

## **DETERMINANTS FACTOR ANALYSYS OF UNDERPRICING ON INITIAL PUBLIC OFFERING AT INDONESIA STOCK EXCHANGE**

### **Ardhiani Fadila**

E-mail: fadilaardhiani@yahoo.com  
Post-Graduate Programme Master of Economics  
Economic Faculty, Trisakti University

### **Muhammad Zilal Hamzah**

Email: mhd\_zilal\_hamzah@hotmail.com  
Indonesian Business School

### **Pardomuan Sihombing**

Email: pardomuan\_sihombing@yahoo.com  
Mercu Buana University

### **ABSTRACT**

*Under pricing is phenomenon of IPO which often happened in capital market and have been examined by researchers in many countries. This study aims to analyze the determinant factors of under pricing. This data is collected from some stocks at Indonesia Stock Exchange, especial for non-financial sector company which performed initial public offering period 2010-2014. The samples used were 75 companies that were taken through purposive sampling. Independent variables in this study are Macro Economic Data, Financial Data and Non-Financial Data. The result shows that all independent variables simultaneously have a significance correlation toward under pricing. Its prove that the rate of inflation has effect on determining IPOs price which impact on profit companies also stock prices. While non-financial information (proxies by underwriter reputation) has a negative correlation toward the degree of under pricing. Its mean that a good performance of underwriter can decrease the IPOs under pricing.*

*Keywords: IPO, Under pricing, Macro-Economic, Inflation, Underwriter's Reputation.*

## INTRODUCTION

Stock market plays a role as external financing alternative for companies and investment for publics. In the development of business activities encourage the firm to take an alternative source of funds. Public offering of stock is an act for company's going concern in order to get external funding (Manurung, 2013). Going public in stock market comes through primary market as known as Initial Public Offering (IPO) and then it will be traded in secondary market. Determining of stock price in the primary market is done by the deal between issuers and underwriters which has been chosen by firm itself. While the price in a secondary market is created by supply and demand.

Under pricing is a phenomenon in IPO studies even though there is publicly available information by prospectus, the difference in value of shares still occurs between issuers and investors (Zirman and Darlis, 2011). IPO under pricing is common phenomenon to most stock markets so as its determinant factors. Recent study about under pricing and stock price which is related by information in prospectus is intriguing in order to know investor behaviour about investment decisions and others parties.

## THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Under pricing is a condition where the initial market price in primary market is lower than when is traded in secondary market (Sunaryah, 1997). Beatty (1989) finds that under pricing is used to describe the differences between the initial market price and the secondary market price on the first day. Carter and Manaster (1990) explain that under pricing is the result of price uncertainty in primary market. Some theoretical suggest that the under pricing of IPOs is associated with asymmetry information. Previous studies indicated that there is financial factors and non-financial factors along with macroeconomics information which is related to under pricing. Lestari (2005) proposes theoretically, there are many indicator which measure macroeconomics variables, however the indicator is common used to predict stock fluctuations is the variables are directly controlled by monetary policy through financial market transmission which is interest rate, inflation and exchange rate.

Financial information becomes important for investors to predict the company's future. Financial statement gives the financial ratios that can be used by investors for decision making. While non-financial information by prospectus is the information about issuers and shares which about to be offered. Therefore, the following hypotheses are proposed:

**(i). Relation between Interest Rate of Indonesia Bank (BIRate) and Under pricing** Martiani (2003) finds that interest rate represents free risk return and this factor reflects an investor's opportunity cost of buying IPO shares. The higher the interest rate, the higher of IPO shares opportunity cost and so the under pricing will.

*H1: There is a positive correlation between BIRate and Under pricing.*

**(ii). Relation between Inflation and Under pricing**

According to Samsul (2006), increasing rate of inflation effects degree of under pricing. Higher rate of inflation causes firm's cost production gets higher so that the decreasing of profit. The lower of firm's profit, the lower the buyer of IPOs stock. The higher the inflation will decrease stock prices so that the under pricing gets higher.

