

## Analysis of IPO Performance in Indonesia in the "Hot Market" Period and Its Influencing Factors

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**Abstract.** *The aim of this study is to test whether there is an underpricing phenomenon within the Hot Market period in Indonesian public companies in 2018. Among 56 companies which conducted IPOs, our descriptive statistical analysis shows 53 companies experienced underpricing and the rest experienced overpricing. We used nonparametric statistic to calculate the average of initial return, and multiple linear regression to test the effect of independent variables on the initial return. The result shows that the underpricing phenomenon occurred in IPO performance in Indonesia. Meanwhile, the results of hypothesis testing show that the company's age and the underwriter's reputation had no effect on initial return, while company's size and market sentiment show a significant negative effect on initial return.*

**Keywords:** *company's age; company's size; hot market; initial return; market sentiment; underwriter's reputation*

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### INTRODUCTION

The phenomenon of testing the IPO (Initial Public Offering) performance often happens in every capital market around the world, but Loughran, Ritter, and Rydqvist (1994) explain that the factors that affect IPO performance are not always consistent and depend on the characteristics of the company and the economic condition of the country where the capital market originates. The Indonesian capital market until 2019 has recorded 627 companies that are members of the Indonesia Stock Exchange (IDX), with the highest number of listings in 2018 reached as many as 57 companies. Thus, in 2018, Indonesia became the country with the highest number of additional issuers in Asia.

In 2018, the number of companies conducting IPOs on the IDX was impressive considering that there was a lot of uncertainty in both global and domestic markets caused by the trade war between the U.S. and China. The large number of IPO companies increased the volume of IPOs which made 2018 a hot market period. This study discusses the possibility

that during the "Hot Market" period the closing price of the first day increases while the offer price decreases, or what is often referred to as underpricing. Previous studies in Indonesia have explained that there is a possibility of underpricing during the "Hot Market" period (Warganegara & Warganegara, 2014). A study conducted by Husnan, Hanafi, and Munandar (2015) shows that on average underpricing occurs as much as 23% of the 231 IPO companies on the IDX for the period 1995 to 2012. The results of Irfani's (2014) study which measured underpricing using a long period of return on shares of companies that conducted IPO in 2008-2010 showed that 84.31% of them experienced underpricing even after three years since the IPO. Although previous studies have explained the occurrence of the underpricing phenomenon in Indonesia, it does not rule out the possibility of overpricing in the "Hot Market" period. This is based on the studies of Derrien (2005) and Lowry and Schwert (2004) which state that hot periods tend to provide low price discounts due to company optimism, and that there is an

influence between initial return and market returns before offerings where public information is not fully included in the offer price.

Although the underpricing phenomenon has been extensively tested in various capital markets around the world, until now there has not been an appropriate variable that can explain the underpricing phenomenon. Therefore, testing the factors that play an important role in the IPO underpricing phenomenon needs to be continued. Underwriter's reputation, ex-ante uncertainty, investor's sentiment, and offering period are important factors that can explain IPO underpricing according to Mumtaz, Smith, and Ahmed (2016). Therefore, this study aims to analyze the occurrence of underpricing or overpricing in the "Hot Market" period on the IDX, as well as to identify important determinants that can explain IPO underpricing.

## LITERATURE REVIEW

The efficient market theory explains that an information will be responded quickly by market participants, so that a new equilibrium price is formed. The speed of market response is a determining factor in the rate of return for investors. However, if there is an information asymmetry, it will be difficult to achieve market efficiency. Loughran and Ritter (2002) and Warganegara and Warganegara (2014) explain that information asymmetry can lead to information direction for investors, where potential investors not only use their information to buy new shares (new issue), but they also pay attention to the actions of other investors in making decisions. The theory underlying the investor behavior is Ritter and Welch's (2002) investor's sentiment theory, where initial return will increase if investors are very enthusiastic and give a positive reaction. Ljungqvist (2008) argues that the IPO market may be more influenced by investor's pessimism and enthusiasm. Anderson, Chi, and Wang (2015) mention the explanation of investor behavior in the opinion that it is irrational and or investor's sentiment

to bid the IPO price beyond the actual value in the short term.

