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Underpricing Anomaly and Aftermarket Liquidity of IPOs: An Application on Indonesia Stock Exchange during The Covid 19 Period

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Abstract

Abstract: Underpricing occurs when the initial public offering price is lower than the stock's closing price on the first day in the secondary market. This study investigates the influence of IPO pricing and ownership retention against underpricing levels in Initial Public Offering at the Indonesia Stock Exchange (IDX). This study also examines the impact of IPO's underpricing on the aftermarket liquidity based on 167 qualified initial public offerings listed at the Indonesia Stock Exchange during the four years from 2019 to 2022. The proxy used to measure underpricing are initial return and market-adjusted abnormal return. This research uses 167 companies as samples. The sampling technique is purposive sampling. The result shows that the IPO pricing influenced the underpricing levels. The results prove that underpricing gets higher when the IPO pricing is closer to the upper limit of the price range offer. Meanwhile, ownership retention does not affect the underpricing level. The paper also found that IPO underpricing influenced the aftermarket liquidity in two periods: 7 and 30 days after the initial public offering.

Keywords: *Information Asymmetry; Underpricing; Initial Return; Market Adjusted Abnormal return; IPO Pricing; Ownership Retention; Aftermarket Liquidity*

Introduction

When internal capital is insufficient, companies will look for other funding methods. One of them is an initial public offering or IPO. Initial Public Offering (IPO) is characterized by the widespread share ownership structure being spread and concentrated. Zingales (1995) stated that the decision to go public is considered a step in which the owner sold the company. Many benefits can be obtained by the company which decides to become a public company. Aslan & Kumar (2010) stated that the company needs high investment, larger size, and the ratio of the high-to-book market more inclined to go public so that capital investment and profitability increase substantially after the IPO. Initial Public Offering is an option for companies that want a large enough capital price. However, the choice to conduct an IPO was full of consideration when it was carried out during the Covid 19 pandemi. At that time, Covid-19 met the criteria for a black swan event, namely a rare event that occurred suddenly and had a large and uncertain impact (Rosman & Yudanto, 2022). Meanwhile, investors who invest in the capital market have the opportunity to get returns according to the characteristics of the investment they choose without ignoring the risks of each investment they make (Ko'imah & Damayanti, 2020).

The World Health Organization declared the emergence of the Covid 19 virus in March 2020. A pandemic has caused an economic slowdown, a falling stock price index, and enormous volatility. In Indonesia, the Covid 19 pandemic has affected IPOs in three ways; 1) from the supply side, the Covid-19 pandemic has forced companies to hold back expansion due to a weakening economy; 2) from the demand side, investors tend to wait, and see because the pandemic increases risks in the capital market; 3) the Covid-19 pandemic has hampered issuers from conducting public offerings due to restrictions on social activities (OJK, 2021). OJK has issued regulations facilitating the IPO process during a pandemic, such as providing a 50% discount for the initial listing fee (ILF) of shares and the Self-Regulatory Organization (SRO). In 2021, there is an electronic IPO (e-IPO) to increase transparency and efficiency in the distribution of IPO shares. The total number of new issuers in 2020 is 51, fewer than last year's 55 companies. Indonesia is also ranked 6th globally, below the Shanghai stock exchange, which recorded 180 IPOs, Nasdaq with 119 IPOs, Shenzhen with 115 IPOs, Hongkong with 99 IPOs, and Japan with 54 IPOs (Indonesia, 2020). The IPO is essential because it allows the public to manage growth. On the other hand, going public has disadvantages, namely the costs of reporting, disclosure, and fear of being taken over (Jogiyanto, 2014). Prices that often occur in the primary market are lower than those in the secondary need (underpricing). Kuswanto (2021) stated that underpricing phenomenon still occurred during the pandemic period in Indonesia. There were differences in underpricing for companies that went IPO before and during the Covid-19 Pandemic, but the stock trading volatility was not different (Susilawati et al., 2022).

Several researchers have discussed the underpricing theories, including underpricing because of the information asymmetry. The information asymmetry occurred among market participants, including potential investors, both institutional and individual, issuers, and underwriters. According to (Rock, 1986), the cause of the information asymmetry is that companies have more information than the investor. Information asymmetry occurs because of unequal access to information dissemination among heterogeneous investors. Institutional investors are often considered to have more potential information than individual investors. The information asymmetry affects the offered price to investor in the book-building method.

The Book-Building method obtains complete public information, not only the listed information in the prospectus. Benveniste et al. (1995) stated that institutional investors are better than individual investors. The context is better; in this case, it leads to ownership of information. Potential investors express interest in the bid price and the number of shares offered. When potential investors consider that the stock is good, they tend to bid for a price close to the upper limit of the offer price range. They believed in quality and the signal that the shares offered had high intrinsic value. Conversely, when potential investors consider the stock not good, they bid the price near the bottom of the offer price range. Underpriced was also caused by firms that produce poor quality accounting information following asymmetric information theories only when allocation powers are in the hands of underwriters (Sonu, 2022).

