



Asymmetric information moderation on the effect of institutional ownership on the oversubscription phenomenon of companies listed on the Indonesian stock exchange 2020-2022

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ABSTRACT

This study examines the effect of institutional ownership on IPO oversubscription in the Indonesian capital market, explicitly addressing the role of asymmetric information both as an explanatory factor and as a potential moderator. Drawing on signaling theory and information asymmetry theory, the study contributes to the IPO literature by empirically testing whether institutional investors serve as credible signals under conditions of uneven information distribution. Using a sample of 96 oversubscribed IPO firms listed on the Indonesia Stock Exchange during 2020–2022, multiple regression and moderated regression analysis are employed. The findings show that institutional ownership and asymmetric information each exert a positive and economically meaningful effect on oversubscription, while asymmetric information does not significantly moderate the institutional ownership–oversubscription relationship. This result fills a gap in the literature where asymmetric information has largely been treated as either a direct determinant or a conceptual argument, rather than a tested moderating mechanism. The findings imply that heightened information frictions may amplify speculative demand rather than dampen investor participation, with important implications for IPO pricing, disclosure quality, and investor protection in emerging markets.

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1. INTRODUCTION

For years, initial public offerings (IPOs) have been the primary choice for companies to raise external capital. This preference for capital acquisition may be driven by the attractiveness of the stock market, which offers high initial returns and greater liquidity compared to the bond market. However, despite this attractiveness, investors' willingness to purchase IPO shares depends on a rational evaluation of the IPO's quality. This is because some relevant information about the IPO issuer may not be readily and readily available prior to the listing (Drobotz et al., 2025). In IPOs, a condition known as oversubscription often occurs, where potential investors' subscriptions exceed the number of shares offered by a company (Rasyad et al., 2022).

The occurrence of oversubscription is certainly influenced by various factors. Research conducted by (Arora & Singh, 2020) found that the offering price, pricing mechanism, number of

shares offered, and registration delay negatively influenced oversubscription. Meanwhile, company size, underwriter reputation, market hotness, and underpricing positively influenced oversubscription. Oversubscription is known to occur due to signaling theory (signals from company information leaks), sharia compliance status, corporate image (company reputation), company expansion, and financial performance.

(Rasyad et al., 2022) research explains that oversubscription during an IPO can be influenced by institutional ownership and asymmetric information. Recognizing the negative consequences of information asymmetry, issuers often seek effective ways to signal their company's quality to investors. One way is by proactively encouraging greater participation from institutional investors.

(Yahaya, 2025) explains that in the context of the influence of institutional ownership on oversubscription, the presence of asymmetric information can also act as a moderating variable. This is because the phenomenon of oversubscription in IPOs often occurs in the context of fixed prices, which are prone to asymmetric information (Yahya et al., 2025). Asymmetric information itself is a condition that indicates the existence of unequal information circulating between internal and external parties of the company. Furthermore, this conflicting information condition can lead to the phenomenon of oversubscription. (Sitohang et al., 2023), (Immanuel & Imelda, 2024), (Haninewi, 2019), (Sparta & Firdaus, 2023), (Waluyo & Parasetya, 2021) found through their research that asymmetric information has a negative effect on oversubscription. Furthermore, they explained that the larger the company size, the less likely it is to experience asymmetric information.

To date, few studies have examined the moderating effect of asymmetric information on institutional ownership's impact on oversubscription. Institutional ownership and asymmetric information are often independent variables with no correlation. (Zhang, 2024) and (Ivic & Ceric, 2023) also explain that asymmetric information can be a contributing factor to oversubscription, but their study did not examine its quantitative impact and instead focused on arguments.

Based on the background description presented, it is known that various studies indicate that oversubscription during an IPO can be influenced by several factors, such as institutional ownership and asymmetric information. In this study, we will examine the role of both on oversubscription, with asymmetric information also acting as a moderating variable. The control variables used in this study include firm size and offer size. This research gap is based on inconsistent research results. Some studies indicate the influence of institutional ownership and asymmetric information on oversubscription, while others have found no significant effect. Furthermore, using asymmetric information as both an independent variable and a moderator strengthens the novelty of this study.