This can certainly trigger the IPO issuer to provide a lower initial offering price so that it can attract potential investors to buy their initial shares. Offering a lower share price at the time of the initial offering compared to the stock price when entering the secondary market or initial return is called underpricing. When underpricing occurs, investors will get a higher initial return, whereas if overpricing occurs, investors will get a lower initial return.

### *IPO Initial return*

Initial return in the short term is the difference between the initial public offering price and the closing price of shares on the secondary market on the first day. The underpricing phenomenon often occurs during IPOs. The results of previous studies have documented the occurrence of underpricing of IPO shares on the IDX (Husnan et al., 2015; Irfani, 2014; Warganegara & Warganegara, 2014). The results of Warganegara and Warganegara's (2014) study show the occurrence of underpricing of IPO shares on the IDX in the "Hot Market" periods of 2001 and 2002, where the "Hot Market" periods were marked by the large number of new companies that carried out IPOs in the "Hot Market" periods of 2001 to 2005. According to Warganegara and Warganegara (2014), the underpricing phenomenon can be explained by the investment sentiment hypothesis, where the initial yield in the "Hot Market" period is very high, causing the closing price on the first day to skyrocket compared to the initial offering price.

Although previous studies have explained the phenomenon of underpricing in Indonesia, it does not rule out the possibility of overpricing in the "Hot Market" period. Investor's sentiment and knowledge of the intrinsic value of IPO shares will certainly determine the initial return value. Stock prices of IPO companies with higher value uncertainty are more likely to be influenced by speculative behavior and investor's sentiment

(Baker & Wurgler, 2007). Song, Tan, and Yi (2014) in their study of 948 IPO companies for the period 2006-2011 in the Chinese capital market found that when intrinsic value was valued, there was an underpricing of around 13.6% and an overpricing of around 52.7%. These results consistently show that overvaluation is the largest proportion of the initial return on IPOs, indicating that the first day closing price that is overvalued by investors is more important in explaining the high initial return on Chinese IPOs than the offering price set low by the issuer.

### ***IPO Initial Return and IPO Volumes***

The hot market period in an IPO occurs when there is a large number of surges in new share offerings with a severe level of underpricing (Warganegara & Warganegara, 2014). Lowry and Schwert (2004) found that a high initial rate of return from an IPO in one period will be followed by a high volume of IPO in the following month.

The Indonesian capital market until 2019 has recorded 627 companies that are members of the Indonesia Stock Exchange, with the highest number of listings in 2018 as many as 57 companies. Thus, in 2018 Indonesia became the country with the highest number of additional issuers in Asia. Although Indonesia had the highest addition of issuers in Asia in 2018, it was not followed by a high level of market capitalization. This can indicate that market participants are less enthusiastic and optimistic about issuers on the Indonesia Stock Exchange.

Beatty (1989) also suggests other factors that have a negative relationship with IPO underpricing, i.e. underwriter's reputation and company's size. The selection of underwriters who have a good reputation is a signal that the company's IPO is handled by a competent party, so that it can convince investors that the underwriters who have a high reputation also have the experience, information, and knowledge of better market conditions (Kartika & Putra, 2017). The results of

### ***Determinants of Underperformance IPO***

Although the information asymmetry theory cannot fully explain the IPO underperformance phenomenon, it is the most often used theory to explain the IPO phenomenon. In Baron's model (1982), it is explained that investment bankers are the parties who have the most information compared to issuers (Yasa & Accounting, 2008). Rock (1986) explains that investors who have more information dare to offer higher IPO shares which they think are good, while investors who do not have enough information have difficulty in knowing the intrinsic value of shares because they do not have relevant information. This causes a higher ex-ante uncertainty. Beatty & Ritter (1986) stated that ex-ante uncertainty is positively related to IPO underperformance.