Based on this, underwriters determine underpricing as a reward or incentive for investors because they have revealed the honesty of their information regarding the shares offered. According to Hanley (1993), during the book-building period, if the price of an IPO is greater or equal to the median of the bid price range, the cost of shares formed in the primary market will be more underpriced. Underpricing is greater when IPO pricing is closer to the upper limit of the offer (Utamaningsih, 2013). Another theory to explain underpricing is the signaling theory. Franklin & Gerald (1989) stated that the initial shareholders did underprice at the IPO to provide positive signals to potential investors.

Sometimes the issuer wanted that to happen because underpricing can spread ownership and improve the aftermarket liquidity. Issuers wish IPO shares to be underpriced because they want them to be liquid after the IPO (Booth, 1996). Liquid stock will make that stock reach a fair price and make issuers more confident in further financings, such as the right issue and seasoned equity offering. According to Brennan & Franks (1997), one of the benefits of underpricing is the excess demand generated that can allow the issuer to do a share allocation in a discriminatory manner to distinguish prospective investors so that it can reduce the emergence of large purchases of shares after the IPO.

In addition to the initial stock price setting, ownership retention is the second variable to see the phenomenon of underpricing in the Indonesian capital market. Ownership retention is the ownership of shares held by shareholders before the IPO. The greater retained ownership is often considered a positive signal of the company's prospects. In addition, the proportion of shares held indicates that the old owner has positive beliefs about the opportunities and success of the IPO. The confidence shown by their actions owns more shares to avoid an enormous transfer of wealth from existing shareholders to potential new shareholders. The proportion of shares held by the old owner implicitly implies that the old owner has more inside information than what is shared with the public or potential investors. Increasing ownership retention will limit the number of shares traded, and it can reduce information circulating in the market because little information causes information asymmetry among heterogeneous investors. The availability of uneven information causes more significant uncertainty. The less current information in the market causes prospective investors to want compensation for the uncertainty (Safitri, 2012). The compensation is referred to the existence of high underpricing and initial return. The reason for using these two independent variables is that the two variables are strong signals in responding to the occurrence of information asymmetry, which can lead to underpricing.

This study also examined the effect of underpricing on aftermarket liquidity. The occurrence of underpricing is often derived from the will of the underwriters to ensure that IPO shares can be sold entirely so that the risks borne by the underwriters will decrease if there are unsold shares. But besides the will of the underwriter, the occurrence of underpricing is also a will from the issuer because they want claims to become liquid traded after the IPO. Increasingly liquid stocks result in a reasonable stock price, making the issuer more confident in further financings such as a rights issue and seasoned equity offering. This study aims to reexamine the effect of underpricing on the company's stock liquidity after conducting an IPO by including several variables that theoretically affect liquidity as a control variable. These variables include the level of risk per company, price, and trading volume. Previous research has been carried out in developed countries, and only a few have focused on developing countries. This research tries to test it in developing country capital markets like Indonesia during the Covid-19 crisis. Liquidity is an essential characteristic for investors before investing their capital. Therefore, knowledge of factors that affect liquidity in emerging markets will help them make investment decisions even in the middle of the crisis.

Liquidity is the ability of the market to absorb large transaction volumes without causing excessive price volatility. This liquidity will show the ability to quickly transact large amounts of securities with low costs (Khodavandloo, 2016). After identifying underpricing, this study examines the effect of underpricing and aftermarket liquidity. Liquidity is essential in the sustainability of shares of companies that conduct IPOs on the secondary market during a crisis. This research is expected to discuss underpricing and aftermarket liquidity comprehensively. Overall, this research is expected to provide benefits both empirically and for parties related to decision-making policies/processes, such as investors, underwriters, and issuers.

Theoretical Foundations and Hypothesis Development

Theory of Information Asymmetry

Information asymmetry is a condition where the agent has more information about the prospect of company than the principal. Jogiyanto (2014) stated that information asymmetry is private information only owned by informed investors. The underwriter has complete details on the market so that the underwriters can use it to make a maximum IPO price agreement. The maximum price is a price that can minimize the risk borne by the underwriter if the shares are not all sold. In offering stock prices, the information held by each party is important because the better the stock information is thrown, the higher the stock price can be provided.

Signaling Theory

Signaling theory explains the importance of every piece of information the company issues will influence investor decisions in determining investment decisions. The signals are in the form of financial or non-financial information. Management tends to reveal good news as disclosed information to investors so that it can be a signal in investment decisions. Underwriters and issuers use positive signs to reduce the uncertainty. Good-quality companies tend to deliberately give a sign to the market, so the market can tell which companies have good quality and which have poor quality. Allen & Faulhaber (1989) stated that poor-quality companies could not easily imitate companies of good quality in underpricing because the next period's cash flow will reveal the type of company (good or bad). They avoid underpricing costs that are too high.

