

# Analysis of Influencing Factors of IPO Under-pricing: Case Studies on Companies Listing in IDX during 2008-2017

Meigia Nidya Sari, Erlina and Rina Bukit

*Department of Master of Accounting, Faculty of Economics and Business, University of Sumatera Utara, Indonesia*

**Keywords:** Under-Pricing, Financial Ratio, Non-Financial Information.

**Abstract:** Under-pricing is a price below the market price or stock price in the secondary market higher than the stock price in the primary market in which investors are interested in purchasing. Under-pricing is influenced by several factors, such as company size, return on asset, financial leverage, and percentage of public offering, trading volume, auditor reputation, company age, and industrial type to under-pricing during the IPO in the Indonesia Stock Exchange. 130 samples of companies were used. The technical of collecting samples using senses. The data analyzed using multiple linear regressions. Based on the results of data analysis, trading volume and auditor reputation had significantly negative effect on under-pricing, while financial leverage had significantly positive affect on u//under-pricing, while company size, company age, industrial type had insignificantly negative affect on under-pricing, and percentage of public offering had insignificantly positive affect on under-pricing.

## 1 INTRODUCTION

Initial Public Offering (IPO) becomes good alternative way for company to get funding. However, there are times when it is difficult to determine the initial stock price at the IPO. Because many considerations must be made in determining the price between the issuer and underwriter, while the stock price sold in secondary market will be determined by market mechanism depend on supply and demand. The difficulty of determining initial stock price is due to the absence of relevant information. The limited information about what and who the company will do an initial public offering make underwriters and potential investors should perform a good analysis before deciding to buy or to order the stock (Hatta, 2010).

The determination of the stock price to be offered at the IPO is an important factor as it relates to the amount of funds that the issuer will receive and the risk that the underwriter will bear. The amount of funds received by the issuer is the multiplication between the numbers of shares offered at the price per share, so the greater the price per share, the higher the funds will be obtained.

PT. Krakatau Steel (Persero) Tbk conducted an IPO in 2010 by releasing 3,155,000,000 shares of

public shares and listing them on the Indonesia Stock Exchange. Initial shares offered through the book building process (initial offer) recorded a demand surplus of 9 times. Share ownership of PT. Krakatau Steel after the IPO is divided into 80% owned by the Government of the Republic of Indonesia, and the remaining 20% will be owned by the public. In this offer, the Company appointed PT. Bahana Securities, PT. DanareksaSekuritas, and PT. MandiriSekuritas as the underwriters. The IPO implementation price is set at Rp. 850 per share or acquisition of IPO fund is set at Rp. 2.681 trillion. Such a price is the cause of controversy in the public regarding the initial stock price offered whether it is relatively appropriate or reasonable with the current condition of the company. PT. Krakatau Steel became one of the companies that experienced under-pricing post IPO that is from the price determination of Rp. 850 per share immediately skyrocketed to the level of Rp. 1,200 per share that is up about 40% more, whereas the funds absorbed should be more than Rp. 2.681 trillion (Purwoko, 2010).

## 2 PREVIOUS RESEARCH REVIEW

The first research conducted by Islam et al (2010). The results of this study indicated that Variable percentage capacity for public offering, company size, and industrial type has a significant negative effect on under-pricing at the level, while company age variable has a positive effect on under-pricing.

The second research conducted by (Saurabh Ghosh, 2005) showed that the variable size of the size does not affect the under-pricing, while the company age, company size, and industrial type variables have a significant negative effect on under-pricing.

The third study conducted by (How et al., 1995) showed All independent variables ie Company Age, offer size, listing time, and reputation of underwriter Negatively significant effect on under-pricing.

The fourth research conducted by (Kim et al., 1993) showed the variable of Financial Leverage and Ownership Retention have positive effect on under-pricing while Investment, underwriter quality, ROA, and Gross Proceeds have positive effect on Under-pricing.

The fifth research conducted by Mega Gunawan and Viriany Jordin (2015) showed that ROA variable and company size have a significant effect on under-pricing level, while DER, EPS, company age and percentage of shares offered to public have no significant effect on under-pricing level.

