

Analysis on Factors Affecting IPO Underpricing and their Effects on Earnings Persistence

Dwi Martani¹, Ika Leony Sinaga and Akhmad Syahroza

The study examines the determinants of IPO underpricing in manufacturing companies in Indonesia 1994-2006. The result indicate that size of company is associated with IPO underpricing. There is positive association between underpricing and earnings persistence only in one period after IPO. This indicates the company tries to maintain investor's trust during its early period after IPO. While in the second year, level of underpricing is irrelevant to predict the earnings persistence.

JEL Codes: G10, G14, G30, M41

Keywords: IPO, underpricing, earnings persistence, ex-ante uncertainty

1. Introduction

To keep growing, companies need to make investments. They need internal or external fund to finance their investment. Companies have many alternatives sources of funding, whether from inside or from outside the companies. Companies can use retained earnings as an internal financing. External financing comes from creditors in the form of loans from other entities, or issuance of debt securities, seeking for business partners (i.e. mergers), as well as increasing amount of capital by issuing new shares. The addition of capital can be done by selling shares to public or by selling shares to limited investors. Offer of shares to public through capital market will make a company to be a public or listed company.

Before trading in secondary market (capital market), shares of going public companies are sold in primary market. This process is called as initial public offering (IPO). Prices of shares sold in primary market (at IPO) have been determined in advance, while prices in secondary market are determined by market mechanism (supply and demand). In IPO, there are two anomalies i.e. underpricing and under-performance long-term. Underpricing occurs if stock price in primary market is lower than stock price in first day trading in secondary market. Long-term under-performance occurs when a company's performance at the time of IPO can't be maintained and tends to decline after the IPO period. This research examines not only the price performance, but also the operating performance decline after IPO. Both these anomalies occur because of information asymmetry between investors and owners.

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A financial report is one source of information used by potential investors and underwriters to assess an IPO company. In order to be more credible, a financial statement must be audited. One of requirements in the IPO process is the company must deliver an audited financial statement. An audited financial statement will increase the reliability of information to users. A reliable financial statement will reduce asymmetry information for users. This is one of things behind the underpricing of shares. Reputable auditor will increase the reliability information so, it has negative association to underpricing (Beatty 1989).

Earnings management can be done to increase the performance of IPO companies. The IPO price will increase if the company has a good performance that is reflected in the financial statement. Company can manage performance for the purpose of increasing stock price. In the long term, company cannot maintain the performance as shown in the financial statements at the time of IPO. Typically, investors have only a little information about an IPO company. They only have information in the prospectus and general information that can be accessed by public.

Longrun underperformance in IPO firm explains that the IPO companies' inability to maintain the sustainability of good performance in the post-IPO period. The persistence of earnings can be explained as the companies' ability to maintain the current profits to the future. It becomes a proxy of the level of uncertainty in predictions for the future earnings or it is known as the ex-ante uncertainty. The decrease in long-term performance shows that the persistence of earnings reported in the prospectus is relatively low.

It has not found yet on previous studies that directly tested the relationship between the underpricing and earning persistence. Jain and Kini (1994) conducted research on longrun operating performance of post-IPO companies. To measure operating performance, Jain and Kini used Operating Return on Assets and Operating Cash Flow. This study concluded that firms' performance tend to decrease on post-IPO period compared with pre-IPO period or there was an occurrence of phenomenon of long-term under-performance.

Different to Jain and Kini (1994), the study will propose the different method longrun under-performance. The study will try to investigate the relationship between level of underpricing and earnings persistence. As a consequence, performance at the IPO period becomes less persistence as a tool for long-term performance prediction. The study will also analyze factors affecting underpricing.

The study results show that size has association to underpricing. In this study it was found that there was a negative relationship between underpricing and earnings persistence. However, this relationship only be found in first year after the IPO. In the second year after IPO, this relationship was not found. It is consistent with research on the long run under-performance in Indonesia which is only found in the first period of one year after the IPO (Martani 2004).

This paper consists of 4 parts. The first section discusses the research background and research objectives. The second section describes the previous literature and the development of hypotheses to be tested in this study. The third section discusses the statistical methods and samples used in the study. The fourth section discusses the

results of data analysis and discussion of research implications. The fifth section discusses conclusions, limitations and suggestions for further research.