Previous researchers have proxied ex-ante uncertainty with firm age (Beatty & Ritter, 1986; Killins, 2019; Komenkul et al., 2017). Company's age can show how long the company is able to survive, where the longer company's age, the more information the public gets about the company (Djashan, 2018). Therefore, this condition will reduce the ex-ante uncertainty. The results of previous studies show that company's age has a negative effect on IPO underpricing (Ramadana, 2018; Thoriq et al., 2018), while many research results in Indonesia show that there is no effect between company's age and IPO underpricing (Djashan, 2018; Gunawan & Jodin, 2017; Harfadillah et al., 2020; Kristiantari, 2013; Warganegara & Warganegara, 2014).

previous studies showed a negative influence between underwriter's reputation and IPO underpricing (Putra & Sudjarni, 2017; Ramadana, 2018), but Robinson and Pangestuti's (2015) results showed a positive effect.

Large-scale companies generally have a low level of uncertainty, because large-scale companies tend not to be influenced by market conditions but rather to influence the market

(Djashan, 2018). This shows that large-scale companies are usually known by the wider community, so that people can easily obtain information about the company. Thus, the ex-ante uncertainty can be minimized. The results of previous studies showed a negative effect between company's size and IPO underpricing (Djashan, 2018; Gunawan & Jodin, 2017; Mayasari et al., 2018; Putra & Sudjarni, 2017; Ramadana, 2018), while according to Kurniawan (2017) there was no effect.

Investor's sentiment is one of the important factors that can explain the underperformance of the IPO according to Mumtaz et al. (2016). Ritter and Welch (2002) explained that when the market gives a positive reaction, it will trigger underpricing of IPO shares due to the increase in IPO stock returns. Investors tend to be irrational and very optimistic, even though they do not have sufficient information. Investor's sentiment is proxied by market volatility of market returns during the 30 days prior to the IPO (Rathnayake et al., 2019). The results of Rathnayake et al.'s (2019) study shows a positive influence between market volatility and initial IPO return.

Based on the literature review described above, the hypotheses in this study are:

H1= Company's age has a negative influence on initial return

H2 = Underwriter's reputation has a negative influence on initial return

H3= Firm size has a negative influence on initial return

H4= Market sentiment has a positive influence on initial return

## RESEARCH METHODOLOGY

### Research Data and Sample

The data used in this study were all companies that conducted initial public offerings (IPOs) on the Indonesia Stock Exchange (IDX) in 2018. 2018 was chosen as the year of data collection because 2018 showed the highest number of IPO implementations on the IDX, which indicates the "Hot Market" period. The total number of companies that conducted IPOs in 2018 was 57 companies, but only 56 companies whose data can be used, because there is one company whose data is incomplete.

All secondary data from the offering price variable, company's age, company's size, and underwriter ranking were obtained from the prospectus, financial statements, and company website. Meanwhile, all data related to the JCI was obtained from the official IDX website ([www.idx.co.id](http://www.idx.co.id)).

Table 1. Distribution of Samples by Type of Industry

Industry	Total IPO	Total of Share Volume (in million)
Agriculture	2	1204
Basics & Chemicals Industries	4	3118
Consumer Goods Industry	4	653
Finance	4	4371
Infrastructure, Utility, & Transportation	9	3395
Mining	2	640
Various Industries	3	841
Property, Real Estate, and Building Construction	8	8611
Trade, Services, and Investment	20	11002
Total	56	33834

Table 1 shows the sample distribution of 56 companies that conducted IPOs in 2018 by industry type. Based on the data in table 1, the types of companies that carried out the most IPOs in 2018 were the trade, services, and investment industries. Meanwhile, the least number of IPOs are the agriculture and mining industries.

## Operational Variable

### Dependent Variable

The dependent variable in this study is the initial return from companies that conducted an IPO on the IDX in 2018. Initial return is the difference between the closing stock price on the first day in the secondary market and the stock offering price during the public offering period, then divided by the share price of the initial offering.