The sixth study of the research conducted by Shoviyah Nur Aini (2013) showed that ROE variable, company size, company age, underwriter reputation, and IPO fund use for investment have no effect on under-pricing, while auditor reputation variable has significant negative effect on under-pricing

The seventh research conducted by (Reza Widhar Pahlevi, 2014) showed Variable Reputation underwriter, auditor's reputation has no significant effect on under-pricing, while the variable leverage has positive influence on under-pricing, while ROA, NPM, Current ratio, company size, and company's age have a significant negative effect on under-pricing.

The eighth research conducted by (Hapsari and Kholiq Mahfud, 2012) showed Variable Reputation underwriter, auditor reputation, ROE, company size has a significant negative effect on under-pricing, while current ratio variable and EPS has no effect on under-pricing.

The ninth research conducted by (Lismawati Munawaroh, 2015) showed that underwriter

Reputation variable and company's age have no effect on under-pricing level, while company profitability variable (ROA), and company size have significant negative effect to under-pricing level, while Financial leverage (DER) against under-pricing.

The tenth research conducted by (I Dewa Ayu Kristiantari, 2012) showed that underwriter reputation variable, company size, purpose of investment fund use negatively affect under-pricing, while auditor reputation variable, company age, company profitability, financial leverage, and industry type have no effect on under-pricing.

Based on the description previously described, the hypothesis of this penetration are: company size, financial leverage, Percentage of public offering, trading volume partially or simultaneously effect on under-pricing of shares at initial public offering in Indonesia Stock Exchange.

## 3 RESEARCH METHOD

This is a causal associative research with the characteristics of the problem of causality between two variables or more. From the type of data used in this study is quantitative research, quantitative research methods aimed at researching on a particular population or sample, data collection using research instruments, quantitative / statistical data analysis, with the aim to test the predefined hypothesis (Ghozali, 2013)

### 3.1 Population and Sample

This research took the population of companies conducted IPO on BEI from 2008-2017 who under-priced with saturated or census sampled technique so that obtained as many as 130 companies that experienced under-pricing during that period as population and the amount also used as sample.

### 3.2 Data Analysis Technique

Data analysis technique used is multiple linear regression analysis. Tests conducted are: Descriptive Statistics, Classic Assumption Test, namely the Normality Test, Multicollinearity Test, Heteroskedastisitas Test and Autocorrelation Test. Hypothesis Testing with Test t (Partial Test) and Test F (Simultaneous Test), Determination Coefficient Analysis and Multiple Linear regression Analysis.

## 4 RESULTS AND DISCUSSIONS

### 4.1 Descriptive Statistics Analysis

Descriptive statistical analysis is used to find out the description of a data viewed from the value of the distribution of frequency and percentage, as well as the maximum, minimum, and mean value, of the Company Size, ROA, Financial Leverage, Percentage of Public Shares Offer, Trade Volume, Auditor Reputation, Age of Company, Industry Type, and Under-pricing.

Table 1: Descriptive Statistics of Independent and Dependent Variable.

	N	Min	Max	Mean	Std. Dev
Size (X1)	130	8.99	17.62	13.8749	1.52097
ROA (X2)	130	0.72	3.11	1.3753	.33573
FL (X3)	130	1.00	1.43	1.0612	.06760
PPO (X4)	130	1.02	91.00	24.5727	14.24606
Vol (X5)	130	7.31	26.24	19.2514	3.65568
AR (X6)	130	.00	1.00	.2692	.44528
Age (X7)	130	1.00	60.00	18.8154	13.3717
Type (X8)	130	.00	1.00	.3462	.47758
Up (Y)	130	.00	.70	.3368	.25371
Valid N	130				

According to Table 1, it is known that the average value of company size is 13.8749 and the standard deviation of the company size is 1.52097. While the minimum value of the size of the company is 8.99 derived from the issuer of BSIM (Bank Sinarmas, Tbk) and the maximum value of the size of the company is 17.62 derived from BBTN issuer (Bank Tabungan Negara, Tbk).

The average value of ROA is 1.3753 and the value the standard deviation of ROA is 0.33573. While the minimum value of ROA is 0.72 from the issuer of BAEK (Bank Ekonomi, Tbk) and the maximum value of ROA is 3.11 from NIRO (Nirvana Development, Tbk) issuer. The average value of financial leverage is 1.0612 and the

standard deviation value of financial leverage is 0.06760. While the minimum value of financial leverage is 1.00 derived from the issuer of BRMS (Bumi Resources Minerals, Tbk) and the maximum value of financial leverage is 1.43 obtained from issuer MINA (Sanurhasta Mitra, Tbk).

