

Market Timing and Asymmetric Information: How do Rights Issues and Private Placements Attract Investors to Overvalued Stocks?

Dewi Ratih*, Mamduh M. Hanafi, Bowo Setiyono
and I Wayan Nuka Lantara

ABSTRACT

Manuscript type: Research paper

Research aims: This study examines the background of selecting the equity offering mechanism between rights issues and private placements when facing asymmetric information and overvalued prices.

Design/Methodology/Approach: This research employs the concept of information asymmetry and focuses on analysing market timing data about stock offering transactions in Indonesia from 2000 to 2020. This study uses regression analysis to examine the correlation between information asymmetry and trade volume. Abnormal trade volume before various offerings is subjected to regression analysis using generally used proxies for information asymmetry.

Research findings: The conclusions of our research indicate that companies that issue more shares than the overpriced stock tend to exhibit a more excellent abnormal return value in the context of rights issues. The sales volume indicates the company's prospects derived from private information obtained during the offering.

* Dewi Ratih is a doctoral student at the Faculty of Economics and Business, Universitas Gadjah Mada, Yogyakarta, Indonesia and a lecturer at the Faculty of Economics and Business, Widya Karya Catholic University, Malang, Indonesia, <https://orcid.org/0000-0002-0951-6236>. Corresponding author: Email: dewiratih@widyakarya.ac.id

Mamduh M. Hanafi is a lecturer at the Faculty of Economics and Business, Gadjah Mada University, Yogyakarta, Indonesia, <https://orcid.org/0000-0003-0786-1420>

Bowo Setiyono is a lecturer at the Faculty of Economics and Business, Gadjah Mada University, Yogyakarta, Yogyakarta, Indonesia, <https://orcid.org/0000-0001-6976-2714>

I Wayan Nuka Lantara is a lecturer at the Faculty of Economics and Business, Gadjah Mada University, Yogyakarta, Yogyakarta, Indonesia, <https://orcid.org/0000-0001-9653-2623>

Theoretical contribution/Originality: There is a shortage of existing literature about research that specifically investigates the identification of SEO techniques that elicit negative market responses. Consequently, this study explores the connection between the underlying motivations driving the selection of stock offering mechanisms.

Practitioner/Policy implication: The distribution of profits in the transaction indicates the company's future policies. Before investing, investors can acquire pertinent information on the company's current state, strategic goals, and prospects.

Research limitation: The present analysis has not considered the factors of internal ownership or insider trading. These factors might serve as a foundation for investigating the underlying incentives for issuing shares with more precise market timing considerations.

Keywords: Equity issues mechanism, Asymmetric information, Company analyst, Rights issue, Private placement, Market timing

JEL Classification: G14, G32

1. Introduction

In capital structure policy, one external funding source is issuing stocks or equities. The stock offering can be done through an Initial Public Offering (IPO) and a Seasoned Equity Offering (SEO), where various factors influence both and have unequal implications in each capital market condition. The motivation of companies to issue stocks through IPOs and SEOs can be motivated by the need for funds to finance growth opportunities, company size, investment horizons, information asymmetry, regulation, and, in some cases, to exploit excessive temporary judgment in the markets.

The motivation behind issuing such equities has become one of the popular topics in corporate financial research. Some previous literature examined the factors that motivated companies in choosing funding sources, one of which was done by Chen et al. (2010); Qian (2014); Kim and Weisbach (2008); Pagano et al. (1998); Lorenz (2019); Kim and Song (2020); Santos and Gama (2020); Sony et al. (2020); Andriosopoulos and Panetsidou (2021); Pereira da Silva (2021). Their average U.S.-based research stated that companies consider levels of asymmetrical information financial difficulties, and some companies issue stocks with market timing considerations. However, most of these studies conclude that market timings are one of the most sensible reasons or motivations for companies to issue equities. Issuing stocks with market timing considerations allows companies to take advantage of the temporary deviation of the stock price from its actual value (Brennan and Wang, 2010; Loughran & Ritter, 1995).

Overvalued stock prices often encourage companies to issue shares that will be used to carry out investment activities (Porta et al., 1997). Offering shares with market timing considerations allows financing at a cheaper cost of capital (Aflatooni and Khazaei, 2020). Instead, companies avoid selling shares when their value is undervalued because the cost of capital will be higher (Thu Luu and Duong Dang, 2022).