Some control variables used in this study include company size, financial leverage, risk, price, and volume. The first control variable is the company's size, where the more significant the company's scale, the more accessible access to information obtained, and ultimately can minimize the uncertainty that exists. The second control variable is financial leverage stating that the greater the DER or debt-to-equity ratio of the company, the greater risk borne by the company. The company uses more loans or debt in its activities rather than using its capital. When the risk is more considerable, it will negatively influence investors regarding the decision to purchase these shares on the primary market. Third is the level of company risk. According to Li et al. (2005), the smaller the share risk and the more promising the return obtained by the investment, the higher the liquidity. Fourth is the stock price. Price describes the trade costs of a stock. Prices are calculated based on the average bid-ask difference of daily price after the IPO. According to Li et al. (2005), the higher the price and the lower the liquidity of a stock, the greater the cost to be borne. Last is the volume trade, which describes the average number of daily shares. According to Li et al. (2005), the increasing number of shares traded will make the company's shares more liquid.

The IPO Pricing and Underpricing

Underpricing is considered a reward or incentive to investors for the honesty of information they have revealed, given the diverse information asymmetry among investors. Hanley (1993) stated that changes in bid prices during the registration period to a higher level are partial price adjustments. As stated in the prospectus, the underwriter will revise the initial estimation price to a higher level. However, underwriters do not fully adjust prices to a higher level to keep underpricing constant when stock demand increases. Bradley & Jordan (2002) divide total adjustment into two components: pre-

offer adjustment and final adjustment. The division is intended because there is an opportunity to get potential information. This pricing process is often seen as a means of getting more complete public information. A price offer that is closer to the upper limit of the offer price indicates that investors have a positive sentiment toward the issuer. The underwriters establish total commitment contracts where they are fully responsible for the shares offered to the public.

The high initial return indicates a positive market reaction to new shares traded. This positive reaction is characterized by initial stock price fixing in the book-building period, which is closer to the upper limit of the price range. Utamaningsih (2013) stated that stocks would be increasingly underpriced when the initial stock price setting approaches the upper limit of the offer. The investor's optimistic behavior is information for underwriters so that underwriters will determine the strategic price that allows underpricing as a reward for investors who have revealed honesty about the information they have. When market responses and investors are the opposite, so the underwriters can only get some potential information. In the end, underwriters cannot determine strategic prices related to underpricing. Therefore, the initial stock price setting is essential in supporting underpricing. Based on the description above, the research hypothesis is formulated as follows:

H1: The more bid price is closer to the upper limit, the more underpriced the IPO shares will be.

Ownership Retention and Underpricing

The high proportion of ownership by the old shareholder (pre-owner) shows the existence of inside information owned or held by the pre-owner, and only a little knowledge is shared with the prospective shareholder (investor). The lack of information will produce a higher level of uncertainty for potential investors and cause prospective investors to want compensation in the form of underpricing of uncertainty. The more significant proportion of shares held by the pre-owner indicates that investor’s confidence in the price is too low, which then causes the transfer of wealth from the old shareholders to prospective new shareholders. When the old owner holds a large amount, it reflects the trust and confidence of the old owner in the company's prospects. Old shareholders tend to want to enjoy the success of IPOs with a more significant proportion without having to divide large amounts with prospective new shareholders.

Sing & Van Der Zahn (2008) states that the proportion of ownership by the old owner is a good signal for investors and indicates that the old owner has better information so that it can increase the company's credibility based on the contents in the IPO prospectus. There is also an assumption that the company owner will keep ownership if the owners believe the company will have good prospects. The proportion of holdings held also illustrates the level of trust of management and old shareholders in the success of the IPO. Pahlevi (2014) stated that the large percentage of shares held by the old owner causes prospective new shareholders to seek compensation for the costs incurred to reduce the uncertainty. The compensation referred to in this case is the existence of high underpricing and initial return. Li et al. (2005) stated that ownership retention positively affects underpricing. Based on the description above, the research hypothesis is formulated as follows:

H2: The higher the proportion of ownership held by the old shareholders (ownership retained by the issuer) the more underpriced IPO shares will be.

Underpricing and Aftermarket Liquidity

Underpricing is a signal of a value. These signals can lead to positive or negative directions. Underpricing provides attractive incentives for uninformed investors who fear the winner's curse because of the high level of information asymmetry in the IPO (Rock, 1986). Underpricing cannot eliminate allocation bias, where institutional investors get more share allocations because they are more credible than individual investors. However, in the short term, uninformed and informed investors will be attracted by the underpricing signal so that it can generate higher stock liquidity after the IPO. The high initial return not only sends signals about the quality of the company to uninformed investors but also causes positive investor sentiment in the early days after the IPO and creates enthusiasm for the company that can survive in the long term because of the effect of cascades in the IPO (Pollock et al., 2008). The cascade perspective is the social influence on the IPO market, which shows that later investors will follow other investment decisions to benefit from fragile information (cascade information) (Pollock et al., 2008).