2. Literature Review

2.1 Underpricing

Stock prices that occur in the secondary market are determined by the mechanism of forces of supply and demand. Price of shares sold in primary market (at IPO) has been determined in advance by agreement between issuer and underwriter, while prices in the secondary market are determined by market mechanism (demand and supply). In two pricing mechanisms, there are often happens a difference of same stock price between primary market and secondary market. If the current pricing of IPO shares is significantly lower than the pricing that occurred in secondary market on the first day, then there is the so-called underpricing.

Beatty (1989) revealed that underpricing is caused by existence of information asymmetry. Asymmetry of information can occur between issuer and underwriter, or among investors. To reduce information asymmetry, going public firms issue prospectus containing various information about the companies themselves. They also try to reduce asymmetric information by using reputable auditor and underwriter.

Welch and Ritter (2002) notified signaling theory in underpricing phenomenon. IPO underpricing is a mechanism to signal quality of a company. Therefore the companies with good quality perform underpricing of their shares in order to be success when they do stock offerings in the future. Ljungqvist (2006) distinguished theories of underpricing into four major sections: information asymmetry, institutional reasons, control considerations, and behavioral approaches. However, according to Ljungqvist, the strongest theory is a model of information asymmetry. Parties involved in IPO process include issuers, underwriters, and investors. Information asymmetry model assumes that one of these three parties knows more information compare to the others, thereby it reduces the power of optimal bidding. Another theory that may lead to underpricing is earnings management. At the time of IPO, raising profits made by shifting current income so that earnings in the IPO period will be reported higher than they should. Accruals was used as a proxy to analyze earnings management in IPO.

Many studies in various parts of the world discuss factors that influence levels of underpricing. A research on the factors that influence underpricing was done by Beatty (1989) showing that auditor's reputation, underwriter reputation, percentage of shares offered, age of company, type of underwriter, and indicators of oil and gas companies have a negative influence on initial returns. Carter and Manaster (1990) suggested that reputation of underwriters, percentage of stock offered, offer, size, and firms' age significantly affected companies' underpricing.

In Indonesia, Martani and Yolana (2005) conducted similar research by using data from Jakarta Stock Exchange in year of 1994 to 2001 to examine five variables, i.e.: reputation of underwriters, average of exchange rate, size of companies, return on equity, and types of industry. This study find that all variables have a significant correlation to level of underpricing except underwriter reputation.

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Underwriter reputation can be used as a good signal to investors and will decrease uncertainty in the future (Beatty 1989; Carter & Manaster 1990). Issuers and underwriters jointly will determine IPO price. Underwriter is a party who knows or has a lot of capital market information, while issuer is a party who does not know capital market (Rock 1986). In process of IPO, underwriters are responsible for shares sold. If there are any remaining shares, the underwriter is obliged to buy it. Underwriter attempts to minimize this risk by bargaining the lower IPO price. However the company wants to get a lot of many from IPO, so it determines the higher IPO price. With underwriter who has a prestigious reputation, the bid risk is expected to be lower because it will reduce the uncertainty in the future. Therefore, with a good reputation from the underwriter, the level of underpricing will be lower.

H1a: There is a negative correlation between reputation of underwriter and underpricing

Beatty (1989) conducted research on factors affecting underpricing using variables: auditor's reputation, percentage of shares offered, company's age, type of underwriter contract, and indicators of oil and gas companies. The research found that underpricing have negative correlation to auditor's reputation. Betty's research used two types of indicators to determine the auditor's reputation which was dummy variable big 8 or non big 8 accounting firms and audit fee.

But the study conducted by Zhang et al. (2007) found the opposite result. He stated that reputation of a good auditor increased the underpricing because a good auditor is considered as a favorable signal that adds to value of shares in secondary market. Other empirical evidence regarding negative correlation between auditor's reputation and underpricing are suggested by Balvers, Mc Donald & Miller (1988), Carter and Manaster (1990).

Auditors who have high reputation can be used as a sign of the issuer company's quality. Sacrifice of the issuer to use a qualified auditor will be interpreted by investors that issuers have no misleading information about its prospects in the future. This means that the use of high reputation auditors will reduce the uncertainty in the future, so it has negative association to underpricing.

H1b: There is a negative correlation between auditor's reputation and underpricing.