Institutional ownership is the proportion of ownership held by an institution or agency, such as a bank, corporation, or other institution, in a company's shares. The presence of institutional investors provides optimal oversight of management's behavior in running the company (Ramadani, 2020), (Lamato & Prastiwi, 2024).

The results of research conducted by (Rezky et al., 2025) and (Rahman et al., 2022) used institutional ownership to examine the effect of Shariah Compliant Status on IPO oversubscription, and the results showed that institutional investor ownership had a positive effect on IPO oversubscriptions. Riswandari, (2023) also aligns with the results of research conducted by (Richard & Nugroho, 2023) where institutional ownership has a positive effect on IPO oversubscriptions. Institutional ownership will be measured using the research indicator (Michel et al., 2023) and (Mehmood et al., 2020), namely the percentage of shares owned by corporations or institutions in the company's annual report in the IPO year.

Asymmetric information, or differences in information circulating between investors and issuers, can impact the shares of a company conducting an IPO, such as causing underpricing or overpricing. Asymmetric information typically spreads through elements in the company's financial statements and prospectuses (Dainelli & Mengoni, 2025), (Liu et al., 2021) and (Rija, 2019).

Asymmetric information is a situation where there are differences in information circulating, usually between people connected to the company (insiders) and those unfamiliar with the company (outsiders). This can typically affect several factors, such as the price and number of

shares to be issued, the amount of dividends, and even the reputation of the underwriter (Che-Yahya et al., 2017) and (Ramadani, 2020).

An Initial Public Offering (IPO) is the first offering of shares to the general public. This initial sale of shares is known as an Initial Public Offering (IPO). A company (issuer) goes public when it offers shares for sale to the public in accordance with the Capital Markets Law and its Implementing Regulations. The legal basis for an IPO is regulated by Law Number 8 of 1995, Article 1, Paragraph 15.

The stages of the IPO process are publication, book building, offering, allocation, and distribution. IPO oversubscription occurs during the book building process (initial offering), when the number of shares ordered by potential investors exceeds the number of shares offered by the company. The indicators used are from research by (Sandhu & Guhathakurta, 2020):

From a theoretical perspective, IPO markets are characterized by severe information asymmetry between issuers, insiders, and outside investors. According to signaling theory, firms with superior quality attempt to convey private information through observable signals, such as institutional investor participation, reputable underwriters, or firm scale. Institutional ownership, therefore, may function as a certification mechanism, reducing perceived uncertainty and shaping investor demand during the book-building process. Conversely, asymmetric information theory predicts that when information gaps remain unresolved, investor behavior may become speculative, potentially increasing oversubscription rather than reducing it.

The global IPO literature presents mixed evidence on the role of institutional ownership and asymmetric information. In developed markets, institutional participation is often associated with lower uncertainty and more efficient pricing, whereas studies in emerging markets suggest that institutional investors may also intensify demand through herding behavior. Similarly, asymmetric information has been linked both to underpricing and to excessive subscription demand, reflecting unresolved theoretical tension in the literature.

Most prior studies position institutional ownership and asymmetric information as independent determinants of IPO outcomes, with limited empirical attention to their interaction. Where moderation is discussed, it is typically conceptual rather than empirically tested. As a result, the literature lacks clear evidence on whether asymmetric information weakens, strengthens, or neutralizes the signaling role of institutional ownership, particularly in emerging markets such as Indonesia.

This study explains that oversubscription (Y) during an IPO is directly influenced by institutional ownership (X1), asymmetric information (X2), and institutional ownership is seen as a signal of company quality that can increase investor confidence and encourage stock demand. Thus, Hypothesis 1 (H1) is formulated that institutional ownership influences oversubscription. Meanwhile, asymmetric information reflects the level of information inequality between issuers and investors, which can influence investor behavior in the initial public offering process, so Hypothesis 2 (H2) is proposed that asymmetric information influences oversubscription. In addition to acting as an independent variable, asymmetric information is also tested as a moderating variable that is thought to strengthen or weaken the relationship between institutional ownership and oversubscription, with the assumption that the effectiveness of signals from institutional investors depends on the condition of information circulating in the market, so Hypothesis 3 (H3) is formulated that asymmetric information moderates the effect of institutional ownership on oversubscription. To maintain the accuracy of the estimated relationship, this study includes firm size (X3) and offer size (X4) as control variables, because company size and the size of shares offered are believed to influence the level of investor demand at the time of the IPO.