Below is the formula for the initial return:

Initial Return = [(First day closing price of secondary market – Initial offering price) / Initial offering price] x 100%

If the initial offering price is lower than the closing price of the shares on the first day in the secondary market, there will be underpricing. However, if the initial offering price is higher than the closing price of the shares on the first day in the secondary market, there will be overpricing.

### Independent Variable

#### *Company's Age*

The variable of the company's age is measured using data on the length of time the company was established based on the company's deed of establishment listed in the prospectus. Company's age is measured using an annual scale.

#### *Underwriter's Reputation*

Underwriter's reputation is measured based on the ranking level issued by the IDX, where there are top 8 underwriters based on the IDX official website. Furthermore, a dummy value

will be set for the underwriter's reputation variable, where a value of 1 is for underwriters who have a high reputation (including the top 8 underwriters), while a value of 0 is for underwriters with low reputation (excluding the top 8 underwriters).

#### *Company's Size*

Company's size that shows the size of a company is measured by using the company's total assets. Company's size is proxied using the natural logarithm of the company's total assets in the last period before the company conducted an IPO (Jogiyanto, 2000 in Putra & Sudjarni, 2017).

#### *Market Sentiment*

Market sentiment refers to investor's sentiment which is reflected in market volatility. Market sentiment is measured by calculating the % change in the JCI price during the 30 days before the IPO (Rathnayake et al., 2019).

## Hypothesis test

The hypotheses in this study were tested using multiple linear regression with the following equation:

$$IR = \alpha + \beta \ln AGE + \beta RANK + \beta \ln SIZE + \beta SENT + \varepsilon$$

Note:

IR: *Initial Return*

$\alpha$ : Constant

$\beta$ : Regression coefficient

AGE: Company's age

RANK: Underwriter's reputation

SIZE: Company's size

SENT: Market sentiment

$\varepsilon$ : Standard Error

## RESULTS AND DISCUSSION

### *Descriptive statistics*

Testing the performance of the 2018 IPO on 56 companies that conducted IPOs on the Indonesia Stock Exchange is shown in Table 2, where as many as 53 companies experienced underpricing and only 3 companies experienced overpricing.

Table 2 IPO Performance (*Underpricing and Overpricing*)

Performance	Average IR	N
<i>Overpricing</i>	-13.90%	3
<i>Underpricing</i>	82.67%	53
<i>Fair Priced</i>	0.00%	0
<i>Overall</i>	77.50%	56

Table 2 shows the average initial return of companies that are included in the overpricing category is -13.9%, which means that companies that are included in the overpricing category have an average closing price of 13.9% lower on the first day than the

initial offering price. On the other hand, companies that are included in the underpricing category have an average closing price of 82.67% higher than the initial offering price.

Table 3 Characteristics of Initial IPO Return by Industry Sector

Industry	N	Mean	Sd	min	max
Agriculture	2	78.8%	12.4	70.0%	87.6%
Basics & Chemicals Industries	4	48.7%	42.9	-11.3%	87.1%
Consumer Goods Industry	4	150.1%	87.5	69.0%	253.7%
Finance	4	32.1%	38.2	-16.9%	68.9%
Infrastructure, Utility, & Transportation	9	82.8%	57.3	0.3%	185.5%
Mining	2	78.3%	13.1	69.0%	87.5%
Various Industries	3	68.9%	18.9	49.7%	87.5%
Property, Real Estate, and Building Construction	8	75.4%	40.6	6.0%	133.3%
Trade, Services, and Investment	20	77.3%	70.7	-13.5%	230.0%
Total	56	77.5%	60.3	-16.9%	253.7%

In Table 3, it can be seen that the average initial return in all industrial sectors is positive indicating that in all industrial sectors the closing price of the first day is on average higher than the initial offering price. This indicates the occurrence of the underpricing phenomenon which is one of the characteristics of the Hot market. The highest initial return is found in the Consumer Goods Industry sector

company with an average initial return of 150.1%. On the contrary, the lowest initial return is found in the financial sector company with an average initial return of 32.1%. Furthermore, to test the average initial return based on independent variables, comparisons were made using a nonparametric test.