Large assets of a company will provide a signal that the company has prospects and reduce uncertainty in the future (Martani & Chastina 2005). Large assets of companies will provide a signal that the company has good prospects and then reduce ex-ante uncertainty for investors. The total assets of the company indicate the number of funds owned by the company and provide a signal that the company has prospects and reduce uncertainty in the future. Thus, the hypothesis proposed in this study is:

H1c: There is a negative correlation between size of company and underpricing.

According to Beatty (1989) and Zhang et al. (2007), firm's age indicates how long the company can survive. The older companies, the more information will be obtained by society about the company and it will further reduce asymmetry information and

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reduce uncertainty in the future. The assurance offered by the company with a longer lifetime will provide confidence for investors to invest.

Beatty (1989) also included firm's age variable as a control variable for firm's age indicating the lower ex-ante uncertainty suffered by investors because the longer the firm is able to maintain its existence, it is expected that the level of corporate sustainability in the future will be higher.

H1d: There is a negative correlation between age of a company and underpricing.

Ross (2008) stated that profitability indicates how efficient a company uses its assets and manages its operations. Some of the profitability ratios i.e.: profit margin (percentage of net profit earned per unit of rupiah sale), return on assets (percent of net profit per unit of rupiah asset), and return on equity (percentage of net profit per unit of rupiah total equity). ROE indicates expectations of return expected by investors. ROE is an important ratio that is often used by shareholders to assess performance of a company. ROE is to be an indicator of level of corporate profitability and provides information to outside parties regarding operational effectiveness of the company (Martani & Chastina 2005).

The higher of corporate profitability will induce the higher bid price of shares in the secondary market. Bartov, Partha & Chandrakanth (2002) used ROE as profitability measurement. ROE is measured by net income divided by total equity of the company at the last annual financial statements before the period of IPO. With reference to this research, with higher ROE, then the offering price of shares in secondary market will increase, so that initial returns are to be higher. The hypothesis proposed in this study is:

H1e: There is a positive correlation between ROE and underpricing.

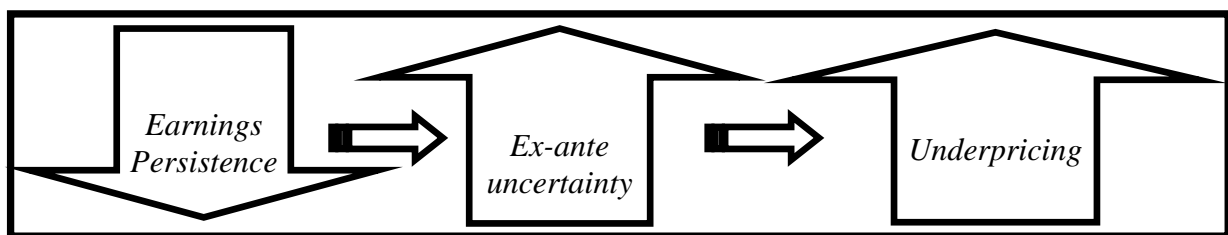
2.2 Earnings Persistence and Underpricing

No previous studies investigated the linkage between underpricing and earnings persistence. Some studies focus more on the reaction of investors in capital markets and do not relate to the performance which is reflected in the financial statement. IPO-related accounting research, focused on the role of earnings management as one of the factors causing underpricing.

Persistence of profit according to Penman and Zhang (2002) is profit in the future (expected future earnings) due to return of current year (current earnings). Sloan (1996) used regression coefficients from the regression between present period and coming period of income accounting as a proxy for earnings persistence. The persistence of earnings is determined by the components of accruals and cash flow contained in current earnings (Penman & Zhang 2002). Hanlon (2005) revealed that the persistence of earnings is one component of the predicted value of earnings in determining the quality of earnings. While Frankel and Litov (2009) who also examined the persistence of earnings, mentioned that there were several factors that can be used in measuring the persistence of earnings, those were company's size and profit growth.

Investors who will invest in an IPO company will try to find information about company's credibility. The information may come from prospectus or financial statements of the company. Information on earnings is used by decision makers to assess the company. Quality earnings are profits that reflect sustainability for the future. Investors consider the influence of past earnings volatility toward profit persistence of present and future time. The existence of information asymmetry between management and investors allow investors to find out more about the real conditions of a company at the present and how its prospects in the future are. These prospects can be predicted by using company's earnings persistence, and ultimately with higher earnings persistence then ex-ante uncertainty will be lower, and vice versa.