The average value of percentage of public offering is 24.5727 and the standard deviation value of percentage of public offering is 14.24606. While the minimum value of percentage of public offering percentage is 1.02 obtained from MAPB issuer (MAP Boga Adiperkasa, Tbk) and the maximum value of percentage public offering is 91 obtained from IBFN issuer (Intan Baruprana Finance, Tbk).

The average value of trading volume is 19.2514 and the standard deviation of trading volume is 3.65568. While the minimum value of trading volume is 7.31 obtained from NASA (Ayana Land International, Tbk) and the maximum value of trading volume is 26.24 obtained from IBST issuer (Inti Bangun Sejahtera, Tbk).

The average value of the auditor's reputation is 0.2692 and the standard deviation value of the auditor's reputation is 0.44528. While the minimum value of the auditor's reputation is 0 obtained from firms audited by other than the Big Four KAP and the maximum value of the auditor's reputation is 1 obtained from firms audited by the Big Four KAP.

The average value of the company's age is 18.8154 and the standard deviation of the company's age is 13.37172. While the minimum value of company's age is 1 obtained from ICBP issuer (Indofood CBP Sukses Makmur, Tbk) and the maximum value of company's age is 60 obtained from BJBR issuer (Bank Jawa Barat, Tbk).

The average value of the industry type is 0.3462 and the standard deviation value of the industry type is 0.47758. While the minimum value of the type of industry is 0 obtained from non-manufacturing companies and the maximum value of the type of industry is 1 obtained from the manufacturing companies.

The average value of under-pricing is 0.3368 and the standard deviation of under-pricing is 1.01042. The minimum value of under-pricing is 0.00 obtained from POWR issuer (Cikarang Listrindo, Tbk) and the maximum value of under-pricing is 0.70 obtained from MPOW (Mega Power Makmur, Tbk) issuer.

## 4.2 Classic Assumption Test

### 4.2.1 Normality Test

The normality test aims to test whether in the regression model, the intruder or residual variable has a normal distribution. Test t and F assume that the residual values follow the normal distribution. In this study, the normality test for residuals using the Kolmogorov-Smirnov test. Level of significance used  $\alpha = 0.05$ . The basis for the decision is to look at the probability p, with the following conditions:

If the probability value  $p > 0.05$ , then the assumption of normality is met  
Then  $H_0$  is accepted,  $H_a$  is rejected.

If the probability is  $<0.05$ , then the assumption of normality is not met  
Then  $H_0$  is rejected,  $H_a$  accepted.

Table 2: Normality Test.

One-Sample Kolmogorov-Smirnov Test.

		Unstandardized Residual
N		130
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.97144095
Most Extreme Differences	Absolute	.051
	Positive	.040
	Negative	-.051
Kolmogorov-Smirnov Z		.582
Asymp. Sig. (2-tailed)		.887

a. Test distribution is Normal.

b. Calculated from data.

Note that according to Table 2, the probability value or *Asymp* is known. Sig. (2-tailed) of 0.887. If the probability value, ie 0.887, is greater than the level of significance, ie 0.05, the assumption of normality is met.

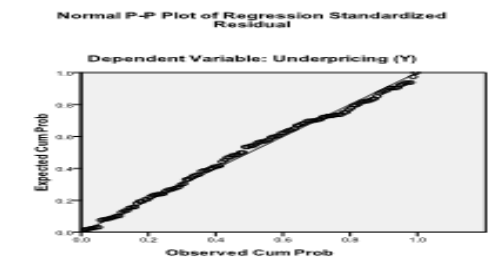


Figure 1: Normality Test with Normal Probability Plot Approach.

Based on the normality test with the normal probability plot approach (Figure 1), the points spread quite closely to the diagonal lines. This indicates the assumption of normality is met.

### 4.2.2 Multicollinearity

To check whether there is multi co linearity or not cannot be seen from the value of variance inflation factor (VIF). VIF values of more than 10 indicated an independent variable of multicollinearity (Ghozali, 2013).

Table 3: Multicollinearity Test.

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Ukuran Perusahaan (X1)	.733	1.365
ROA (X2)	.874	1.144
Financial Leverage (X3)	.787	1.271
Persentase Penawaran Saham Publik (X4)	.937	1.067
Volume Perdagangan (X5)	.886	1.128
Reputasi Auditor (X6)	.847	1.180
Umur Perusahaan (X7)	.857	1.167
Jenis Industri (X8)	.891	1.122

Based on Table 2, it is known that all VIF values are not more than 10 or all VIF values  $<10$ , and the tolerance value is not less than 0.1 then the indication does not occur multicollinearity or in other words accept  $H_0$  and reject  $H_a$ .