2. RESEARCH METHOD

This quantitative study empirically tests whether institutional ownership influences oversubscription, with asymmetric information as a moderating factor. Statistical testing uses SPSS software.

The analytical model used to examine the direct and indirect effects of the research variables is a purposive sampling method. The population used is companies conducting Initial Public Offerings (IPOs) on the Indonesia Stock Exchange (IDX) from January 2020 to December

2022. This data was obtained from www.idx.co.id, and company prospectuses can be accessed through www.idx.co.id or through the company's website.

The sample was selected using purposive sampling, with the following criteria: a) Companies conducting IPOs on the IDX between 2020 and 2022; b) Companies that regularly and comprehensively publish financial reports between December 31, 2020 and 2022.

In this study, the data obtained was processed using multiple linear regression. This research data is not panel data because data collection was conducted on the research subjects, namely companies conducting IPOs, or in other words, only one year for each company. Classical assumption tests included normality, heteroscedasticity, and multicollinearity. Autocorrelation tests were not necessary unless the panel data for each company studied spanned multiple observation years. Moderation testing with asymmetric information as the moderator variable was conducted using Moderated Regression Analysis (MRA).

The sample consists of IPO firms listed on the Indonesia Stock Exchange between 2020 and 2022 that experienced oversubscription and disclosed complete prospectus data. Restricting the sample to oversubscribed IPOs enhances internal validity for demand-side analysis but limits external generalization to undersubscribed or fully subscribed offerings. Consequently, inferences primarily reflect investor behavior under excess-demand conditions.

The study period is chosen to capture heterogeneous market conditions, including the COVID-19 shock and post pandemic recovery, which plausibly affected information uncertainty, investor sentiment, and institutional participation. This variation strengthens identification by reducing period-specific bias. Asymmetric information is proxied using underwriter reputation adjusted measures, reflecting the credibility and information dissemination capacity of intermediaries. This proxy offers advantages over alternatives such as bid ask spreads or post-listing volatility, as it captures ex-ante information conditions directly relevant during the IPO subscription phase.

Table 1. Research sample description

Variable	Measurement
Oversubscription (Y)	$\text{Oversubscription} = \frac{\text{Saham IPO disubscribe}}{\text{Total Saham Ditawarkan}}$
Institutional ownership (X1)	the percentage of shares owned by corporations or institutions in the company's annual report in the IPO year.
Asymmetric information (X2)	$\text{asymmetric information} = \frac{\text{underwriter reputation}}{\text{market capitalization}}$
Firm Size (X3)	$\ln(\text{Total Aset tahun IPO})$
Offer Size (X4)	The number of IPO shares multiplied by the IPO book price.

3. RESULTS AND DISCUSSIONS

This study observed a total of 116 companies conducting IPOs between 2020 and 2022, which experienced oversubscription. However, not all of these companies served as the study sample. This was due to the lack of institutional ownership.

Table 2. Research Sample Description

No	Explanantion	Total
1.	The number of companies registered for IPOs and experiencing oversubscription on the Indonesia Stock Exchange during 2020-2022	116
2.	Companies that do not publish their annual reports consistently and have incomplete data	(0)
3.	Companies without institutional ownership	(10)
	Number of companies studied	96

Observations on variables are also aimed at descriptive parameters of research variables which include the minimum, maximum, mean and standard deviation values of each study..

Table 3. Descriptive Research Variables

Variabel	Minimum	Maximum	Mean	Std. Deviation
IOX1	.00	98.65	60.0246	27.91823
ASIFX2	.01	13.86	.6586	1.91623
FSX3	23.72	30.54	25.4983	1.32943
OSY	1.14	500.00	45.7291	78.31107
OFX4	600000000.00	5225876736000.00	146233078000.0000	683902702537.97510

In the context of testing using the multiple linear regression research method, the classical assumption test is a requirement. The following are the results of the classical assumption test based on the Kolmogorov-Smirnov normality value, the Glejser heteroscedasticity test, and the multicollinearity test.

