price offered to the investor is as high as the initial price offered. The price

stabilization will become very important because if the IPO stock price becomes less than the initial price, the investor will get the perception that the stock concerned is not worth the price paid, so that an increased pressure to sell takes place. If the condition in the market is such, that the stock price is higher than the initial price, after entering the secondary market, therefore to stabilize the stock price, the underwriter can use his/her right to purchase the extra stock from the issuer at the initial offered price and distribute the stock into the market at the present price, hence, the underwriter can avoid losses and hope that the market price will decrease because of the extra offering. By influencing the supply and the demand it is hoped that the volatility of the stock price will become less or to become more stable so that the issuer and the underwriter can minimize the risk of price fluctuation.

Research Methods

Data and Data Sources

Studies about the effectiveness of the green shoe option's implementation were conducted at companies which had conducted their IPOs during the period from 2000-2013, by comparing the volatility of the issuers who did conduct the green shoe option's stock price with those who did not implemented this stabilization. Whereas the stock price was the daily closing price during 30 up to 38 days (depending on implementation of the green shoe option as conducted by the issuer) after the IPO stock was traded on the secondary market. This data were obtained by accessing some websites, namely *www.e-bursa.com*; *www.idx.co.id*; *www.finance.yahoo.com*; *www.duniainvestasi.com* and by accessing the data available at the Indonesian Capital Market Electronic Library (Indonesia Camel) at the Indonesian stock exchange. The information related to the green shoe option policy was obtained from the Initial Public Offering (IPO) prospectus of each issuer. Table 1 is a list of issuers that conducted an IPO on the stock exchange during the years 2000 - 2013.

Between 2000 and 2013, there were 12 listed companies (issuers) which used the green shoe option policy. Because one of the issuers did not have comparable data, this issuer was not included in this study. Therefore the total sample used in this study was only 11 issuers.

Table 1. **List of Issuers that conducted an IPO on the Stock Exchange During the Years 2000 - 2013**

No.	Year	IPO Firms	Prospectus Available	Green Shoe Firms
1	2013	31	6	2
2	2012	23	18	0
3	2011	25	13	1
4	2010	23	22	2
5	2009	13	8	1
6	2008	19	18	2
7	2007	22	22	0
8	2006	12	10	0
9	2005	8	8	0
10	2004	12	10	0
11	2003	5	5	3
12	2002	17	16	1
13	2001	31	24	0
14	2000	19	11	0
		260	**191**	**12**

Source: processed by researcher

Data Analysis Method

In this study, the GARCH model specification was developed to identify the stock price's volatility after the first day's transactions on the secondary market. Hill, Griffiths, and Lim (2012) pointed out that ARCH models were important econometric models because they could capture the phenomenon of volatility clustering and leptokurtic properties from distribution data. From this GARCH model estimation, the researcher further compared the stock price volatility of companies which had applied the green shoe option during their IPOs with those that did not conduct this stabilization.

Nearly all the study's results showed that the stock price distribution data have leptokuritic, skewness and volatility clustering characteristics in which all of them were exactly the opposite of the property of the Gaussian distribution. Therefore, the descriptive statistics related to all the above mentioned properties would be studied to complete the reasoning for using the GARCH specification in this study. The Lagrange Multiplier test to test the existence of the ARCH structure would be conducted in advance of the GARCH model estimation.

The mean structure and the variance equation which was created is as flows:

$$P_t = \gamma_0 + \gamma_1 AR(p) + \gamma_2 MA(q) + \varepsilon_t \ldots\ldots\ldots (1)$$

$$\varepsilon_\tau \left| \Omega_{t-1} \right. \sim N(0, h_t)$$

$$\sigma_t^2 = \varpi + \alpha\varepsilon_{t-1}^2 + \beta\sigma_{t-1}^2 \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