In its application, stock issuance with timing market strategies tends to be influenced by the presence of information asymmetry (Wadhwa et al., 2016; Bektić and Regele, 2018; Hasnaoui et al., 2021; El Ammari et al., 2023; Tchamyu et al., 2018). The information asymmetry in the issuance of shares has become an essential consideration as it emerges as one of the critical factors that restrict the issue and becomes a potential determinant in the equity issues, including the choice of the mechanism offering (Banerjee and Deb, 2015; Sony et al., 2020). There are generally two publication mechanism choices in SEO, namely with the right issue and private placement, which have different implications on each such publication machinery. Chen et al. (2010) and Thu Luu and Duong Dang (2022) stated that companies with high levels of information asymmetry and low profits are unlikely to be able to access the SEO market through the right issue so they would switch to private placement with more sales on institutional ownership.

Companies prefer private placement in overvalued stocks because it allows them to raise capital quickly before the market corrects such overvaluation. But this decision must be taken carefully considering its potential impact on the company's stock price and its relationship with existing shareholders. Besides, companies that do private placement tend to have more widespread ownership than those that do rights issues (Melia et al., 2020). Changes throughout time have a noticeable impact on ownership fragmentation and information asymmetry. The right issue and private placement can raise capital when overvalued stocks. However, the choice between the two depends on various factors such as the company's objectives, the costs spent, its potential impact on the price of the company's stocks, and the accuracy of the timing.

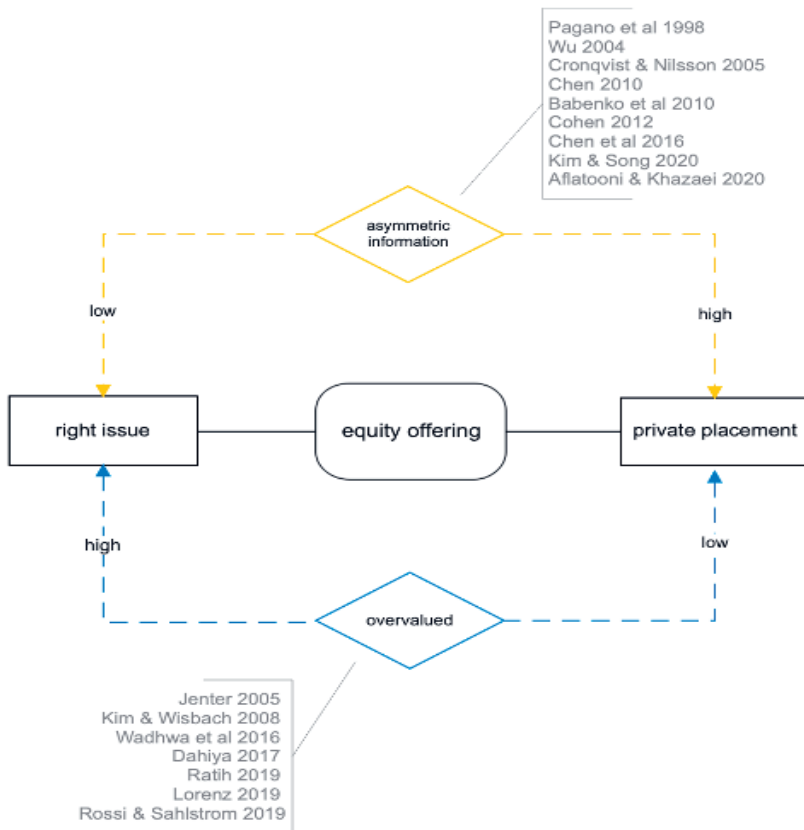
A rights issue enables the existing shareholder to buy additional new shares in the company. Companies often use this method to increase capital without adding debt. However, the right issue can lead to a stock price dilution. If the market sees the right issue as a sign that the company is in financial difficulty, this move gives out a negative signal to potential investors and can lead to a fall in the

company's stock price. Private placement involves the sale of equity to a small number of selected investors, often institutional investors. Through this method, companies can obtain funding faster than issuing shares through the rights issue mechanism because they are not obliged to submit prospectuses. However, private placement can also lead to a stock price depreciation and may be viewed negatively by current shareholders if they are not allowed to participate.