Table 4. Assumption Classic Test

Normality Test			
Significant	Explanation		
0.200	Normally distributed data		
Heterokedasity Test			
Significant	Explanation		
IOX1	.931	There is no heteroscedasticity	
ASIFX2	.939	There is no heteroscedasticity	
FSX3	.619	There is no heteroscedasticity	
OFX4	.473	There is no heteroscedasticity	
Multicollinearity			
	Tolerance	VIF	
IOX1	.292	3.427	Free multicollinearity
ASIFX2	.311	3.212	Free multicollinearity
FSX3	.278	3.596	Free multicollinearity
OFX4	.367	2.725	Free multicollinearity

From the classical assumption test, it is known that the research data is normally distributed, as indicated by a significance value of >0.05 . Likewise, there is no heteroscedasticity in the data, as indicated by a significance value of >0.05 . In this study, there is no interplay between variables X, or in other words, it is free from multicollinearity, as indicated by a tolerance value of >0.1 and a VIF of <10 .

Table 5. Coefficient Determination

Equation Model 1		
	R Square	Adjusted R Square
Equation 1	.794	.788
	Equation 2	
Equation 2	.822	.814
	Equation 3	
Equation 3	.825	.815

To observe the coefficient of determination, we observed the adjusted r-square value in three equations, which will be discussed further in the multiple linear regression model based on the t-test accompanied by MRA (Moderated Regression Analysis). From the coefficient of determination values displayed, it can be seen that the independent variables, moderator, and control variables in this study are essentially able to explain oversubscription strongly, considering that the R2 value limit is between zero and one.

Tabel 6. F test

F	Sig.
104.963	.000 ^b

The significance value of the F test <0.05 indicates that the research model applied in this study meets the goodness of fit criteria. Furthermore, observations can be made on the t value to answer the research hypothesis..

Table 7. Multiple Linear Regression

Equation 1					
	Unstandardized Beta	Std. Error	Standardized Beta	t	Sig.
(Constant)	-.208	.210		-.991	.324
IOX1	3.391	.481	.562	7.044	.000
FSX3	.121	.025	.431	4.851	.000
OFX4	-.030	.030	-.071	-.982	.328
$Y = -0.208 + 0.562 IO + 0.431 FS - 0.071 OF$					
Equation 2					
(Constant)	-.132	.197		-.669	.505
IOX1	2.632	.494	.437	5.330	.000
ASIFX2	2.183	.583	.297	3.747	.000
FSX3	.110	.024	.389	4.633	.000
OFX4	-.073	.031	-.175	-2.389	.019
$Y = -0.132 + 0.437 IO + 0.297 ASIF + 0.389 FS - 0.175 OF$					
Equation 3					
(Constant)	-1.045	.790		-1.322	.189
IOX1	4.250	1.443	.705	2.945	.004
ASIFX2	5.010	2.440	.682	2.053	.043
FSX3	.107	.024	.381	4.537	.000
OFX4	-.087	.033	-.206	-2.659	.009
X1X2	-4.204	3.524	-.588	-1.193	.236
$Y = -1.045 + 0.705 IO + 0.682 ASIF + 0.381 FS - 0.206 OF - 0.588 IO \times ASIF$					

The explanation of the results presented in Table 6 is as follows: Equation 1 shows that without the moderator variable, asymmetric information, institutional ownership has a significant positive effect on oversubscription. A significance value of <0.05 and a t-statistic of >1.96 confirms this result. This result also confirms the acceptance of Hypothesis 1 of this study. Equation 2 shows that with the moderator variable, asymmetric information, both institutional ownership and asymmetric information have a significant positive effect on oversubscription. A significance value of <0.05 and a t-statistic of >1.96 confirms this result. This result also confirms the acceptance of Hypothesis 2 of this study. Equation 3 shows that asymmetric information does not moderate the effect of institutional ownership on oversubscription. A significance value of >0.05 (0.236) and a t-statistic of <1.96 (1.193) confirm this result. This result also confirms the rejection of Hypothesis 3 of this study.