When having limited information, investors tend to follow the movements of other investors in making investment decisions that will ultimately ignore their signals and follow the majority decision (herding behavior) and form an "information cascade." Underpricing incentivizes prospective investors to express their interests honestly in offers, so underpriced IPOs have a significant value on higher trading volumes after the IPO. Another explanation about underpricing is that it can be a promotional medium to increase potential investors' interest in the company's shares. Investors becoming interested in the underpriced price will increase trading volume directly without intermediaries, as stated in the investor attention hypothesis. When there is underpricing, the investors are interested in the stock so that more trading volume can trigger high liquidity. This liquidity measurement is very diverse, namely turnover ratios and spread percentages. Alp et al. (2022) shows that high-frequency trading increases liquidity. Underpricing has a positive effect on the turnover ratio and a negative impact on the rate of spread (Zheng & Li, 2008). Sminor & Mowen (2013) stated that greater underpricing would increase aftermarket liquidity Based on the description above, the research hypothesis is formulated as follows:

H3: The more underpriced IPO shares, the higher the level of aftermarket liquidity.

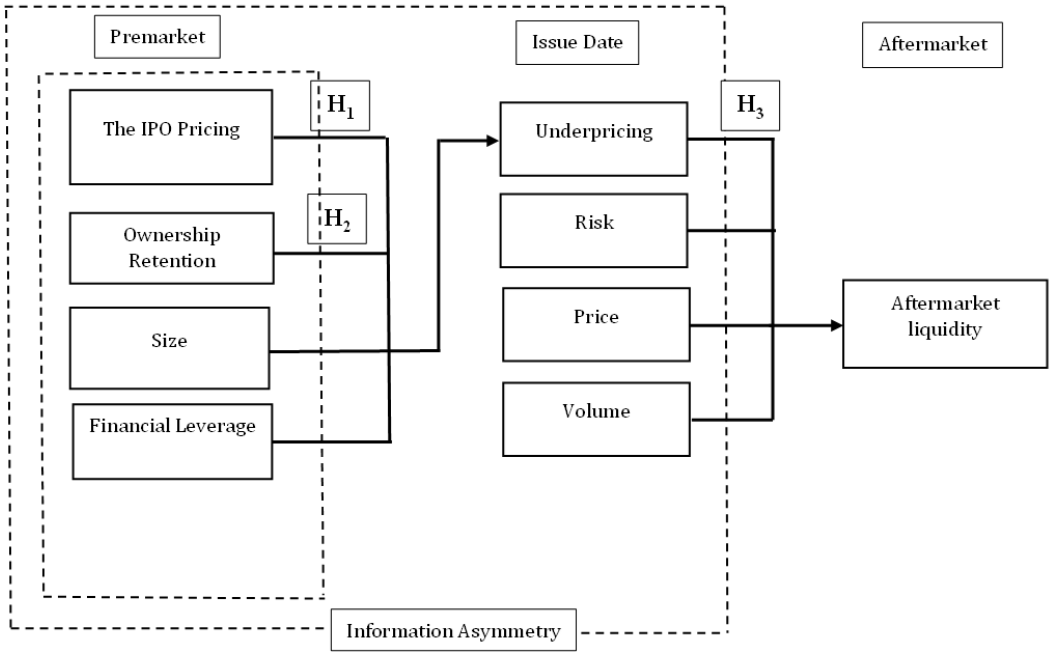

Figure 1. Research model

Research Method

This study uses secondary data. The secondary data is in the form of a company prospectus conducting an IPO from 2019 to 2022. In addition, this study also uses data from the Indonesia Stock Exchange (www.idx.co.id) and The Indonesia Capital Market Institute (TICMI). The research sample was 167 companies that conducted an initial public offering. The sampling method used is non-probability sampling with purposive sampling. The needed data are the stock offering price during the premarket period, the closing price on the first day, the market index at the time of bidding, the total stock, the number of shares offered to the public, the total transaction, the volume daily trading, number of shares outstanding, bid price, ask price, total assets, total debt, and total equity.

Empirical Measures

Dependent Variables

There are two dependent variables in this research depending on the hypothesis testing. For the first and second hypothesis testing, the dependent variable is underpricing. Meanwhile, the dependent variable for the third hypothesis testing is aftermarket liquidity. Underpricing measurement uses two proxies: initial return and market-adjusted abnormal return. The purpose of using these two proxies is to represent the level of underpricing accurately. The abnormal return calculation model uses the used equation by (Aggarwal, 1993). Meanwhile, liquidity measurement has many dimensions, but this research used percentage spreads and ratio turnovers.