*H2: There is a positive correlation between Inflation and Under pricing.*

**(iii). Relation between Exchange Rate IDR/USD and Under pricing**

Yolana and Martiani (2005) indicate that composite stock price index (IHSG) is negatively correlated to exchange rate. Depreciation of Indonesian Rupiahs (IDR) will make the price gets lower because of the decreasing investor's purchasing power.

*H3: There is a positive correlation between Exchange Rate IDR/USD and Under pricing.*

**(iv). Relation between Return on Assets (ROA) and Under pricing**

The higher firm's profitability, the lower uncertainty in the future also the uncertainty in the market so that the degree of under pricing gets lower. This is according to Sandhiaji (2004) finds that ROA is negatively correlated to under pricing.

*H4: There is a negative correlation between ROA and Under pricing.*

**(v). Relation between Debt to Equity Ratio (DER) and Under pricing**

The higher of financial leverage (DER), the higher the price uncertainty in initial market so that the degree of under pricing gets higher. The empirical result by Ariawati (2005) finds DER is positively correlated to under pricing.

*H5: There is a positive correlation between DER and Under pricing.*

**(vi). Relation between Underwriter's Reputation and Under pricing**

Underwriter prestige can be used as a signal to diminish the uncertainty which is not revealed in prospectus and so the firm's performance in the future. Underwriter will gain a prestige if investor gets profit by buying shares from its underwriter's firm (Manurung, 2013).

*H6: There is a negative correlation between Underwriter's Reputation and Under pricing.*

**(vii). Relation between Age of Firms and Under pricing**

The older age of firms shows the ability of competing and giving more information for public compare to the firm recently established. Shandiaji (2004) documented that age of firms has a negative correlation to under pricing.

*H7: There is a negative correlation between Age of Firms and Under pricing.*

**(viii). Relation between Size of Firms and Under pricing**

The larger size of firm tend to be known well by publics so as the information about firms is easier to get compare to the smaller size of firms. Kristiantari (2013) found that size of firms has a

negative correlation to under pricing.

*H8: There is a negative correlation between Size of Firms and Under pricing.*

#### **(ix). Relation between Percentage Number of Shares and Under pricing**

The larger of shares proportion are held by existing shareholders, the more private information that they had. The empirical study by Retnowati (2013) showed that percentage number of shares has a negative correlation to under pricing.

*H9: There is a negative correlation between Percentage Number of Shares and Under pricing.*

## **METHODS**

### **Variable Definition**

Dependent variable in this study is the degree of under pricing in initial public offering, measured by calculations of initial returns as the difference between the offer price and listing day closing price. The IPO firms which is listed to non-financial sector during 2010-2014. The calculation is using the formula as follows:

$$UP = \frac{(Pt1 - Pt0)}{Pt0} \times 100\%$$

This research used secondary data which consist of macroeconomic information, financial information and non-financial information. Macroeconomics data are taken from Indonesia Bank (BI) website, financial and non-financial are both taken from prospectus, financial statement and website of Indonesia Stock Exchange (IDX). Table 1 summarizes the variables used in this study:

No	Variabel	Symbol	Unit	Source
1	<i>BI Rate</i>	<i>BIRate</i>	Percentage	<i>Website of Indonesia Bank</i>
2	<i>Inflation</i>	<i>INF</i>	Percentage	<i>Website of Indonesia Bank</i>
3	<i>Exchange Rate IDR/USD</i>	<i>EXC</i>	IDR	<i>Website of Indonesia Bank</i>
4	<i>Return On Asset</i>	<i>ROA</i>	Percentage	<i>Financial Statement</i>
5	<i>Debt to Equity Ratio</i>	<i>DER</i>	Percentage	<i>Financial Statement</i>
6	<i>Underwriter Reputation</i>	<i>PU</i>	<i>Dummy</i>	<i>Fact Book IDX</i>
7	<i>Age of Firms</i>	<i>AGE</i>	Years	<i>Prospectus</i>
8	<i>Size of Firms</i>	<i>SIZE</i>	Trillion	<i>Prospectus</i>
9	<i>Percentage Number of Shares</i>	<i>NUM</i>	Percentage	<i>Prospectus</i>

### **Sample**

The population in this study consists of going public firms which are listed in Indonesia Stock Exchange (IDX) who performed IPOs. Sample was taken through purposive sampling method, the following criteria are proposed:

1. The companies who performed IPOs during 2010-2014 which is listed to non-financial sector and were found to be underpriced.
2. Secondary market closing price on the first day was taken from IDX fact book and www.e-bursa.com
3. Financial ratios were not negative and Non-financial data both was taken from prospectus, IDX website, and financial statement.
4. Macroeconomic variables were taken from Indonesia Bank website period 2010-2014.