Equation 2 shows that, with the presence of the moderating variable, asymmetric information, the control variables firm size and offer size have a significant positive effect on oversubscription. A significance value of <0.05 and a t-statistic of >1.96 confirm these results.

In this study, institutional ownership influences oversubscription. This suggests that institutional ownership will attract market interest in subscribing to the company's shares. These findings align with previous research by (Che-Yahya et al., 2017). Research explain that institutional ownership influences the volatility of the offered share price, thus increasing investor interest (Lestari et al., 2025). Furthermore, institutional investors tend to invest in companies that are transparent and have credible prospectuses or financial reports. Therefore, the attractiveness of institutional ownership can reflect the company's level of transparency and attract other investors to the company's shares.

Asymmetric information, in this study, influences oversubscription. These results also align with previous research by (Ariyani, 2023), (Huang, 2025), (Jamaani & Alidarous, 2025). Information disseminated in the market significantly influences investor interest, potentially leading to oversubscription, undersubscription, overpricing, or underpricing of an IPO company's shares. Regarding asymmetric information, underwriter quality significantly impacts the level of asymmetric information dissemination. The more transparent a company is and the better the underwriter's

quality, the lower the level of asymmetric information. Vice versa. Accurate or inaccurate information can influence investor decisions to purchase shares, thus influencing the likelihood of oversubscription of IPO shares.

Asymmetric information also moderates the effect of institutional ownership on oversubscription. Decisions made by institutional investors to purchase a company's shares can be influenced by the distribution of information in the market. Therefore, if an IPO company has a low level of asymmetric information, such as greater transparency or the use of a reputable underwriter, institutional investors tend to be more interested in the company. These results align with research by (Che-Yahya et al., 2017) and (Ariyani, 2023).

Meanwhile, both firm size and offer size control variables influence oversubscription. This suggests that company size can influence investor interest in subscribing to its IPO shares. Furthermore, offer size is also a consideration for investors when purchasing a company's shares, especially when compared to the stock offering price on the stock market. The higher the stock market price, the more likely investors are to be attracted to the company's quality, indicating a high level of oversubscription (Che-Yahya et al., 2017), (Ariyani, 2023), (Oliviera et al., 2023).

The regression coefficients indicate not only statistical significance but also economic relevance. A one-standard-deviation increase in institutional ownership is associated with a substantial increase in oversubscription, suggesting that institutional participation materially shapes demand expectations. Similarly, asymmetric information exhibits a positive effect size, implying that greater information frictions may intensify speculative bidding rather than deter investors.

These results should be interpreted cautiously, as IPO data are prone to overfitting and may reflect unique institutional features, including fixed-price mechanisms and retail investor dominance. Potential suppression effects may arise from correlated explanatory variables, even though multicollinearity diagnostics remain within acceptable thresholds.

Practically, the findings imply that issuers and underwriters should carefully manage disclosure quality, as heightened uncertainty can inflate demand but may increase post listing volatility. Institutional investors, meanwhile, play a pivotal signaling role that can shape market outcomes beyond fundamental valuation.

4. CONCLUSION

The results of this study indicate that institutional ownership does indeed have a significant effect on oversubscription. However, the effect is positive, indicating that greater institutional ownership of a company actually increases the tendency for oversubscription during an IPO. Asymmetric information was also found to significantly influence oversubscription, and the effect is positive, meaning that the stronger the asymmetric information, the more likely it is for oversubscription to occur during an IPO. The placement of the moderating function of asymmetric information on the effect of institutional ownership on oversubscription in this study did not show a significant value; in other words, asymmetric information does not moderate the effect of institutional ownership on oversubscription.

For theoretical contribution is refine signaling and asymmetric information theories by demonstrating that information frictions may stimulate, rather than suppress, investor demand in emerging markets. Limitations include endogeneity concerns and sample restriction to oversubscribed IPOs. Future studies may employ instrumental-variable approaches, expand to cross country settings, and explore behavioral mechanisms underlying speculative oversubscription.

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