For investors, market momentum would encourage them to buy overvalued stocks if they are convinced that the price trend will continue in the short term, and this allows them to sell the stocks with a profit before the price is corrected. The perceptions of each of these investors can be very different. These differences are formed because each investor has a distinct risk appetite and expectations of share returns. However, the literature suggests that individual investors, especially those less skilled in managing investments, are more likely to remain buying overvalued stocks. Investors are more susceptible to behavioural bias, such as overconfidence in information gaps that can cause them to have excessive expectations of future stock performance (Barber & Odean, 2000, 2008). Instead, institutional investors are generally considered more skilled and have access to more information and analysis. Therefore, they are less likely to buy overvalued stocks. However, some institutional investors may also purchase overvalued stocks for various reasons, such as adjusting their level of investment to benchmarks, discounted prices, herding behaviour, and agency conflict (Baker & Wurgler, 2007).

This timing market strategy has been used by companies in developed countries as well as in the stock markets in developing countries (Fajri et al., 2019; Ratih, 2019; Bunnenberg et al., 2019; Cagnazzo, 2022; Y. Chen and Liang, 2007). Based on the literature, the selection of stock issuance mechanisms varies across stock markets worldwide, so it seems necessary to look specifically at how market timing, information asymmetry, and stock issuing mechanisms influence the Indonesian market. Considering the differential criteria of each equity issuance mechanism, this study has different implications from previous studies. The empirical analysis in the research will explain how the information implied in each transaction on each mechanism will influence the company's policy in the future. The stock bidding decision through both mechanisms will be an indicator for other investors in assessing the company's information transparency and be a consideration in making investment decisions. Figure 1. overviews the linkages between information asymmetry, offering mechanisms, and market timing strategies.

Figure 1: A relationship pattern between information asymmetry, offering mechanisms, and market timing



Investors who buy through either a right issue or a private placement have the potential to profit from overvalued stocks. First, if a company's stock is overvalued, it can raise more capital than if valued at its intrinsic value. This additional capital can be used to invest in growth opportunities, pay off debts, or return money to shareholders, potentially increasing the company's value and investor ownership (Adam and Goyal, 2008). Second, in the rights issue, old shareholders are entitled to buy additional shares at a discounted price from the current market price. If the stock is valued too high, this discount effectively provides a guarantee against a potential decline in the value of the stock. If the stock price falls to its intrinsic value, investors who buy at a discount price when issuing new shares will not be much more affected than those who purchase at market

prices. However, investing in stocks which are valued too highly also comes with its own set of risks; if the market gets corrected and the stock price drops significantly, investors may lose most of their investments.

Although there has been a lot of research on market timing theory, most of it focuses only on the relationship between market timing in terms of SEO, return, and shareholder profit. Unlike previous research, this study aims to ascertain how the trading activity of both kinds of investors; namely institutional and individual investors, corresponds to the mechanisms used. Looking at the type of stock issuance mechanism, it's all about the factors that influence a manager's choice of issuances and how they trigger investor sentiment. This research suggests a possibility that investors behave opportunistically because of private information, as well as providing information about the company's policies in each transaction. Furthermore, through the post-emission share performance, exciting news will be obtained that should be linked to the company's policy in the future. Again, through the analysis of trading behaviour, each group of investors will be a reference for other investors in pursuing their profits and risk preferences.

Thus, this research focuses on how the motivation that floats against the issuance of stocks sometimes gives negative signals in the markets because the implicit reason based on the choice of the issuing mechanism is still not available in the literature. So, this research gap still warrants further discussion, especially in developing countries like Indonesia, which has its own unique characteristics and a low level of transparency compared to markets in developed countries. This study will investigate the cognitive capabilities of investors against the issuance activity, divided into two categories according to the choice of the issuer's mechanism. These research results provide insight into the factors that drive decisions to invest through private placement and rights issues despite overvalued stock prices. It can help investors better understand the potential risks and returns associated with this type of equity issuance.

The rest of this study is structured as follows. Chapter 2 highlights relevant literature on stock issuance mechanisms, market timing strategies, information asymmetry, and empirical evidence on the issuer's stock market performance. Chapter 3 motivates and presents the hypotheses tested in the study. Chapter 5 presents the research results; and ends with its conclusions and suggestions.