Figure 1: Correlation between Earnings Persistence, Ex-Ante Uncertainty and Underpricing



Asymmetry of information occurred because company's internal parties have information about company's prospects which are not known entirely by external parties. Underpricing is affected by asymmetry of information about corporate earnings and the value after the company started offering shares to the public (Rock 1986). The greater the ex-ante uncertainty is, the greater the expectation of underpricing will be, meaning that the both have positive relationships (Beatty 1989).

To avoid the cost of information asymmetry, market participants and the authorities insist on disclosure of information needed in predicting the future prospects through prospectus, financial statements or any other publication data. There are several ways that can be used by companies to reduce ex-ante uncertainty which are by using a high-quality auditor (Beatty 1989 and Zhang et al. 2007) and by using a reputable underwriter (Carter & Manaster 1990).

Underpricing and earning persistence have a negative relationship. Uncertainty in IPO appears because investor in the future is not sure about the future performance of the companies. The higher information asymmetry is, the higher expectation level of underpricing will be (Beatty 1989). Proxies of uncertainty in the future can be seen from the persistence of profit owned by company. If companies have high earning persistence, it decreases the earning volatility in the future (Frankel & Litov 2009). It means companies that have high underpricing level (have more uncertainty), they will have less earning persistence. The second hypothesis proposed is related to the relationship between underpricing and earnings persistence testing whether the underpricing of shares will affect the persistence of profits in the form of operating income.

H2: Underpricing has a negative correlation with level of corporate earnings persistence.

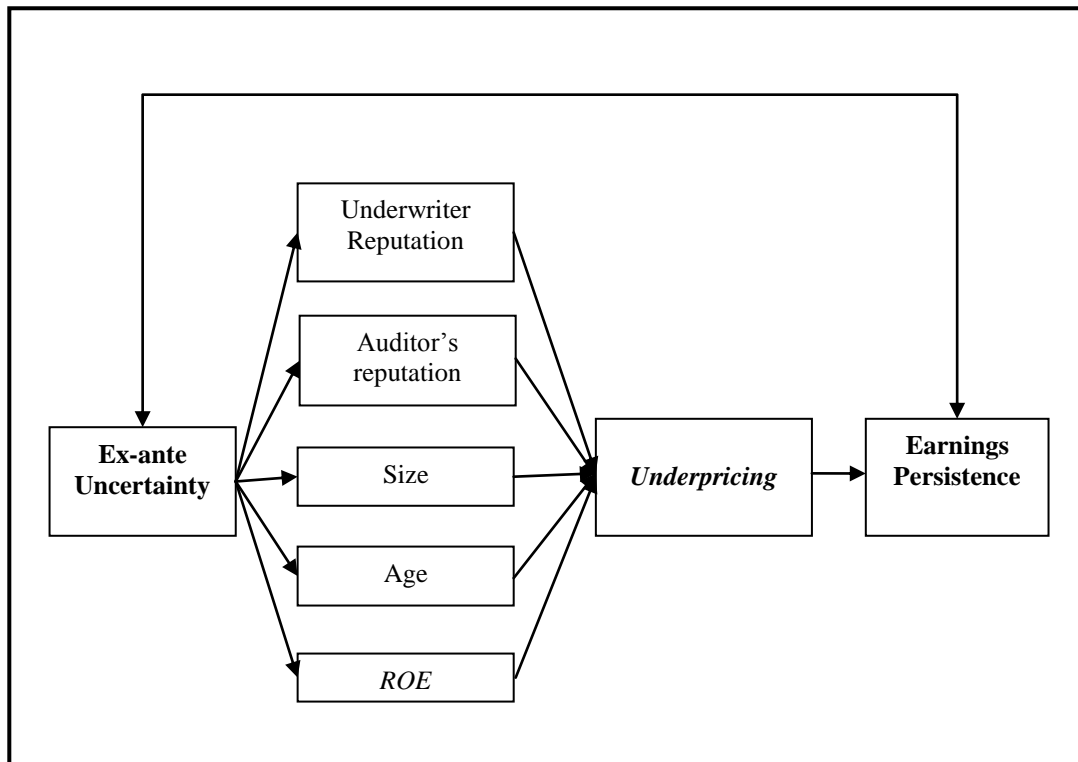
Besides company's size, profit growth is also another factor that affects the persistence of earnings. Frankel and Litov (2009) proposed earning growth as control variables. Excessive growth of earnings will invite competition and lead to a decline in profitability. Frankel and Litov (2009) used price-to-earnings ratio as a proxy for earnings growth.