Independent Variables

Two independent variables for the first and second hypothesis testing are IPO pricing and ownership retention. Measurement for the pricing variable against the price range of the initial offering

uses the measurement model from Sinurat (2018), namely the difference between the initial offering price at the time of the IPO and the expected value of the offering price range. The median value is obtained by dividing the upper and lower price ranges. If the difference obtained is positive, it can be interpreted that there is a tendency towards the upper limit and vice versa. The movement is towards the lower price range limit if it is negative. Ownership retention is measured by the difference in the percentage of total shares minus the percentage of shares offered to the public (Widarjo, W., Bandi., dan Hartoko, 2010). Thus, this research used underpricing as an independent variable to test the third hypothesis.

Control Variables

Size dan financial leverage will be used as control variables for testing the first and second hypotheses. Meanwhile, the control variables for testing the third hypothesis are price, trading volume, and risk. Testing of hypotheses 1 and 2 is controlled by company size and financial leverage. Then testing of hypothesis 3 aftermarket liquidity as a dependent variable using two proxies, the spread percentage and turnover. Hypothesis 3 is controlled company risk, price, and trading volume. For details proxies, here is the table for measurement:

Table 1. Measurements

Variables	Measurements	
Dependent Variables		
Initial Return	IR = $\frac{(Pt_1 - Pt_0)}{Pt_0}$	Initial return is calculated by dividing the difference between the closing price and the bid price on the first day by the bid price (Aggarwal, 1993). Pt_1 = closing price on the first day Pt_0 = bid price
Market Adjusted Abnormal Return	Calculating return per share $R_{it} = \frac{Pt_1 - 1}{Pt_0}$ Calculating market returns $Rm_t = \frac{Pm_t - 1}{Pm_0}$ Calculating market adjusted abnormal returns MAARt = 100x $\frac{(1+Rit)}{1+Rmt} - 1$	R_{it} = total *return* P_{it} = closing price at t P_{i0} = share price at the time of offering Rm_t = total market returns Pm_t = market index at t Pm_0 = market index at the time of bidding
Turnover	$\frac{\textbf{Trading volume}}{\textbf{Number of outstanding shares}} \textbf{ x 100\%}$	Turnover ratio is the daily trading volume divided by the shares offered. A high turnover ratio indicates high liquidity
Spread	$\frac{\textbf{Ask price} - \textbf{Bid price}}{(\textbf{Ask price} + \textbf{Bid price}) / \textbf{2}} \textbf{ x 100\%}$	A low spread percentage indicates high liquidity.
Independent Variables		
IPO Pricing	Pe = $\frac{P_1+P_0}{2}$ AJUST = P_a - P_e	Determining the price range for the initial offering price range is by using the measurement model from (Sinurat, 2018), which is the difference between the initial

		offering price at the time of the IPO and the expected value of the offering price range. P1 = the highest bid price during the premarket period. P0 = the lowest bidding price during the premarket period Pe = the midpoint of the bid price Pa = initial offering price
Ownership Retention	$\frac{\textbf{Total shares} - \textbf{Total shares offered}}{\textbf{Total shares}}$	The percentage of ownership retention is measured from the difference the total percentage of shares reduced by the total percentage of shares offered to the public (Widarjo, W., Bandi., dan Hartoko, 2010).
Initial Return	IR = $\frac{(Pt_1 - Pt_0)}{Pt_0}$	Initial return is calculated by dividing the difference between the closing price and the bid price on the first day by the bid price (Aggarwal, 1993). Pt_1 = closing price on the first day Pt_0 = bid price
Market Adjusted Abnormal Return	Calculating return per share $R_{it} = \frac{Pt_1 - 1}{Pt_0}$ Calculating market returns $Rm_t = \frac{Pm_t - 1}{Pm_0}$ Calculating market adjusted abnormal returns MAARt = 100x $\frac{(1+Rit)}{1+Rmt} - 1$	Ri_t = total *return* Pi_t = closing price at t Pi_0 = share price at the time of offering Rm_t = total market returns Pm_t = market index at t Pm_0 = market index at the time of bidding
Control Variables		
SIZE	SIZE = ***LN*** (***Total a***ssets)	The size of the company can be seen through the total value of the company's assets in the last period before the company made an initial public offering.
Debt to Equity Ratio (DER)	$\frac{Total\ Debt}{Total\ Equity}\ x\ 100\%$	The measurement of financial leverage is by using the debt-to-equity ratio (DER), which is the ratio of the total debt to the total equity of the company when the company makes its initial offering.
Risk	Risk = $\sqrt{\sum \frac{(Ri-\bar{R})2}{n-1}}$	The company's risk level is calculated using the standard deviation of the daily return based on the closing price. R_i = Daily stock return $\bar{R}$ = $\frac{Today's\ closing\ price - Previous\ closing\ price}{Previous\ closing\ price}$ R = Average stock return

		n = The number of observations
Price	The average difference between the bid-ask price after the IPO	Price shows the amount of trading costs of a stock
Volume	The average of the daily number of shares traded	