2. Literature Review and Hypotheses

2.1 Types of Stock Offering Mechanisms

Stock offering mechanisms vary in various dimensions, including the type of stock sold to the public. The company can sell shares through a first public offer, i.e. an Initial Public Offering (IPO), or a secondary offering, i.e. a Seasoned Equity Offering. (SEO). The choice between the two is driven by a variety of factors, as seen in some cases where companies exploit the market conditions by mispricing stocks in the capital market. Thus, although not mutually exclusive, stock offerings have at least three potential motivations: finance investments, wealth transfer from new shareholders to existing ones, and increased liquidity for companies and stakeholders. Based on that motivation, a company's stock bidding activity may reflect information that has a bearing on its future policies.

In Indonesia, SEO can be done through two mechanisms, namely the *Hak Membeli Efek Terlebih Dahulu (HMETD)*, commonly referred to as the pre-emptive right, and the following mechanism is without HMETD, generally known as private placement. The mechanism without HMETD is a corporate action carried out by an issuer to seek funds for the issuer's interest by selling them to another party where the sale of such shares does not give rights to existing stockholders and tends to sell to institutional investors. Several factors influence the choice between private placement and rights issues in the capital market. One of the main factors is the level of information asymmetry. Companies with private placement tend to have more widespread ownership than companies with rights issues (Wu, 2004).

In a study by Cohen et al. (2012), institutional investor trading through private information can be predicted by distinguishing between routine and non-routine transactions, which determine opportunistic actions that contain information. The act of trading stocks, in an irregular category, at a time close to the issuance of said stocks indicates opportunistic behaviour on the part of the investor due to information asymmetry. This conclusion was drawn from evidence of abnormal returns and high churn rates, which did not happen on a routine ride (Wadhwa et al., 2016; Kim and Weisbach, 2008). Other literature facts are information obtained from opportunistic traders who are geographically concentrated, and not people in a company, estimated through the calculation of the churn rate of each group of investors (Hovakimian and Hu, 2016; Lorenz, 2020). The churn rate is a metric for measuring the number of investors who quit their ownership over a given period.

Hypothesis 1: When companies issue overvalued stocks, the churn rate of investors' equities in rights issues (private placements) is high (low).

2.2 Asymmetries in Information

Companies that choose a private placement mechanism are generally associated with higher information asymmetry than companies which opt for a rights issue. Private placements involve fewer investors and generate lower information production costs given a certain level of information asymmetry. Therefore, companies with high information asymmetry have a stronger incentive to reduce the cost of information production by publishing equities in a private placement. Furthermore, high information asymmetries are more likely to occur poorly qualified companies (Wruck, 1989). High-quality companies are incentivised to increase their quality in increasing market value, whereas poorly-qualified companies only have a few reasons to disclose their quality. It shows a close relationship between information asymmetry and company quality, and this relationship affects the choice between the right issue and private placement.

When information asymmetry is prevalent, relative to other market conditions, theoretical models suggest that corporations would choose private placement. The results vary depending on the kind of shareholders involved in two distinct businesses (Shleifer and Vishny, 1986; Elyasiani and Jia, 2010). Karpoff and Lee (1991) showed that investors who had access to more information sold more stock in the months leading up to the SEO and bought less stock in the subsequent months. Research into SEO bidding methods may shed light on the significance of information asymmetry and risk problems for specific stocks. Earlier studies that merged and analysed several topics did not differentiate between equity markets. Gomes and Phillips (2012) found divergent outcomes for private placement procedures and right problems. Smaller firms that need to raise capital via a stock offering use less transparent private placement techniques. The theoretical model suggests that increased concentration of ownership or trade restrictions are two factors that encourage management supervision motivating private placement (Shleifer and Vishny, 1986).

Companies with a high, overvalued rate tend to opt for a right issue mechanism for individual investors and go for private placements with a lower overvalued rate for institutional investors (Wu, 2004; Cella, 2020; Edelen et al., 2016; Frijns et al., 2018; Ghaly et al., 2020; Gompers and Metrick, 2001; Hovakimian and Hu, 2016;

Miller et al., 2022). These findings provide evidence that companies tend to issue stocks which are valued too high without first determining the purpose of the use of the publication. In other words, stock publishing companies exploit investors through information gaps and motivate them to focus on activity that creates value. The presence of information asymmetry in the issuance of stocks with market timing considerations makes it difficult for investors to judge the quality of the stock issuer company objectively because, of course, companies that perform well or otherwise will claim that their company has good prospects (Utamaningsih et al., 2015; Clarke et al., 2001; Dittmar and Field, 2015; and Santos and Gama, 2020).