### 4.2.3 Heteroscedasticity Test

The heteroscedasticity test according to Ghozali (2011: 139) aims to test whether in a regression model the residual variance inequality varies from one observation to another fixed, heteroscedasticity. The way used to detect the presence or absence of heteroscedasticity in this study by looking at the plot

graph between the predicted value of dependent variable (ZPRED) with residually is SRESID. The detection of whether or not heteroscedasticity can be done by looking at the presence of a particular pattern on the scatterplot chart between SRESID and ZPRED where the Y axis is predicted and the X axis is the residual (Y-predicted Y). The basic analysis used to detect heteroscedasticity:

If there is a certain pattern, such as the existing dots form a certain pattern that is regular (wavy, widened then narrowed), then indicates there has been heteroscedasticity.

If there is no clear pattern, and the points spread above and below the number 0 on the Y axis, there is no heteroscedasticity.

The results of the heteroscedasticity test shown in Figure 2:

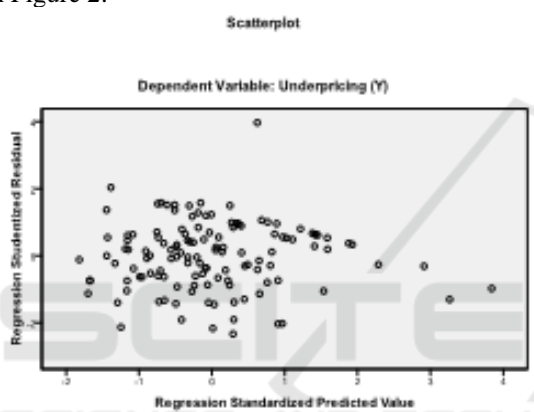


Figure 2: Heteroscedasticity Test.

Note that according to Figure 2, there is no clear pattern, and the points spread above and below the number 0 on the Y axis, hence no heteroscedasticity.

**4.2.5 Autocorrelation Test**

Assumptions about residual independence (non-autocorrelation) can be tested using the Durbin-Watson test (Field, 2009). The statistical value of the Durbin-Watson test ranges between 0 and 4. The statistical value of the Durbin-Watson test that is smaller than 1 or greater than 3 indicates an autocorrelation.

Table 4: Autocorrelation Test.

Model	Durbin-Watson
1	1.798

According to Table 4, the value of the Durbin-Watson statistic is 1.798. Note that since the Durbin-Watson statistic value lies between 1 and 3, the non-autocorrelation assumption is met. In other words, there is no high autocorrelation symptoms in the residual, then accept Ho and reject Ha.

**4.2.4 Coefficient of Determination Analysis**

The coefficient of determination ( $R^2$ ) is a value (value of proportion) which measures how much the ability of the independent variables used in the regression equation, in explaining the variation of the dependent variable.

Table 5: Coefficient of Determination.

Model Summary<sup>b</sup>.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.521 <sup>a</sup>	.272	.224	1.00304	1.798

a. Predictors: (Constant), Industrial type (X8), Percentage of public offering (X4), Financial Leverage (X3), ROA (X2), Auditor reputation (X6), Trading volume (X5), Company age (X7), Company size (X1)  
 b. Dependent Variable: Underpricing (Y)

Based on Table 5, the coefficient of determination value  $R^2$  lies in the R-Square column. It is known that the coefficient of determination is  $R^2 = 0.272$ . The value means all independent variables, ie company size, ROA, financial leverage, percentage of public offering, trading volume, auditor reputation, company age, and industry type can explain the effect of under-pricing variable by 27.2%, the rest of 72.8% influenced by other factors.

**4.2.6 Significance of Simultaneous Effect Test (F test)**

F test aims to examine the effect of free variables simultaneously or simultaneously to the dependent variable.

Table 6: Significance of Simultaneous Effect Test (F test).

ANOVA<sup>b</sup>.