Firm size is used as a variable that is considered to have relationship between earning volatility and its persistence. This study mentions that the company's size, measured by value of total assets, is negatively related to earnings variability. Large-sized companies are more diversified than smaller firms. Moreover, the size can indicate strength of company's competitive position in the market. A company that has large economies of scale and strong position in the industry, relatively has a high level of profitability.

3. Methodology

Figure 2 describes the research framework in this study. Ex-ante uncertainty that measured by underwriter reputation, auditor's reputation, size, age and ROE influence the underpricing. Because uncertainty influences the earning persistence, so underpricing influences the earning persistence.

Figure 2: Research Framework



There are two models used in this study.

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To answer hypotheses 1a to 1e, the model used is model 1:

$$\text{UND}_i = \alpha + \beta_1 \text{UDW}_i + \beta_2 \text{AUD}_i + \beta_3 \text{SIZ}_i + \beta_4 \text{AGE}_i + \beta_5 \text{ROE}_i + \varepsilon \quad (1)$$

To answer hypothesis 2, earnings persistence model used is model 2:

$$\text{OI}_{it} = \alpha + \beta_1 \text{OI}_{it-1} + \beta_2 \text{UND}_i + \beta_3 \text{PER}_i + \beta_4 \text{SIZ}_{it} + \beta_5 \text{OI}_{it-1} * \text{UND} + \beta_6 \text{OI}_{it-1} * \text{PER} + \beta_7 \text{OI}_{it-1} * \text{SIZ}_{it} + \varepsilon \quad (2)$$

Note :

α	= constant
β	= regression coefficient
ε	= residual error
UND_i	= level of underpricing at the company i
UDW_i	= underwriter's reputation at the company i
AUD_i	= auditor's reputation at the company i
SIZ_i	= company's size at the company i
AGE_i	= company's age at the company i
ROE_i	= Return on Equity at the company IPOi
PER_i	= Price-to-Earnings Ratio at the company i
OI_{it-1}	= Operating Income at the company 1 year before year t
OI_{it}	= Operating Income at the company i at year t

- **Earning persistence (notation: OI_{it})**

Earnings persistence is a measure that describes company's ability to maintain the earnings obtained at present time until one period in the future (Sloan 1996). In this study, earning used is operating earnings over a period of 1-2 years after the offering in primary market. Operating profit has a high level of persistence as it is earning derived from the company's main activities. In this model coefficient of β_1 measure the level of earning persistence. Therefore, coefficient of interaction between OI_{it-1} and other variables will affect level of earnings persistence.

- **The underpricing (notation: UND)**

Underpricing will be measured by initial returns (profits due to the difference in price of stocks in primary market and stocks price on the first day in secondary market).

$$\text{IR} = \frac{P_1 - P_0}{P_0} \times 100\%$$

IR	= <i>initial return</i>
P_0	= offering price of shares in primary market
P_1	= first day closing price of shares in secondary market

- **Reputation of underwriter (notation: UDW)**

Reputation of underwriter is a quality scale of an underwriter in offering emiten's shares. Underwriter's reputation is measured based on ranking of underwriter. It used dummy variable, 1 for reputable underwriters or Big Ten, and 0 otherwise. The Big Ten is top 10 ranking determined on the basis of annual transaction value of the underwriter.