Data and Analysis

This study uses ordinary least squares regression (OLS) using the Eviews 10 statistical tool. Testing The first and second hypotheses were carried out to test the effect of initial share pricing and ownership retention on underpricing. Testing the third hypothesis is to examine the impact of the independent variable (underpricing) on the dependent variable (aftermarket liquidity). The equation to test the hypothesis is as follows.

$$UNDPRIi = \alpha i + \beta 1\ AJUSTi + \beta 2\ OWNERi + \beta 3\ SIZEi + \beta 4\ DERi + ei \quad (1)$$

$$LIQi = \alpha i + \beta 1\ UNDPRI2i + \beta 2\ RISKi + \beta 3\ PRICEi + \beta 4\ VOLi + ei \quad (2)$$

Note:
UNDPRIi = Underpricing Dependent Variable
LIQi = Dependent Variable Aftermarket liquidity
AJUSTi = Independent Variable for Determining Initial Share Prices
OWNERi = Independent Variable Ownership Retention
UNDPRI2i = Independent Variable Underpricing
SIZEi = Company Size Control Variable
DERi = Financial Leverage Control Variable
RISKi = Company Risk Level Control Variable
PRICEi = Stock Price Control Variable
VOLi = Trading Volume Control Variable
β1 – β4 = Regression Coefficient
αi = Constant
ei = Error

Results

Descriptive Statistic

The samples in this study are 167 companies. Table 2. below summarizes the descriptive statistics of the sample. The underpricing variable calculated using two proxies, namely initial return, and MAARt, has an average of 0,2997 and 0,2985. The average positive coefficient indicates that the stock price on the first closing day on the secondary market is higher than the primary market price, or it can be said that there is underpricing of 29,97% and 29,85%. While the standard deviation of 0,2300 and 0,2336 indicates that the size of the data fluctuations from underpricing is smaller than the average value. Furthermore, the results of the descriptive analysis for the initial public offering (AJUST) show an average of -1036,527 with a standard deviation of 33,6610. At the same time, the ownership retention variable shows an average of 0,7880, indicating that the average number of shares held by old shareholders is quite a lot.

The results of the descriptive analysis for the company size variable have an average of 24.0496. In contrast, the standard deviation is 4,6598. Financial leverage is a percentage comparison between total liabilities and total equity. This ratio has an average value of 2,1815, showing that the average company has a liability of 218,15% of all its capital. The results of the descriptive analysis for the variable spread day on 7 showed an average of -0,2728, while the spread for day 30 had an average of 0,0433. The turnover variable averages 0,0326 on day 7 and 0,0192 on day 30.

Furthermore, the risk variable is a variable in testing the third hypothesis, which has an average value of 4,1022 on day 7 and an average of 7,8764 on day 30. The following variable is the price which is the average difference between the company's daily bid-ask. Statistical analysis data showed that these variables averaged 100,1681 on day 7 and 3,9921 on day 30, with a standard deviation of 403,0220 and 149,5115, respectively. Lastly is the volume variable, calculated by the average daily number of company shares traded. Statistical analysis data showed an average of 1,2000 on day 7 and 76.226.020 on day 30, with a standard deviation of 3,6000 and 2,7200, respectively.

Table 2. Descriptive Statistic

Variable	Days	N	num	num	Median	Mean	Std. Deviation
INITIAL RETURN		167	-0,1333	0,7000	0,344	0,2997	0,2300
MAART		167	-0,1273	0,8264	0,3206	0,2985	0,2336
AJUST		167	-2,950,000	35,0000	-1,500,000	-1036,527	33,6610
OWNER		167	0,4468	0,9995	0,8000	0,7880	0,0945
SIZE		167	10,2679	30,8612	25,4301	24,0496	4,6598
SPREAD	7	167	-2,000,000	1,7164	0,0034	-0,2728	0,8648
	30	167	-1,197,813	1,2060	0,0083	0,0433	0,3583
TURNOVER	7	167	1,0200	0,3450	0,0145	0,0326	0,0448
	30	167	3,7300	0,1597	0,0098	0,0192	0,0271
RISK	7	167	0,0000	24,6752	2,8641	4,1022	3,4240
	30	167	0,8943	48,5023	7,2599	7,8764	4,8061
PRICE	7	167	-2,625,714	4720,000	1,8571	100,1681	403,0220
	30	167	-1,100,333	1346,500	-2,200,000	3,9921	149,5115
VOLUME	7	167	2171,429	4,4200	46628957	1,2000	3,6000
	30	167	7920,000	3,3600	25674590	76226020	2,7200