Furthermore, information asymmetry is based on a group of shareholders; a corporation's individual or institutional investors can maintain checks and balances on stock issuing managers when it comes to market timing decisions so that any rights issues or private placements are made in the shareholders' interests. These arguments appear inconsistent and allow for specific reasons for making a stock bid with market timing in mind. Although implicitly, both views seem to contradict the assertion that the consideration of asymmetric information is required in stock offers. Referring to the level of information asymmetry, companies that involve corporate analysts in a financing dispute should be able to communicate their intrinsic value to investors more accurately. Hence, it may be posited that firms that are monitored by analysts are more inclined to choose equity funding as compared to organisations that are not subject to such scrutiny. Based on this, the hypothesis that still needs to be confirmed in this study is as follows:

Hypothesis 2: Equity offerings through rights issues are proportionate to the level of asymmetric information in the market, and vice versa for private placements.

2.3 Market Timing Strategy

One approach to detracting from market timing motivation is to link management assessments as reflected in investor trading activity when the company makes a stock issue. The mispricing explains that a high market-to-book (M/B) ratio offers shares through the right issue compared to a company with a low M/B ratio (Thu Luu and Duong Dang, 2022). Therefore, identifying the underlying motives that influence the offer of public company shares in the Indonesian capital market should be taken to determine the existence of any trading practices by a particular group of investors that tend to lead to

opportunistic behaviour based on the presence of private information.

Furthermore, when a company's stock is highly valued, it can choose private placement over the right issue due to the information asymmetry factor. In such cases, companies can select institutional investors through private placement to avoid disclosing sensitive information to markets that could potentially correct overvaluations. The following is to avoid market reactions because the right issue can cause an adverse reaction, mainly if the market interprets it as a signal that company stocks are valued high. The next concerns the speed and flexibility of private placement, generally faster and more flexible than the right issue. Market timing can be very profitable for overvalued companies, allowing them to raise capital before the market fixes the overvaluation.

Unlike Wadhwa et al. (2016), using a proxy based on Rhodes-Kropf et al. (2005) ensures that stock bids are due to the presence of investment opportunities, not solely due to mispricing. They found strong evidence that the average company in India is motivated to offer stocks because of investment opportunities, not mispricing stocks. This study is consistent with Ratih (2019), which uses company data on the Indonesian capital market, proving that market timing does not influence the corporate financing policy. By contrast, a study by Rossi and Sahlström (2019) showed that mispricing stocks prompted companies to make stock bids through IPOs and SEO.

Kim and Weisbach (2008) suggest that companies with low market-to-book ratios choose SEOs to fund investments, while companies with high market-to-book ratios are more likely to exploit overvaluation. So, it can be said that the decision to issue new equities when stocks are overvalued can be influenced by factors such as growth opportunities, company size, investor trading horizons, and information asymmetry. Therefore, the hypotheses related to the implementation of market timing are:

Hypothesis 3: The overvaluation of stocks positively affects total stock issuance.

Hypothesis 4: The market-to-book (M/B) ratio is higher for rights issues compared to private placements.

3. Data and Methodology

3.1 Data and Variable Definitions

The research population consists of all manufacturing companies listed on the Indonesian Stock Exchange (BEI). The research methodology involved analysis of financial data from the Indonesian

Capital Market Directory (ICMD), Bloomberg, Thomson Reuters, and the Osiris Database. The study included variables such as Return on Assets (ROA), sales ratio to assets, churn rate, and investment ratio. The research compared variables between companies that issue equity offerings (SEO) through rights issues and companies that do so through private placements. The study also controlled for the effects of the industry using the IDX-Industrial Classification (IDX-IC). It then measured the cumulative annual return over three years, adjusting the SEO company's share return to the return of similar companies over the same period.

This research is archival research, which involves searching and using evidence from secondary data available with a quantitative method approach. This study employs secondary data to provide accurate statistical information, classifying it into two categories: rights issue methods and private placement mechanisms for secondary stock offerings. This research requires data that contains information about the volume of secondary stock trading offered, the price, return, and the characteristics of the issuing company, as well as the category of its shareholders. The stock offering data is divided into two groups, the right issue and the private placement mechanism, which are then used to determine the ownership level of individuals and institutions.