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- **Reputation of auditor (notation: AUD)**
This variable is using dummy variables, where value 1 for good reputation auditor, or known as The Big Six (for IPO in 1994-1998), or The Big Five (for IPO in 1999-2002), or The Big Four (for IPO in 2003-2006) and is 0 for auditors who do not fall into this category.
- **Company's size (notation: SIZ)**
At the first model, company's size is obtained by logging total assets of company. While at the second model, firm's size (as well as variables of underpricing and PER) will use treatment to reduce the occurrence of multi collinearity by centering data. The value of size was the difference from initial data and average data.
- **Age of Companies (notation: AGE)**
Company's age is measured by year, calculated from the company's establishment.
- **ROE (notation: ROE)**
This study will use Return on Equity ratio (percentage of net income per unit of rupiah total equity) as the most common ratio used in measuring level of profitability because it measures level of profit with its own capital.
- **Price-to-Earnings Ratio (PER notation)**
Price-to-earnings ratio is used to measure growth. PER is calculated by comparing the IPO prices and corporate earnings during the IPO. In testing the model of earnings persistence, PER (and SIZ) will act as a control variable.
- **Operating Income (notation : OI_{T_0} , OI_{T_1} , dan OI_{T_2})**
Operating Income will be used to calculate the persistence of operating profit at the year after the IPO occurs from operating earnings a year earlier.

Companies used as samples in this study are companies that have data which can be used for testing, with following conditions:

1. Companies used are only companies that are classified in manufacturing industries.
2. Companies with IPO active period occurred between the years of 1994-2006 and have clear prospectus data and then there are 45 companies obtained. We have limited access to data before 1993. We use the data until 2006 because we need three years subsequent performance after IPO. We conducted the research in beginning 2010, the last year data available only 2009.
3. There is a complete audited financial statement.
4. Other data required by researchers is available.

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Table 1: Sample Selection

Condition	Total
Go-public manufacturing companies in the period of 1994-2006	60
Not experiencing underpricing (where $IR \leq 0$)	(14)
Incomplete Data	(1)
Total of sample used in research	45

4. Finding

The research only used manufacturing companies that have positive initial returns. From the table 2 below, it can be seen that the average level of underpricing (UND) in manufacturing firms in the IPO-year period 1994-2006 amounted to 28.18% and there are differences that are quite far between the maximum value and the minimum, 162.5% and 0.86%.

Table 2: Descriptive Statistics Model 1

	Average	Median	Standard of Deviation	Maximum	Minimum
UND	0,28183	0,11429	0,38528	1,625	0,00862
UDW	0,33333	0	0,47673	1	0
AUD	0,71111	1	0,45837	1	0
SIZ	11,36700	11,344580	0,43200	12,19258	10,51680
AGE	15,37560	13,72055	9,363071	46,02222	3,21100
ROE	0,11497	0,1245	0,40788	2,5004	-0,7278

Sources: Data processing by Microsoft Excel

Table 3: Descriptive Statistics Model 2

	Average	Median	Standard of Deviation	Maximum	Minimum
Original Data:					
UND	0,28183	0,11429	0,38528	1,625	0,00862
PER (%)	15,84745078	11,2704918	17,18288861	104,1666667	-0,661538462
Total Aset	368.109.530.184	221.095.421.670	3,75095E+11	1.558.038.544.676	32.870.088.500
OI (t_{IPO})	37.761.723.231	20.118.692.000	50.332.943.210	276.756.236.370	-8.438.722.251
OI (t_{IPO+1})	43.815.266.576	24.521.858.970	66.354.947.222	373.665.760.290	-14.166.901.740
OI (t_{IPO+2})	48.228.649.692	24.960.935.890	88.443.229.364	522.616.803.930	-36.416.211.050
After-centered:					
UND	-5,85951E-17	-0,167549245	0,38528	1,34316	-0,27321
PER	-4,73695E-16	-4,576958977	17,18289	88,31922	-16,50900
SIZ	-2,52637E-15	-0,022417861	0,432	0,82558	-0,85020

Sources: Data processing by Microsoft Excel

This study used multiple linear regression model, there might exist violations of assumption in multicollinearity problem, autocorrelation, and or heterocedastisity so it must be done test assumptions in order to obtain confidence of estimation result in accordance with the prevailing assumption. We used data centering to avoid the multicollinearity problem.

Table 4 represents the regression result of model 1. Adjusted R square of 0.296 indicates that independent variables tested have effect of 29.6% against dependent variables.