Nonparametric test was used because the initial return data was not normally distributed.

Table 4. IPO Initial Return Characteristics Based on Independent Variables

Independent Variable	Category	N	Mean	StDev	p-value*
Company's Age	Old	32	70.3%	62.6	0.224
	Young	24	87.1%	56.9	
Company's Size	Large	32	61.0%	46.3	0.038
	Small	24	99.3%	70.2	
Underwriter's Reputation	Non-Reputable	37	91.7%	59.4	0.004
	Reputable	19	49.8%	53.2	
Market Sentiment	Negative	20	81.5%	52.2	0.407
	Positive	36	75.3%	64.9	

\*Kruskal-Wallis Test

Table 4 shows that companies with a young age have a higher average initial return than older companies, but the test results show that there is no statistically significant difference (p-value > 0.05) between the two. In the independent variable of company's size, companies with small sizes have a higher average initial return than companies with larger sizes, and the test results show that there is a statistically significant difference (p-value <0.05). Underwriters' reputation for companies that use unreputed underwriters have a higher average initial return than companies that use reputable underwriters, and the test results show that there is a statistically significant difference (p-value <0.05). In the

independent variable of market sentiment, companies that received a negative response had a higher average initial return than companies that received a positive response, but the test results showed that there was no statistically significant difference (p-value > 0.05).

**Verification Analysis**

Verification analysis was conducted to prove whether company's age, underwriter's reputation, company's size, and market sentiment had an effect on initial return as previously hypothesized. Statistical analysis used as a tool in drawing conclusions is multiple linear regression analysis.

Table 5 Bivariate Analysis of Relationships among Variables

	IR	Ln_Age	Rank	Ln_Size
<b>Ln_Age</b>	-0.131 0.334			
<b>Rank</b>	-0.332	0.001 0.012	0.994	
<b>Ln_Size</b>	-0.504 0.000	0.045 0.740	0.461 0,000	
<b>SENT</b>	-0.247 0.067	0.050 0.716	0.387 0.003	0.329 0.013

As presented in Table 5, it can be seen that all independent variables have a negative relationship with initial return. On the other hand, among the independent variables themselves, all of them are positively related.

Firm size has the strongest relationship with initial return (r = -0.504) and a probability value of 0.000, while firm age has the weakest relationship with initial return (r = -0.131) and a probability value of 0.334.

Table 6. Multiple Regression Estimation Results

Dependent Variable: IR

Included observations: 56

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	653.1850	172.1678	3.793886	0.0004
LN_AGE	-8.014375	8.738364	-0.917148	0.3634
RANK	-14.23677	17.59960	-0.808926	0.4223
LN_SIZE	-21.38443	6.799666	-3.144923	0.0028
SENT	-65.68456	221.0882	-2.612789	0.0670
R-squared	0.281604	Mean dependent var	77.49570	
Adjusted R-squared	0.225259	S.D. dependent var	60.28884	
S.E. of regression	53.06585	Akaike info criterion	10.86599	
Sum squared resid	143615.2	Schwarz criterion	11.04682	
Log likelihood	-299.2477	Hannan-Quinn criter.	10.93610	
F-statistic	4.997873	Durbin-Watson stat	1.910742	
Prob(F-statistic)	0.001779			

The estimation results of multiple regression in table 6 have met the classical assumption test. The normality test using the Jarque-Bera test obtained a probability value of 0.215 which is greater than 0.05. Then, in the multicollinearity test, the value of variance inflation factors (VIF) of each independent variable is less than 5. This indicates that there is no multicollinearity. Finally, the heteroscedasticity test using the white test obtained a probability value greater than 0.05 for the three types of tests, so it can be concluded that there are no symptoms of heteroscedasticity in the regression model.

Adjusted R-squared of 0.225 indicates that company's age, underwriter's reputation, company's size and market sentiment simultaneously have an effect of 22.5% on initial return.