### Modeling

Multiple regressions were employed in this study to find out factors that significantly affect under pricing. The equation is described below:

$$\text{Underpricing}_i = \alpha + \beta_1 \text{BIRate}_i + \beta_2 \text{INF}_i + \beta_3 \text{EXC}_i - \beta_4 \text{ROA}_i + \beta_5 \text{DER}_i - \beta_6 \text{RU}_i - \beta_7 \text{AGE}_i - \beta_8 \text{SIZE}_i - \beta_9 \text{NUM}_i + \varepsilon_i$$

#### Note:

Under pricing	= Under pricing period 2010-2014
$\alpha$	= constant
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$	= Regression coefficient from each independent variables
BIRate	= Interest rate of Bank Indonesia
INF	= Inflation
EXC	= Exchange Rate IDR/USD
ROA	= Return on Assets
DER	= Debt to Equity ratio
RU	= Underwriter reputation
AGE	= Age of firms
SIZE	= Size of firms
NUM	= Percentage Number of Shares
i	= cross data
$\varepsilon$	= Error term

## RESULTS AND DISCUSSION

### Descriptive Statistics

The number of companies which underwent IPO process between 2010 and 2014 is 127, however the firm which is listed to non-financial sector is 104 and were found to be underpriced. There were 29 companies excluded from sample due to negative ratios and has been delisted. In these paper 75 companies has been taken through elimination process as the summary of descriptive statistics following table:

Table 2. Descriptive Statistics

<i>Descriptive Statistics</i>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
UP	75	1.08000	70.00000	25.7936000	21.89414303
BIRATE	75	5.75000	7.75000	6.4433333	.63747461
INF	75	3.43000	8.61000	5.5626667	1.43658786
EXC	75	9026	12438	9972.66	980.110
ROA	75	.01000	61.80000	8.7054667	10.24434746
DER	75	.12000	7479.00000	289.4150667	860.68014729
AGE	75	1.00000	57.00000	16.3733333	12.14081049
SIZE	75	2.84285	21063.71400	2306.4828410	3409.36430066
NUM	75	.09	11.50	1.3755	1.92686
Valid N (listwise)	75				

Source: SPSS Output , secondary data processed, 2015

According to descriptive statistics along with 75 companies has resulted 25.79% mean value of under pricing which shows that the estimation of offering price lower than secondary market price. The minimum level of under pricing was 1.08% and the maximum level of under pricing was 70%.

Macroeconomics data has resulted 6.44% mean value of BIRate, 5.5% mean value of inflation and IDR 9972 of exchange rate. The maximum level of macroeconomic data was BIRate (7.75%), Inflation (8.61%), and Exchange rate (IDR 12438). The mean value of ROA recorded 8.7 with a standard deviation of 10.2 and mean value of DER recorded 289 with a standard deviation of 860. The ratio shows that the average net income of firms was 8.7 compare to total assets on the last financial statement before IPO. While the average debt of firms was 2.89 times compare to owner's equity. This explains that firms have an average debt 2.89 times toward IPO.

Non-financial data recorded that the average age of firms was 16.3 (sixteen year) and the lower age was one year. The average size of firms was 2.3 trillion rupiah measured by company total assets. The average percentage number of shares was 13.75 with the lowest percentage number of shares was 0.09.