To simplify the variance equation, therefore the error can be expressed as follows:

$$v_t = \varepsilon_t^2 - \sigma_t^2$$

$$\sigma_t^2 = \varepsilon_t^2 - v_t$$

$$\varepsilon_t^2 - v_t = \varpi + \alpha\varepsilon_{t-1}^2 + \beta\sigma_{t-1}^2$$

$$\varepsilon_t^2 = \varpi + v_t + \alpha\varepsilon_{t-1}^2 + \beta\sigma_{t-1}^2$$

$$\varepsilon_t^2 = \varpi + v_t + \alpha\varepsilon_{t-1}^2 + \beta(\varepsilon_{t-1}^2 - v_{t-1})$$

$$\varepsilon_t^2 = \varpi + v_t + (\alpha + \beta)\varepsilon_{t-1}^2 - \beta v_{t-1}$$

$$\varepsilon_t^2 = \varpi + (\alpha + \beta)\varepsilon_{t-1}^2 + v_t - \beta v_{t-1}$$

This equation follows the ARMA (p,q) heteroscedastic process. The root of the autoregressive which has determined the persistent shaking of the volatility was determined by the sum of α and β. The sum of the parameters α and β in the variance equation would determine the shaking of the volatility persistence. Therefore, the sum of the two estimation parameters would be used to compare the volatility of the company's IPO stock price (after its registration date on the stock exchange) which had used the green shoe option with companies that had not conducted a price stabilization policy. Comparing the volatility persistence itself was done from the best GARCH model specification which created the lowest error. The smaller the result from the sum of the ARCH/GARCH parameters showed that the persistence of the shaking volatility of the stock price had become less.

To compare the amount of the parameters of the ARCH/GARCH model's parameter, the writer put an issuer who did try to stabilize and one that had not tried together, as long as their IPOs were at or about the same time. The choice of a similar IPO time was meant to control the possibility of changes in the economy/the markets condition which could influence the study's results. With the same IPO time, it was hoped that the efforts to compare the size/amount of the ARCH/GARCH parameters for both is-

suers were done in a fairly homogeneous market.

Results

The development of the GRACH model specification to study the green shoe option began with the detection of the characteristics and the distribution of the data covering the normality test and the detection of the existence of the ARCH effect in the study data. The test using the Jacque-Bera and the heteroscedasticity test showed that although some issuer's stock price data have a normal distribution, nearly all the issuer's data (eleven issuers that had conducted the green shoe option and eleven which had not) have indicated the heteroscedastic characteristics. Therefore, the GARCH specification was the right model to catch such data.

Table 2 shows the result of the ARCH test effect for eleven issuers which had practiced the green shoe and eleven issuers that had not done it.

The best GARCH model estimation conducted on eleven issuers stock prices which had practiced the green shoe option and eleven issuers that had not conducted a post issue IPO stabilization program is shown in the Table 3.

Table 2. **The ARCH Effect Data of the Issuers Stock**

Issuers with Green Shoe Option	Results		Issuers without Green Shoe Option	Results	
	Obs*R-squared	Prob. Chi -Square(1)		Obs*R-squared	Prob. Chi -Square(1)
1	16.46235	0.0000	1*	10.32270	0.0013
2	32.38159	0.0000	2*	28.22822	0.0000
3	22.54884	0.0000	3*	8.619264	0.0033
4	5.207848	0.0225	4*	14.03197	0.0002
5	18.66639	0.0000	5*	6.408751	0.0114
6	24.07919	0.0000	6*	9.065797	0.0026
7	15.19015	0.0001	7*	5.440754	0.0197
8	27.10154	0.0000	8*	22.63292	0.0000
9	27.60550	0.0000	9*	2.878254	0.0898
10	14.59456	0.0001	10*	2.878254	0.0898
11	0.003194	0.9549	11*	22.84702	0.0000