Table 4: Summary of Model 1

$UND_i = \alpha + \beta_1 UDW_i + \beta_2 AUD_i + \beta_3 SIZ_i + \beta_4 AGE_i + \beta_5 ROE_i + \varepsilon$			
Variable	Coef. Regression	t statistic	Sig-t
(constant)	5,191	3,659*	0,001
UDW	-0,015	-0,141	0,889
AUD	-0,06	-0,496	0,623
SIZ	-0,414	-3,221*	0,003
AGE	-0,009	-1,667	0,104
ROE	0,081	-0,679	0,501
F stat	4,705		
Sig-F	0,002		
R Square	0,376		
Adj. R Square	0,296		
Durbin Watson Statistic	1,482		
Dependent Variable: UND			
Note: *significant at level 5%			

Only size that was significant in the model 1. The rest of variables didn't significant. The variable of company's size is measured from the log of total assets showing a negative significant coefficient. The result is consistent with research conducted by Martani and Chastina (2005) which stated a negative and significant correlation between reputation of company's size and the level of underpricing. Prediction of the ex-ante uncertainty can be estimated by using a variable of total asset. It means the larger firms have the lower level of underpricing.

Underwriter reputation is not significant to the level of underpricing. This is not consistent with research conducted by Carter and Manaster (1990) which stated that the underwriter reputation and the underpricing tend to have negative correlation. This can be caused by most issuers that do not give priority to use the services of a reputable underwriter so that underwriter's reputation does not become a significant leading indicator for investors to predict the uncertainty in the future.

Auditor's reputation variable indicates the value of a negative but insignificant coefficient. This contrasts with research conducted by Beatty (1989) and Hoberg (2007) which stated a significant negative relationship between auditor's reputation and level of underpricing. The insignificant result indicates that auditor's reputation used by company to audit its financial statements before the IPO does not significantly reduce uncertainty in the future or ex-ante uncertainty.

Firm's age variable indicates the value of a negative but insignificant coefficient. This result is not consistent with research conducted by Beatty (1989) which stated that the longer a company can survive the more information obtained by community and will further reduce the information asymmetry.

ROE variable indicates a positive but insignificant coefficient value. This result is consistent with research done by Martani and Chastina (2005) and Bartov, Partha & Chandrakanth (2002) which stated a positive relationship between ROE and level of

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underpricing. With a higher ROE, then the bid price of the shares in the secondary market will increase, so that initial returns are higher.

Table 5 is summary results of model 2 where t is the period of 1 year after the IPO and t-1 is the period of IPO:

Table 5: Summary of Model 2
(t-1 is the year of IPO and t is 1 year post-IPO)

$OI_{it} = \alpha + \beta_1 OI_{it-1} + \beta_2 UND_i + \beta_3 PER_i + \beta_4 SIZ_i + \beta_5 OI_{it-1} * UND + \beta_6 OI_{it-1} * PER + \beta_7 OI_{it-1} * SIZ + \epsilon$			
Variable	Coef. Regresi	t statistic	Sig-t
(constant)	2E+010	1,524	0,136
OI_{it}	1,001	1,648	0,108
UND	-4E+010	-1,543	0,131
PER	1E+008	0,280	0,781
SIZ	2E+010	0,842	0,405
$OI_{it-1} * UND$	3,696	3,315*	0,002
$OI_{it-1} * PER$	0,005	0,286	0,776
$OI_{it-1} * SIZ$	0,372	0,460	0,648
F stat	10,204		
Sig-F	0,000		
R Square	0,812		
Adj. R Square	0,659		
Durbin Watson Statistic	1,503		
Dependent Variable: OIT1			
Note: *significant at level 5%			

Below is a table of summary results of SPSS output for model 2 where t is the period of 2 years after the IPO and t-1 is a period of IPO:

Table 6: Summary of Model 2
(t-1 is the first year post-IPO and t is 2 years post-IPO)

$OI_{it} = \alpha + \beta_1 OI_{it-1} + \beta_2 UND_i + \beta_3 PER_i + \beta_4 SIZ_i + \beta_5 OI_{it-1} * UND + \beta_6 OI_{it-1} * PER + \beta_7 OI_{it-1} * SIZ + \epsilon$			
Variable	Coef. Regress	t statistic	Sig-t
(constant)	2E+010	2,184	0,635
OI_{it}	-0,118	-0,352	0,727
UND	-2E+010	-1,021	0,314
PER	-1E+008	-0,231	0,819
SIZ	3E+009	0,122	0,903
$OI_{it-1} * UND$	-0,725	-0,527	0,601
$OI_{it-1} * PER$	0,006	0,454	0,652
$OI_{it-1} * SIZ$	1,837	3,066*	0,008
F stat	21,281		
Sig-F	0,000		
R Square	0,895		
Adj. R Square	0,801		
Durbin Watson Statistic	1,415		
Dependent Variable: OIT2			
Note: *significant at level 5%			

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In model 2 table 5, adjusted R square of 0.659 indicates that independent variables tested have effect of 65.9% against dependent variables. In model 2, table 6, adjusted R square of 0.801 indicates that independent variables tested have effect of 80.1% against dependent variables.