Table 3. Descriptive Statistic of Underwriter Reputation

		<b>RU</b>			
		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	0	35	46.7	46.7	46.7
	1	40	53.3	53.3	100.0
	Total	75	100.0	100.0	

Source: SPSS Output, secondary data processed, 2015

From the data of 20 most active IDX member by total trading frequency was taken from IDX fact book recorded 40 companies used the under writers which is listed to the IDX fact book list. While 35 companies did not use the under writers which is listed to the fact book list. These explain

that the firms still employ underwriter with no reputation.

### Analysis

In order to find out factors that significantly affect under pricing can be done by multiple regressions simultaneously. The examination of regression model can be used by F-test as follows:

Table 4. Multiple Regression (F-test)

ANOVA <sup>b</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7693.694	9	854.855	2.000	.053 <sup>a</sup>
	Residual	27778.465	65	427.361		
	Total	35472.159	74			

a. Predictors: (Constant), NUM, BIRATE, AGE, RU, DER, SIZE, ROA, EXC, INF

b. Dependent Variable: UP

Source: SPSS Output, secondary data processed, 2015

Multiple regression analysis was used to find out whether BIRate, Inflation, Exchange rate, ROA, DER, Underwriter reputation, Age of firms, Size of firms, and Percentage number of shares have any significant effect on the degree of under pricing. Based on F-value results are found to be significant with 2.000 and sig.value 0.053 at 10% significance level. This indicates that all independent variable in this paper simultaneously have significant effect on the degree of under pricing.

Table5. Coefficient of Determination

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.466 <sup>a</sup>	.217	.108	20.67271146	1.955

a. Predictors: (Constant), NUM, BIRATE, AGE, RU, DER, SIZE, ROA, EXC, INF

b. Dependent Variable: UP

Source: SPSS Output, secondary data processed, 2015

The R square was 0.108 or 10.8%. This means that BIRate, Inflation, Exchange rate, ROA, DER, Underwriter reputation, Age of firms, Size of firms, and Percentage number of shares can explain 10.8% variations of the degree of under pricing. This indicates that there are other factors that may explain 89.2% variations of the degree of under pricing. While the determinants of under pricing partially (T-test) as follows:

Table 6. Results of Regression Analysis (T-test)

Model		Coefficients <sup>a</sup>						Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients		T	Sig.	Tolerance	VIF
		B	Std. Error	Beta					
1	(Constant)	49.315	30.800			1.601	.114		
	BIRATE	-4.661	6.918	-.136		-.674	.503	.297	3.367
	INF	3.406	2.548	.223		1.337	.186	.431	2.320
	EXC	-.000	.004	-.007		-.036	.971	.332	3.009
	ROA	-.194	.254	-.091		-.764	.448	.852	1.174
	DER	.004	.003	.138		1.180	.242	.880	1.136
	RU	-14.784	5.277	-.339		-2.802	.007	.822	1.216
	AGE	-.087	.206	-.048		-.424	.673	.921	1.086
	SIZE	-.001	.001	-.105		-.872	.386	.834	1.198
	NUM	.477	1.375	.042		.347	.730	.823	1.215

a. Dependent Variable: UP

Source: SPSS Output , secondary data processed, 2015

BIRate is found with a negative beta and the result of t-value -0.674 (sig t = 0.503) at 5% significance level. This showed that BIRate was found to have no significant effect on under pricing. Hardi (2009) found that in general interest rate has a negative correlation to stock market, if the government increases the level of interest rate then investor will choose fixed-asset instrument such as bonds or deposits. In recent study by Manurung (1996) showed that interest rate is negatively correlated to stock market so that has same effect to under pricing.

Based on the regression analysis results Inflation is found to be significant with a positive beta at 10% significance level (Sig t = 0.186/2). This indicates that inflation has significant positive effect on the degree of under pricing. This contrast with the research by Ratnasari (2013) which found that inflation has no significance effect to under pricing. Manurung (2013) found that most research about inflation and stock return has been done in develop countries. However, this research in Indonesia still very limited where the result is different with develop countries which suggests that inflation has positive correlation to Composite Index. The higher rate of inflation, the higher cost production will be. These conditions have an effect on company's net income and tend to push the offering price so that investor will limit their investing activity. Therefore, theoretically higher rate of inflation will increase the degree of under pricing.