#### *The Influence of Company's age on Initial Return*

Company's age has a negative coefficient. This indicates that companies with an older age tend to have lower initial return. Then, the test results in table 6 shows the probability value = 0.3634 > 0.05. Therefore, it can be concluded that company's age does not have an influence on the initial return of

companies that conducted IPO in the Hot Market period.

#### *The Influence of Underwriter's Reputation on Initial Return*

Underwriter's reputation has a negative coefficient. This indicates that companies with better reputations tend to have lower initial return. Then, the test results in Table 6 shows the probability value = 0.4223 > 0.05. Therefore, it can be concluded that the underwriter's reputation has no influence on the initial return of companies that conducted IPO in the Hot Market period.

#### *The Influence of Company's size on Initial Return*

Firm size has a coefficient with a negative sign. This indicates that firms with a larger size (large total assets) tend to have lower initial return. Then, the test results in table 6 shows probability = 0.0028 < 0.05. Therefore, it is concluded that company's size has an influence on the initial return of companies that conducted IPO in the Hot Market period.

#### *The Influence of Market Sentiment on Initial Return*



Market sentiment has a negative coefficient. This indicates that companies receiving a positive response from the market tend to have lower initial return. Then, the test results in table 6 shows the probability value =  $0.067 < 0.10$ . Therefore, it is concluded that market sentiment has an influence on the initial return of companies that conducted IPO in the Hot Market period.

## DISCUSSION

Testing the characteristics of initial IPO returns shows that the average initial return in all industrial sectors is positive, where the closing price on the first day is on average higher than the initial offering price. The test results indicate the underpricing phenomenon in IPO performance in Indonesia during the Hot Market period. The results of these tests were in line with studies conducted by Husnan et al. (2015), Irfani (2014), Warganegara and Warganegara (2014). The results of this study also support Ritter and Welch's (2002) theory of investor's sentiment, where the initial return will increase if investors are enthusiastic and give a positive reaction.

Furthermore, the results of hypotheses testing show that company's age and the underwriter's reputation have no influence on the initial return. This is in line with the studies of Djashan (2018), Gunawan and Jodin (2017), Harfadillah et al. (2020), Kristiantari (2013), Warganegara and Warganegara (2014), and Kartika and Putra (2017) for the underwriter's reputation variable. Company's age is used to represent current market conditions before issuing companies and investment bankers set a price quote, and this is found to be insignificant at the conventional level. Daniel (2002) has questioned the sensitivity of bid prices to recent movements in the market. The findings of this study confirm that in the "Hot market" period the market tends to respond positively to IPO offers and confirms its expectations, regardless of company's age or the reputation of the underwriter. Tests of company's size and market sentiment show a significant negative effect on initial return. The results of these tests are in line with the studies of Djashan (2018),

Gunawan and Jodin (2017), Mayasari et al. (2018), Putra and Sudjarni (2017), and Ramadana (2018) for company's size and Rathnayake et al. (2019) for market sentiment.

## CONCLUSIONS

## AND

## RECOMMENDATIONS

This study attempts to examine whether there was a phenomenon of underpricing that occurred in the "Hot Market" period in Indonesia in 2018, as well as to examine company's age, underwriter's reputation, company's size, and market sentiment as determinants of initial return. The test results indicate the occurrence of the underpricing phenomenon in the performance of IPOs in Indonesia during the Hot Market period. Therefore, the results of this study strengthen the previous studies regarding the underpricing phenomenon in the hot period in Indonesia. The test results also show that company's age and underwriter's reputation do not influence the initial return, but company's size and market sentiment influence the initial return.

The results of this study can provide input for investors and companies that will conduct an IPO. Investors can consider the factor of company's size and market sentiment when deciding to buy IPO shares in order to maximize profits. Furthermore, companies that carry out IPOs can consider that company's age and the underwriter's reputation do not necessarily influence the preferences of potential investors, but there are other factors that influence investors in making investment decisions. Furthermore, as a suggestion for future researchers, they can compare the determinants of initial return in hot periods in various capital markets in the world. This needs to be done because the characteristics and culture in which the market is located will show different influences.

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