Table 1: Descriptive Statistics

	Mean (1)	Std. Dev. (2)	Min (3)	Max (4)
RI	0.734	0.454	0	1
PP	0.624	0.333	0	1
BV_price20	(0.164)	1.192	(10.87)	0.924
BV_price10	(0.173)	1.221	(11.81)	0.913
Age	10.98	7.181	1	29
Analyst	2.369	3.339	1	16
BHAR	(0.228)	0.659	(1.495)	3.065
Own	68.01	20.48	14.06	99.99
Mean_vol	0.002	0.008	3.859	0.056
Spread	4.116	7.255	(19.44)	32.40
N_RI: 156				
N_PP: 139				

Source: Secondary data processed

Simplified selection techniques and procedures are determined using purposive sampling (Cooper and Schindler, 2001). The sample of this research plan covers all the SEO data of companies listed on the Indonesian Stock Exchange (BEI) over the time horizon from 2000 to 2020 and is cross-sectional data. Considering a long period of 20 years, it is expected to meet the adequacy of data for statistical analysis. Institutional and individual share ownership data is from the issuing company that reports ownership of its shares at the end of the calendar quarter, ending in March, June, September, and December. These figures are used to calculate total ownership based on the mechanisms of right issue and private placement and change of ownership as a percentage of total company shares in circulation and to identify shareholder investment horizons.

Table 1 presents a concise overview of the critical attributes of the dataset used as a representative sample in the study. Three indicators of information asymmetry are used in this study: the asset book value, which is determined after the preceding fiscal year; the maximum number of analysts before the offering; and the percentage of the bid-ask spread. The BHAR (Buy-and-Hold Abnormal Return) refers to a buy return that deviates from the expected market performance and has been corrected for 12 months before the analysis.

3.2 *Empirical Models*

The research will use individual and institutional investor trading data through the rights issue and private placement mechanisms to analyse trading behaviours around SEO. In other words, trade data analysis can directly show individual and institutional behaviour changes on top of available information. (Hovakimian and Hu, 2016). The results of this study will help investors and prospective investors to make more effective investment decisions by observing how individual and institutional investor trading strategies are in the right issue and private placement mechanisms.

The analysis is based on the simple idea that there is a particular group of investors trading at a time when the stock bidding is motivated by mispricing, the presence of information asymmetry, and opportunistic actions (Kim and Weisbach, 2008; Wadhwa et al., 2016; Rossi and Sahlström, 2019; Thu Luu and Duong Dang, 2022). The initial step of research analysis determines the churn rate of each group of investors (Hovakimian & Hu, 2016; Lorenz, 2020). The churn rate is a metric for measuring the number of investors who quit their ownership over a given period. The churn rate of individual and

institutional investors in the t quarter is defined as follows:

$$RI_{i,t} = \frac{\min(RI_buy_t, RI_sell_t)}{\sum_{i=1}^{N_i} \frac{POwn_{i,t}P_{i,t} + POwn_{i,t-1}P_{i,t-1}}{2}} \quad (1)$$

$$PP_{i,t} = \frac{\min(PP_buy_t, PP_sell_t)}{\sum_{i=1}^{N_i} \frac{IOwn_{i,t}P_{i,t} + IOwn_{i,t-1}P_{i,t-1}}{2}} \quad (2)$$

In this model, $P_{i,t-1}$ and $P_{i,t}$ respectively are the stock price for the stock, i at the end of the quarters $t-1$ and t . Furthermore, the ownership of shares by an individual $Own_{i,t}$ and institutional $Own_{i,t-1}$ investors at the end of the $t-1$, and t is also the case. $PP_buy_{i,t}$ and $PP_sell_{i,t}$ indicating the purchase and sale of aggregate groups of individual investors through the right issue in the quarter t .