Exchange rate IDR/USD is found to have no significant effect on under pricing at 5% significance level (Sig t = 0.971) with a negative beta. These findings do not support the results of research by Yolana and Martiani (2005) which found that exchange rate has positive effect on under pricing. Manurung (1996) documented that depreciation of rupiah has negative correlation to composite index which means that every 1% depreciation of rupiah have an effect on the decreasing of index more than 1% so that will increase the under pricing of IPOs.

Return on Assets is found to have no significant effect on under pricing at 5% significance level (Sig t = 0.448) with a negative beta. The previous literature by Ariawati (2005), Handayani

(2008) dan Kristiantari (2012) also showed that ROA has no significant effect on the degree of under pricing. Investors are more likely to refer the ROA ratio years ago before IPO than to see the ratio on prospectus. The higher profitability ratio as presented on prospectus is not always showing a good performance of firms.

Based on regression analysis results DER is found to have no significant effect on underpricing at 5% significance level (Sig t = 0.242) with a positive beta. In previous study by Ratnasari dan Hudwinarsih (2013), Retnowati (2013), dan Kristiantari (2013) also found that DER has no significant effect on under pricing. Investors are not always considering DER, the probability that they tend to see only the debt side so that DER ratio can not be used to measure the uncertainty of under pricing.

Underwriter reputation is found to be significance with a negative beta at 5% significance level (Sig t = 0.007). In a later study by Sandhiaji (2004), Ariawati (2005), Ratnasari dan Hudwinarsih (2013), dan Kristiantari (2013) also documented that underwriter reputation is negatively correlated to under pricing. Underwriter reputation with prestige can reduce the degree of IPOs under pricing so that firms can considerate for employing a good underwriter for IPOs.

Age of firms is found to have no significance effect on under pricing at 5% significance at 5% significance level (Sig t = 0.673) with a negative beta. In a recent study by Kristiantari (2013) also found that age of firms has no significance effect on under pricing. Age of firms do not guarantee a quality and good performance of company so that is not necessarily be used as the determinant of under pricing.

Size of firms is found to have no significance effect on under pricing with a negative beta at 5% significance level (Sig t = 0.386). In a previous study by Ghazali and Al Mansur (2002) stated that size of company has no significant effect on under pricing. The degree of under pricing cannot measure only by size of firms.

Percentage number of shares is found to have no significance effect on under pricing at 5% significance level with a positive beta (Sig t = 0.730). Recent study by Wulandari (2011) found that percentage number of shares has no significance effect on under pricing. This condition because the orientation of investors is not to number of shares but to the value of IPOs offering.

## CONCLUSIONS

The finding in this study is all independent variables simultaneously have a significance correlation toward under pricing. The result of parameter significance individual showed that inflation has a positive correlation on the degree of under pricing. This condition showed that the rate of inflation has effect on determining IPOs price which impact on profit companies also stock prices. While non-financial information is found that underwriter reputation has a negative correlation on the degree of under pricing. This result showed that a good performance of underwriter can decrease the IPOs under pricing. The limitation in this study that only non-financial sector companies and the variable which is used still finite, while the many other factors have an effect on under pricing. Based

on that limitation, the period of study can be extended and focused on some sub-sector companies in the next paper in order to get better results on the determinant of under pricing.