In model 2 (one year period), interaction between UND and OI shows a positive correlation, it means there is positive correlation between underpricing and earning persistence in one year after IPO but in the model 2 not significant. In model 2 (second year after IPO), it is only size that has positive correlation to earnings persistence.

The main interaction that will be seen is between OI and UND to answer hypothesis 2. Table 5 shows that underpricing and persistence of earnings in the second model shows positive and significant, whereas in table 6 the correlation is negative and insignificant. It means that level of underpricing is positively and significantly correlated with persistence of earnings one year after the IPO.

The earnings persistence one year after the IPO turns out to have positive relationship with underpricing level where the higher level of underpricing is likely to increase earnings persistence. This shows the opposition with the hypothesis that the persistence of earnings and the underpricing relationship is negative in terms of both the ex-ante uncertainty. Conversely, the higher underpricing, then the earnings persistence at the second year after the IPO happens to decline, but the relationship is not significant.

This research develops the testing of earnings persistence until the third year after the IPO. The results stated that the relationship between underpricing and earnings persistence of the third year post-IPO earnings are positively correlated and not significant.

Associated with post-IPO operating performance, Jain and Kini (1994) suggested that a good operating performance of pre-IPO can bring an optimistic assessment of the market that is based on expectations that earnings growth in the future will increase. Based on this result, the optimism of underpricing can occur as a reaction of the rising of stock prices in the secondary market, so that expectation of firm value from investors' point of views increase. It results that the correlation between the high underpricing which indicates increasing uncertainty in future cannot be proven, in fact, on the other hand, high underpricing during IPO is significantly correlated toward the increasing of earnings persistence in one period post-IPO.

In addition, the persistence of one-year earnings after the IPO may also indicate willingness and ability of issuers to demonstrate good performance and maintain investors' confidence at least in the first period after the investment is made. Only at the second year, the earnings persistence cannot be maintained and there are indications of long-term performance degradation. Correlation between underpricing and earnings persistence at the second year is also insignificant indicating the low value of information of IPO underpricing to the value of earnings at the second year. It means that the value of relevant information of underpricing level becomes low when talking about the persistence of the second year profit post-IPO. As a result, size of the level of underpricing has insignificant impact on earnings in the second and third year after the IPO.

5. Conclusions and Suggestions

From the five variables i.e. : underwriter's reputation, auditor's reputation, firm's size, firm's age, and ROE, only the firm's size shows significant correlation in influencing the underpricing of manufacturing companies in Indonesia. It means that the total asset becomes one of proxies which has a significant correlation in predicting the uncertainty in the future, where the greater the total asset of the company is, the lower the element of ex-ante uncertainty will be.

The higher the level of underpricing will increase the earnings persistence in the first year after the IPO. Conversely, in the second year after the IPO, the correlation of the underpricing level and the earning persistence is to be negative but not significant. However, the level of underpricing does not affect the persistence of earning significantly in the second year because the value of information from the level of underpricing is no longer relevant to be used in explaining the persistence of earnings in the third year. It means that the magnitude of the underpricing is only relevant in predicting the persistence of earnings one year after the IPO. This relates to the ability and the effort of companies in maintaining the persistence of profits in the initial period after the IPO in order to maintain investors' confidence.

Limitations of this study and suggestions for further researches development include the expansion of relatively small number of samples, on which this research uses only 45 samples of manufacturing companies in Indonesia in the period range of observations from the year of 1994 until 2006. This is because of underwriters' reputation data measured by annual transaction value obtained from the Indonesia Stock Exchange is only available since 1994. Testing is only done on companies in manufacturing industry. For further research, it may also be used companies from other industries to gain broader observations. Research on the effects of underpricing to persistence of earnings is better done in a long period because persistence of earning is generally more accurate if it is calculated in long observation period (5 years or more) so that the effect of underpricing can also be studied better.

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