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	45.445	8	5.681	5.646	.000 <sup>a</sup>
Residual	121.737	121	1.006		
Total	167.182	129			

- a. Predictors: (Constant), Industrial type (X8), Percentage of public offering (X4), Financial Leverage (X3), ROA (X2), Auditor reputation (X6), Trading volume (X5), Company age (X7), Company size (X1)  
 b. Dependent Variable: Under-pricing (Y)

Based on Table 6, it is known that F count is 5,646 and Sig ,000 because the value of F arithmetic is 5,646 > F table 2.015 and the value of Sig 0,000 < 0,05.

Hence company size, ROA, financial leverage, percentage of public offering, trading volume, auditor reputation, company age, and industry type have a significant effect on under-pricing.

**4.2.7 Multiple Linear Regression Analysis and Partial Effect Significance t Test**

Table 7 below presents the regression coefficient value, as well as the statistical value t for partial effect test.

Table 7: Multiple Linear Regression Analysis and Partial Effect Significance t Test.

Coefficients.

Model	T	Sig.
1 (Constant)	1.349	.180
Company Size(X1)	-.680	.498
ROA (X2)	.050	.960
Financial Leverage (X3)	2.492	.014
Percentage of Public Offering(X4)	.744	.459
Trading Volume (X5)	-3.615	.000
Auditor Reputation (X6)	-2.339	.021
Company Age (X7)	-.640	.523
Kinds of industry (X8)	-.102	.919

- a. Dependent Variable: Under-pricing (Y)

Based on Table 7, multiple linear regression equations are obtained as follows:

$$Y = 3,632 - 0,619X1 + 0,025X2 + 4,216X3 + 0,101X4 - 1,562X5 - 0,109X6 - 0,072X7 - 0,004X8 + e$$

Based on the multiple linear regression equation above, it is known:

1. The regression coefficient value of company size is -0.619 that is negative value. The value can be interpreted company size negatively affect under-

pricing. Sig value of 0.498 > 0,05 and t value | -0,680 | < t table | 1,979 |, then company size has no significant effect on under-pricing.

2. The value of the regression coefficient of ROA is 0.025, which is positive. The value can be interpreted ROA has a positive effect on under-pricing. Sig value of 0.960 > 0.05 and value of t count | 0.050 | < t table | 1,979 |, then ROA has no significant effect on under-pricing.

3. The regression coefficient value of financial leverage is 4,216, which is positive. The value can be interpreted financial leverage positive effect on under-pricing. The Sig value is 0.014 < 0.05 and the value of t arithmetic | 2,492 | > t table | 1,979 |, then financial leverage has a significant effect on under-pricing.

4. The regression coefficient value of the percentage of public share bid is 0.101, which is positive. The value can be interpreted as percentage of public offering positive effect on under-pricing. Given value of Sig 0,459 > 0,05 and t value count 0,744 | < t table | 1,979 |, then the percentage of public offering has no significant effect on under-pricing.

5. The value of the regression coefficient of trading volume is -1.562, which is negative. The value can be interpreted trading volume negatively affect under-pricing. The value of Sig 0,000 < 0,05 and t value | -3,615 | > t table | 1,979 |, then trading volume has a significant effect on under-pricing.

6. The regression coefficient value of the auditor's reputation is -0.109, which is negative. The value can be interpreted by the auditor's reputation negatively affect under-pricing. Sig value of 0,021 < 0,05 and value of t count | -2,339 | > t table | 1,979 |, then the auditor's reputation has a significant effect on under-pricing.

7. The regression coefficient value of the company's age is -0.072, which is negative. The value can be interpreted the age of the company negatively affect under-pricing. Given value of Sig 0,523 > 0,05 and t value count | -0,640 | < t table | 1,979 |, then the company's age has no significant effect on under-pricing.

8. The regression coefficient value of industry type is -0.004 that is negative value. This value can be interpreted by industry type negatively affecting under-pricing. Given value of Sig 0,919 > 0,05 and t value count | -0,102 | < t table | 1,979 |, then the type of industry has no significant effect on under-pricing.