The calculation of the average churn rate of each individual and institution ownership over the last four quarters is shown through the following model:

$$AVG_RI_{i,t} = \frac{1}{4} \sum_{i=0}^3 RI_{i,t-1} \quad (3)$$

$$AVG_PP_{i,t} = \frac{1}{4} \sum_{i=0}^3 PP_{i,t-1} \quad (4)$$

Furthermore, all individual and institutional ownerships are sorted into two groups of the same portfolios based on $AVG_RI_{i,t}$ or $AVG_PP_{i,t}$ referring to the ownership of individuals and higher and lower institutions. Then, each company's individual and institutional short- and long-term ownership is defined at the end of the t quarter as a percentage of the total company shares in circulation. The stock price and the shares volume in circulation required for the churn rate and the calculation of individual and institutional ownership came from Osiris and the stock return and volume data.

The study identifies two forms of corporate equity offering mechanisms: rights issues and private investments from developing countries. Binary logistic regression models are used to analyse the influence of information asymmetry in the decision-making process between opting for a rights issue versus a private placement. In this scenario, the variable is contingent upon assuming the value of a company that elects to issue the right while assuming a value of zero for private investment. The extent of information asymmetry in corporations is assessed by including certain variables, notably bid-

ask spreads and corporate analysts. The proxy under consideration exhibits a higher level of accuracy for information asymmetry in comparison to the alternative proxy, as identified by Aflatooni and Khazaei (2020). Analysts have several benefits over traditional factors, such as age, firm size, and physical assets, regarding proxying information asymmetry via variables. We use a two-stage estimating approach proposed by Chen et al. (2010) using a structural choice model to examine the implications. The procedure is outlined as follows:

$$Y_i = \beta_0 + \beta_1(FQ) + \beta_2(Mkt) + \beta_3(Control) + e_i \quad (5)$$

Y_i is a binary dependent variable for equity issues, i , which is worth one when choosing the correct emission and zero; otherwise, the independent variable FQ is a variable that represents the company's quality associated with information asymmetry and performance. Through information asymmetry measurements, bid-ask spreads are measured as logs. Mkt explanatory factors represent variables related to potential market undervaluation, including the publisher's Buy and Hold Abnormal Returns (-6,-1), the market-to-book ratio over the last six months, and the market BHR (-6-1).

Per Chen et al. (2010), we examined share returns for rights issues around the announcement in one trading semester after the offer. The Buy and Hold Abnormal Returns (BHARs) values are calculated to ensure our results are non-biased when assessing different time windows. The evidence presented in this study is consistent with previous research, which showed that companies that choose the right offer are positively linked to the age and size of the company. The information-based capital structure model argues that older and larger companies have faceless information problems. Finally, our control variables include company stock price elasticity and dummy variables for years and industries.

The market timing theory perspective suggests that managers can identify times when stock issuance costs are cheaper than other types of external financing. The basic principle is that the right time is when the stock is in an overvalued condition. The timing of stock issuance lowered the company's capital cost and benefitted the current shareholders at the expense of the new shareholders. The company's motivation in determining market timing should be aimed at maximum shareholder profits. Three sets of indicators have been based on previous studies to assess the ability of CEOs to regulate market timing. The first indicator is short-term or daily

data, determined from stock, excess, and abnormal returns. The next indicator is medium-term or monthly data from liquidity and market risk. Lastly, long-term or annual data is derived from the M/B and Tobin's Q ratios. So, if managers can determine the market timing of their shares based on all these indicators, then the M/B ratio is a proxy for stock mispricing (Baker and Wurgler, 2002; Hertzal and Li, 2010; Huang et al., 2015; Loughran and Ritter, 1995, 1997). Referring to the research by Baker and Wurgler (2002), the proxy for equity market timing is the market-to-book ratio (M/B), which is a function of total equity per share multiplied by the stock's closing price, modelled as follows:

$$M/B \text{ Ratio} = \frac{(\text{total assets} - \text{book equity} + \text{market equity})}{\text{total assets}} \quad (6)$$

Table 2 summarises the operational definitions of variables for this research methodology below:

Table 2: Operational Definitions

Variable	Definitions
M/B	Market-to-book ratio
$\Delta RI_{i,t}$	Volume trading through the right issue
$\Delta PP_{i,t}$	Volume trade through private placement
$AVG_RI_{i,t}$	The churn rate average of each investor for the right issue
$AVG_PP_{i,t}$	The churn ratio average of every individual investor
$RI_buy_{i,t}$	Variable aggregate purchases for each ownership through the right issue mechanism
$RI_sell_{i,t}$	Aggregate sales for every ownership via the right issuance mechanism
$PP_buy_{i,t}$	Aggregate purchases for each ownership through private placement mechanisms
$PP_sell_{i,t}$	Aggregate sales for each ownership through private placement mechanisms