Discussion

IPO Pricing and Underpricing

The results in Table 3. show that the initial share price setting has a significant positive effect on underpricing with the MAART proxy. Regression results with the MAARt proxy obtained a mark of 0,0009* with a significance level of 10%. The results of this study replace the models from (Benveniste & Spindt, 1989) and (Benveniste et al., 1995). This empirical result also reinforces the results of research conducted by (Utamaningsih, 2013) that underpricing will be more substantial when the initial share price is near the upper limit of the offering price range. Previous research also found similar results from (Hanley, 1993). Table 3. shows the results of testing with OLS, where the initial share price setting is a means of obtaining information from investors with various backgrounds. At the time of book-building, investors who tend to bid close to the upper limit of the offering price range have indirectly expressed their honesty and confidence regarding the IPO prospects. Underwriters who undergo full commitment contracts with issuers certainly capture this information, so they agree with the issuer to set prices that tend to be underpriced. The underpriced price is a reward or incentive for investors who have disclosed truthful information regarding the initial public offering during book-building. Empirical data in this study support that the level of underpricing will be higher when the

initial share price is closer to the upper limit of the offering price range. Therefore, the share price contained in the concise prospectus is determined by considering information during the book-building period. Based on these empirical results, the first hypothesis is supported.

Table 3. Regression Result (1) (2)

	INITIAL RETURN (1)	MAART (2)
Variabel Independen		
AJUST	0,0008	0,0009*
	0,1294	0,0943
OWNER	-0,5451***	-0,0574***
	0,0033	0,0022
Variabel Kontrol		
SIZE	0,0088**	0,0093**
	0,0230	0,0172
DER	0,0045*	0,0045*
	0,0712	0,0740
Adjust R^2	0.0747	0,0836
F-Statistic	4.3482***	4,7850***
(prob)	0.0023	0,0011
N	167	167

This table presents the multivariate regression results of hypotheses 1 and 2, investigating the association between IPO Pricing, ownership retention, and underpricing. Columns (1, 2) present the results of estimating Eq. (1) separately for the regulation period (2019-2022). Robust t-statistics are reported in brackets. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Ownership Retention and Underpricing

The results in Table 3. show that ownership retention influenced underpricing. Regression results using initial return and MAARt proxies show a significantly negative coefficient. This result contradicts with the signaling theory, which states that significant uncertainties among investors lead to higher levels of underpricing. These results are different from research from Safitri (2012), which says that the lack of inside information on the market causes potential investors to want compensation for the uncertainty. The compensation referred to in this case is underpricing and high initial returns, so private information did not support underpricing. The empirical result shows that the high number of shares held do not determine the uncertainty of future returns, and investors did not estimate abnormal return. However, the results of this study are different from research from Saputra (2011), where the percentage of shares held does not affect the level of underpricing. The large number of shares held indicates the belief of old shareholders not to share their wealth with new shareholders. According to Pahlevi (2014), investors will purchase shares offered to the public not oriented towards the number of shares provided but how much the value of the stock offering is. This explanation also supports the results of the first hypothesis, which states that the initial share price setting has more influence on the level of underpricing. The higher the proportion of ownership held by the old shareholders (ownership retained by the issuer) the less underpriced IPO shares will be. Based on the empirical results, the second hypothesis is not supported.

Underpricing and Aftermarket Liquidity

The third hypothesis of this study suspects that lower prices will cause aftermarket liquidity levels to increase. The results in Table 4. show that underpricing, which is proxied by initial returns, and MAART does not affect aftermarket liquidity, which is proxied by turnover. However,

underpricing, which is proxied by both initial and MAART, affects aftermarket liquidity, which is proxied by spreads for 7 days and 30 days after listing. This study took two post-listing periods to test and show the consistency of the results. The first period is 7 days after listing, and the second is 30 days after listing on the Indonesia Stock Exchange. The two periods are accurate enough to show the consistency of the results from aftermarket liquidity.

Based on empirical testing, it was found that the results were not significant using the turnover proxy on the 7-day and 30-day periods. In contrast, the spread proxy showed a (negative) theoretically and statistically appropriate direction. The higher the level of underpricing or the more underpriced a price, the higher the liquidity. The negative sign means that the low spread level indicates a slight difference between the selling and buying prices, making it easy for investors to invest according to the price they want. This empirical data supports the third hypothesis, where underpricing affects aftermarket liquidity. This study's results align with an investigation by Zheng & Li (2008), which states that the initial return is negatively related to the spread percentage. This study also strengthens the results of research from Khodavandloo (2016) which states that initial return has a negative effect on aftermarket liquidity by using the measurement of Amihud's illiquidity factor. Based on the explanation above, the regression results support the third hypothesis, which states that underpricing affects the level of aftermarket liquidity.