## 5 CONCLUSIONS AND SUGGESTIONS

### 5.1 Conclusions

From the results of research analysis and hypothesis testing conducted earlier, it can be drawn conclusion as follows:

1. Company size, return on asset, financial leverage, percentage of public offering, trading volume, auditor reputation, company age and industry type simultaneously can influence the underpricing variable in the company IPO Indonesia stock exchange for 2008 -2017 of 27.2%, the rest of 72.8% influenced by other factors.
2. Company size return on asset, percentage of public offering, company age and industrial type partially have no significant effect on underpricing in companies with IPO in Indonesian securities for the period of 2008-2017.
3. Company size has no significant negative effect on under-pricing.
4. Return On Asset has no significant positive effect on under-pricing.
5. Financial leverage has a significant positive effect on under-pricing
6. Percentage of public offering has no significant positive effect on under-pricing.
7. Trading volume has a significant negative effect on under-pricing
8. Auditor reputation has a significant negative effect on under-pricing
9. Company age has no significant negative effect on underpricing.
10. Industrial type has no significant negative effect on under-pricing.

### 5.2 Suggestions

The suggestions for the next research are:

1. For further research, it is better to use independent variables other than independent variables that have been used by researchers to be more varied and developing.
2. Further research should increase the number of samples for more accurate results.
3. Further research is to expand the source of information and theory of international journals for more quality research.
4. Further research must further modify variables that have been widely used with non-financial variables or other alternative information.

## REFERENCES

- Ghosh, Saurabh., 2005. Underpricing of Initial Public Offering: The Indian Experience. *International Journal of Emerging Markets Finance and Trade*. Vol. 41. No. 6.
- Gunawan, Mega &Viriany., 2015.Faktor-Faktor yang Mempengaruhi Tingkat Underpricing Saham Pada Perusahaan Yang Melakukan IPO yang Terdaftar di Bursa Efek Indonesia. *Jurnal Ekonomi*. Vol. XX. No. 02, Hal.174-192.
- Hapsari, Venantia Anita & M. KholiqMahfud., 2012, "Analisis Faktor-Faktor Yang Mempengaruhi Underpricing Saham Pada Penawaran Umum" *Diponegoro Journal of Management*, Vol. 1, No.1, Hal. 1-9
- How J. C H. Y Izan & G. S Monroe., 1995. Differential Information and The Underpricing of IPO Australian Evidence. *International Journal of Accounting and Finance*. Vol. 8. No. 1.
- Ghozali, Imam., 2013. *Aplikasi Analisis Multivariate dengan Program SPSS*. Semarang, Badan Penerbit UNDIP.
- Hatta, A. J and Isfaatun., 2010. Analisis Informasi Penentu Harga Saham Saat Intial Public Offering. *Journal Akuntansi Bisnis*. Vol. 1.No. 15. Hal 66-74.
- Islam, Aminul MD, Ruhani Ali & Zamri Ahmad., 2010. An Empirical Investigation of The Underpricing of Initial Public Offering in The Cittagong Stock Exchange. *International Journal of Economics and Finance*. Vol. 2.No. 4.
- Katti, Supriya B.V. Phani., 2016, Underpricing of Initial Public Offerings: A Literature Review. *Universal Journal of Accounting and Finance*, Department of Industrial and Management Engineering, Indian Institute of Technology, India.
- Kim, Joeng-Bon, Itzhak Krinsky & Jason Lee., 1995. Motives for Going Public and Underpricing New Findings from Korea. *Journal of Business Finance and Accounting*. Vol. 20.No. 2.
- Kristiantari, I dewa Ayu., 2012. Analisis Faktor-Faktor yang Mempengaruhi *Underpricing* Saham Perdana di BEI.Tesis, Universitas Udayana, Denpasar.
- Munawaroh, Lismawati., 2015. Faktor-Faktor yang Mempengaruhi *Underpricing* Sahampada Penawaran Umum Perdana di Bursa Efek Indonesia. *Jurnal Akuntansi & Bisnis*. Vol 2. No 2.
- Shoviyah, Nur Aini., 2013. Faktor-Faktor yang Mempengaruhi Underpricing Pada Perusahaan IPO di Bursa Efek Indonesia. *Jurnal Ilmiah Manajemen*. Vol. 1. No. 1.Hal.88-102.
- Pahlevi, Reza Widhar., 2014. Analisis Faktor-Faktor yang Mempengaruhi *Underpricing* Saham Pada Penawaran Umum Perdana di BEI. *Jurnal Siasat Bisnis*. Vol. 18. No. 2.
- Purwoko, Krisman., 2010. Terlalu Murah Batalkan IPO KrakatauSteel.<https://republika.co.id/berita/breaking-news/ekonomi/10/11/04/144256-bambang-soesatyo-terlalu-murah-batalkan-ipo-krakatau-steel> (Accessed on 8, Juli 2017)