## REFERENCES

- Ariawati, Siti. 2005. Analisis Faktor-Faktor Yang Mempengaruhi Tingkat *Underpricing* Pada Penawaran Saham Perdana (IPO) (Studi Pada Perusahaan *Go Public* Yang Terdaftar Di BEJ Tahun 1993-2003). *Thesis*. Semarang: Universitas Diponegoro.
- Beatty, R.P. 1989. Auditor Reputation and The Pricing of IPO. *The Accounting Review*. Vol LXIV No 4. p 693-707.
- Carter, Richard B and Manaster, Steven. 1990. Initial Public Offering and Underwriter Reputation. *Journal of Financial*. Vol 45. p 1045-1067.
- Ghozali, Imam dan Al Mansur, Murdik. 2002. Analisis Faktor-Faktor yang Mempengaruhi Tingkat Underpricing Di Bursa Efek Jakarta, *Jurnal Bisnis dan Akuntansi*, Vol.4, No.1, April.
- Handayani, Sri Retno. 2008. Analisis Faktor-Faktor Yang Mempengaruhi Underpricing Pada Penawaran Umum Perdana (Studi Kasus Pada Perusahaan Keuangan Yang Go Publik di Bursa Efek Jakarta Tahun 2000-2006). *Tesis*. Semarang: Universitas Diponegoro.
- Hardi, Hasfin. 2005. Analisis dan Pengaruh Variabel Ekonomi Makro Terhadap Penetapan Harga Saham Perdana Di Bursa Efek Jakarta. *Tesis*, Sekolah Pascasarjana Univesitas Sumatera Utara, Medan
- Kristiantari, I Dewa Ayu. 2012. Analisis Faktor-Faktor yang Mempengaruhi Underpricing Saham Pada Penawaran Saham Perdana di Bursa Efek Indonesia. *Tesis*. Denpasar: Universitas Udayana
- Lestari, Mukti. 2005. Pengaruh Variabel Makro Terhadap Return Saham Di Bursa Efek Jakarta: Pendekatan Beberapa Model. *SNA VIII Solo*, 15 – 16 September 2005
- Manurung, A.H. 1996. Pengaruh Variabel Ekonomi Makro, Investor Asing, Bursa yang telah maju Terhadap Bursa Efek Jakarta, *Pascasarjana Universitas Indonesia*.
- Manurung, A.H. 2013. *Initial Public Offering (IPO): Konsep, Teori, dan Proses*. PT Adler Haymans Manurung Press, Jakarta.
- Martiani, Dwi. 2003. Pengaruh Informasi Selama Proses Penawaran Terhadap Initial Return perusahaan Yang Listing Di Bursa Efek Jakarta dari Tahun 1990 – 2000. *Symposium Nasional Akuntansi IV*, Surabaya.
- Ratnasari, Anggita dan Hudiwinarsih, Gunasti. 2013. Analisis Pengaruh Informasi Keuangan, Non Keuangan Serta Ekonomi Makro Terhadap Underpricing Pada Perusahaan Ketika IPO. *Jurnal Buletin Studi Ekonomi*, Vol. 18, No. 2, Agustus 2013.
- Retnowati, Eka. 2013. Penyebab Underpricing Pada Penawaran Saham Perdana Di Indonesia. *Jurnal Akuntansi*, Fakultas Ekonomi. Universitas Negeri Semarang.
- Samsul, Mohammad. 2006. *Pasar Modal dan Manajemen Portopolio*. Penerbit Erlangga. Jakarta.

- Sandhiaji, Bram Nugroho. 2004. Analisis Faktor-Faktor yang Mempengaruhi Tingkat Underpricing pada Penawaran Umum Perdana (IPO) Periode Tahun 1996-2002. *Tesis*. Semarang: Universitas Diponegoro.
- Sunaryah, S. 2000. *Pengantar Pengetahuan Pasar Modal. Edisi 2*. UPD AMP YKPN. Jakarta
- Wulandari, Afifah. 2010. Analisis Faktor-Faktor Yang Mempengaruhi Underpricing Pada Penawaran Umum Perdana (Studi Kasus Pada Perusahaan Go Publik Yang Terdaftar Di Bursa Efek Indonesia Tahun 2006-2010). *Jurnal Ekonomi*. Semarang: Universitas Diponegoro.
- Yolana, Chastina dan Martiani, Dwi. 2005. Variabel-Variabel Yang Mempengaruhi Fenomena Underpricing Pada Penawaran Saham Perdana Di BEJ Tahun 1994 – 2001. *SNA VIII*, Solo.
- Zirman dan Darlis, Edfan. 2011. Pengaruh Informasi Akuntansi Dan Non Akuntansi Terhadap Kecenderungan Underpricing: Studi Pada Perusahaan Yang Melakukan Initial Public Offering Di Bursa Efek Indonesia. *Jurnal Ekonomi* No 1 Vol 19 Universitas Riau.

Intentionally Blank