Control Variables

Based on Table 3, the company size proved significantly positive for underpricing with initial return and MAART. It indicates that the larger the size of the company will increase underpricing. The second control variable is financial leverage which shows significant results on underpricing. Financial leverage means that investors also look at and focus on the company's internal factors, such as the proportion of the debt-to-equity ratio. In addition, investors assess the company before deciding to invest in terms of the company's risks in fulfilling obligations and the ability to generate profits. The third control variable is a risk, which affects aftermarket liquidity in the 7-day and 30-day post-listing periods with different coefficients. That indicates that a company's risk level affects the level of aftermarket liquidity that occurs after listing.

Meanwhile, the following control variable is volume, measured by the average daily number of shares traded. The test results show that volume does not significantly affect aftermarket liquidity on the day 7 post-listing period. Meanwhile, the volume has a significant positive effect on aftermarket liquidity in the 30 post-listing periods. The higher the volume, the higher the aftermarket liquidity level. The last control variable is price, found to have a significant negative impact on aftermarket liquidity in the day 7 post-listing period; this indicates that the higher the trading costs, the lower the aftermarket liquidity level that occurs, while the price is found not to affect aftermarket liquidity 30 days post-listing.

Table 4. Regression Result (3)

	7 HARI PASCA LISTING				30 HARI PASCA LISTING			
	SPREAD (1)	**SPREAD (2)**	**TURNOVER (1)**	**TURNOVER (2)**	**SPREAD (1)**	**SPREAD (2)**	**TURNOVER (1)**	**TURNOVER (2)**
Variabel Independen								
INITIAL RETURN	-1,456115***		-0,00076		-0,337707***		-0,00462	
	0		0,9607		0,0065		0,629	
MAART		-1,396588***		-0,00019		-0,319408***		-0,00461
		0		0,9902		0,009		0,6235
Variabel Kontrol								
RISK	-0,030380*	-0,030167*	0,000172	0,000168	0,004486	0,00428	0,000953**	0,000954**
	0,0925	0,0966	0,8662	0,8692	0,4438	0,4657	0,0371	0,0369
PRICE			-1,67E-05*	-168E-05*			-1,81E-05	-1.81E-05
			0,0563	0,0556			0,1986	0,1971
VOLUME	1,94E-10	1,94E-10			2,69E-10***	2,69E-10***		
	0,2568	0,2593			0,0072	0,0073		
Adjusted R2	0,171837	0,163965	0,004865	0,004851	0,076302	0,072958	0,018175	0,01822
F-Statistic	12,481187***	11,852007***	1,270519	1,269742	5,570819***	5,354714***	2,024301	2,026903
(prob)	0	0	0,286317	0,286585	0,001156	0,001528	0,112553	0,112184
N	167	167	167	167	167	167	167	167

Conclusion

This study examines the effect of initial share pricing and ownership retention on underpricing and the impact of underpricing on aftermarket liquidity after listing on the Indonesia Stock Exchange during pandemic Covid-19. IPO share pricing has been empirically proven to affect the level of underpricing. Underpricing will be higher as the stock offering approaches the upper end of the offering range. Investors' confidence and information regarding the offering made issuers, and

underwriters set underpriced prices as compensation for information disclosure. This result is in line with the results of Utamaningsih (2013), which stated a positive effect of IPO stock pricing on underpricing. While empirically proven ownership retention negatively affect underpricing. This research also shows that underpriced stock prices are proven to increase aftermarket liquidity after listing on the Indonesia Stock Exchange. Underpriced prices are increasingly attractive to investors, causing oversubscriptions.

This research provides several contributions, including the first in the field of Financial Management, especially in terms of IPO investment decisions. The contribution of the results of this research can be utilized by IPO investors in Indonesia, especially when considering investing (buying shares in the primary market) and selecting investment target companies carefully. Both contribute empirically as a complement to existing gaps from the results of previous research and complement it with the latest data so that interested parties can use it as reference material. The three studies contribute to interested parties such as issuers, underwriters, and investors in considering what steps affect the level of underpricing.

This research has advantages and limitations. This research's benefits have strengthened previous research results regarding the factors. This research has proven to affect underpricing and aftermarket liquidity significantly. Tests in this study have also controlled for several variables that have influenced the level of underpricing. This research has its limitations. One is that this research is limited to the sample and period used. This research uses 167 IPO companies during the period 2019 to 2022. This research also does not discuss other factors that influence the occurrence of underpricing, especially macro factors. Also, other variables that affect underpricing need to be examined, such as variables that reflect macroeconomic conditions, for example, bank interest rates or inflation rates. Further research can include research at the aftermarket level, such as the level of post-listing stability on the Indonesian Stock Exchange.

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