Table 3. **Result of the GARCH Model Estimation**

Issuers with Green Shoe Option			Issuers without Green Shoe Option		
Issuers	**Best Model Specification**	**Amount of Parameters (α+β)**	**Issuers**	**Best Model Specification**	**Amount of Parameters (α+β)**
1	GARCH(0,1), *mean equation* ARMA(3,1)	1.112	1*	do not produce a model with positive parameters	-
2	GARCH(0,1), *mean equation* ARMA(1,0)	0.959	2*	GARCH(0,1), *mean equation* ARMA(1,2)	1.04
3	GARCH(0,1), *mean equation* ARMA(2,3)	0.616	3*	GARCH(0,1), *mean equation* ARMA(1,0)	0.672
4	GARCH(0,1), *mean equation* ARMA(1,0)	0.656	4*	GARCH(0,1), *mean equation* ARMA(0,2)	1.403
5	GARCH(0,1), *mean equation* ARMA(1,1)	0.864	5*	GARCH(0,1), *mean equation* ARMA(1,0)	1.241
6	GARCH(0,1), *mean equation* ARMA(3,3)	0.974	6*	GARCH(0,1), *mean equation* ARMA(2,2)	1.026
7	GARCH(0,1), *mean equation* ARMA(1,2)	0.887	7*	GARCH(0,1), *mean equation* ARMA(2,1)	0.941
8	do not produce a model with positive parameters	-	8*	GARCH(0,1), *mean equation* ARMA(2,2)	0.884
9	GARCH(0,1), *mean equation* ARMA(5,5)	0.948	9*	GARCH(0,1), *mean equation* ARMA(1,3)	0.985
10	GARCH(0,1), *mean equation* ARMA(1,3)	1.249	10*	GARCH(0,1), *mean equation* ARMA(1,3)	0.985
11	GARCH(0,1), *mean equation* ARMA(1,0)	0.849	11*	GARCH(0,1), *mean equation* ARMA(3,3)	0.921

The GARCH models applied to the stock prices of all the issuers were the best models because these applied models all had errors that were homoscedastic.

Table 3 indicated that there were 2 (two) issuers that could not have their parameters compared, because the researcher could not find the positive ARCH/GARCH parameter. Therefore, the result of the comparison of the parameters in Table 2 indicated that 8 of the 9 issuers that had employed the green shoe option stabilization, had smaller parameters ($\alpha+\beta$) that were smaller than the number of parameters ($\alpha+\beta$) of the issuers that had not conducted the green shoe option. This indicated that, for the issuers that did not practice the green shoe option, their stock prices' volatility were more persistent compared to the issuers that had conducted stabilization with the green shoe options' stock price. In other words, the stock price of the issuers that had conducted the green shoe option during the stabilization period had experienced a volatility decrease which tended to accelerate.

Hence, the empirical evidence indicated that the price stabilization practice which was used by the issuers that had conducted an IPO during the period from 2000-2013 on the Indonesian Stock Exchange was in general effective in muffing the stock prices' volatility, so that according to the researcher this green shoe option (over-allotment option) program can be used to prevent or to dampen the stock prices' decrease to under the public offering price during certain periods. This study is in accordance with the finding that the underwriter played an important role in stabilizing the IPO's stock price after it entered the secondary market (Aggarwal 2000). This is because the underwriter must take the risk out from the uncertainty (Bower 1989), so that the price stabilization policy (which must be explained in the prospectus) can reduce the risk of the underwriter.

The success of the issuer and underwriter in preventing the decrease of the stock price can provide a safe feeling for the investor. Besides, the controlled volatility is expected to provide a special attraction both for the issuer, the underwriter, as well as for the stock exchange institution. For the underwriter and issuer, this stabilization program could minimize the risk of price fluctuation. This controlled volatility, can provide positive signals to the investor that the issuer and underwriter have both a good reputation and prospects for the future. A positive signal from the investor will make it easier for the issuer and the underwriter when returning to the market in order to get the financing for the next stage of an offer. On the other hand, for the stock exchange institutions itself (in this instance the BEI), the controlled price volatility of the issuer's stock will make the stock market become an interesting place for the companies to get funds, so that it is hoped the amount of companies that will conduct an IPO will increase.

Conclusion

The result of the comparison of the parameter model as applied in this study, between the issuer which did apply the green shoe option and the issuer that did not conduct the stabilization policy, shows that in general, the green shoe option is a stabilization instrument which could lessen (control) price volatilities during the period in which the stabilization program is conducted (35 trading days). This result was shown by 8 of the 9 issuers which had conducted the green shoe stabilization, as they had smaller parameters ($\alpha+\beta$) of ARCH/GARCH compared to issuers that had not conducted the stabiliza-

tion. In other words, during the stabilization period, for the issuers that did use the green shoe option, their stocks experienced a muffled volatility which tended to accelerate. The findings regarding the effectiveness of the green shoe option in this study hopefully can complete the result of the BAPEPAM-LK study team and strengthen the team's recommendations in pushing the recommendation for the green shoe regulation individually.

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