Sources: prepared to complement the study

4. Results and Discussion

4.1 Estimation and Empirical Results

The research analysis results to prove Hypothesis 1 show that each mechanism of issuance of overvalued stocks has different implications for each investor. Each investor's investment horizon

differs according to their risk preferences and also their respective analysis. Table 3 shows that the institutional investor horizons are more extended than individual investors, even though there is an anomaly with the churn rate for lower-level institutional investors. These results confirm Hypothesis 1, which is already supposed to be in line with the regulations in Indonesia and the characteristics of investors in general. Under Indonesian law, the sale of private placement shares to institutional investors is bound by a previously agreed clause. Such a clause usually contains a longer investment horizon than the rights issue, which institutional investors must comply with.

Table 3: Churn rate analysis for rights issues and private placements

	Obs.	Mean	Std. dev.	Min	Max
<i>Panel A: Rights issue mechanism</i>					
Cr_all	156	0.2413	0.2254	0.0004	0.9474
Cr_high	78	0.4038	0.2149	0.1809	0.9474
Cr_low	78	0.0789	0.0507	0.0004	0.1785
<i>Panel B: Private placement mechanism</i>					
Cr_all	139	0.1542	0.2035	0.0013	1.8333
Cr_high	69	0.2719	0.2347	0.0946	1.8333
Cr_low	70	0.0382	0.0316	0.0013	0.0939

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The market timing hypothesis states that individual investors are more likely to become overvalued share buyers than institutional investors. This hypothesis is based on the individual investor's ability to analyse information, company conditions, risks, and investments, which may differ from institutional investors' ability. Individual investors have a low churn rate of 0.0004 compared to the institutional investors with 0.0013. However, it seems that the statement of Hypothesis 1 is not fully confirmed because the overall institutional investor churn ratio is lower (0.1542) than that of individual investors (0.2413). It states that institutional investors do not hold overvalued stocks for too long compared to individual investors.

Estimates of structural models provide evidence consistent with the selection of publication mechanisms and the overvaluation hypothesis. Companies that choose the rights issue offer have a

significant positive relationship with the number of analysts that evaluate the company. These results suggest that they face lower information asymmetry compared to personal placements. Analysts can make better predictions based on the availability of information, meaning that companies face a less than adequate information supply. Rights issues have a lower level of information asymmetry than personal placements. Companies with higher information offerings opt for private placements to avoid the cost of offering information. The value for other information asymmetry proxy, bid-ask spreads, also indicates a negative relationship with the issuance of stocks through rights issues. Table 4 illustrates that the spread value for the rights issue can predict the information gap between investors and managers.

Table 4: Structural model of the selection mechanism for the right issue.

	(1) RI	(2) RI	(3) RI	(4) RI	(5) RI
BV_price20		0.075 (0.945)			0.166** (2.005)
Age			0.024 (1.240)		0.034* (1.703)
Analyst				-0.069 (1.635)	-0.089** (2.088)
BHAR	1.059*** (3.998)	0.999*** (3.731)	0.992*** (3.782)	1.051*** (3.954)	0.883*** (3.390)
Own_RI	0.008 (1.187)	0.008 (1.211)	0.010 (1.482)	0.009 (1.415)	0.013* (1.859)
Mean_vol	1.323 (0.064)	1.112 (0.055)	2.212 (0.114)	1.067 (0.051)	2.725 (0.148)
Spread	-0.014 (0.777)	-0.014 (0.758)	-0.013 (0.690)	-0.018 (0.937)	-0.016 (0.805)
_cons	0.343 (0.746)	0.328 (0.698)	-0.064 (-0.119)	0.063 (0.127)	-0.581 (-0.984)
Obs.	119	118	119	119	158
Pseudo R2	0.120	0.114	0.131	0.137	0.193
Chi2	17.934	17.737	19.297	19.528	24.962

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Information asymmetry refers to a situation in which some investors have access to material or company-specific information

related to future public announcements, which are unknown to other investors. This asymmetry can significantly affect trading volume patterns before and after the revenue announcement. Based on the research analysis, we found the same tendency and confirmed our second hypothesis. Our results are consistent with previous research, although the capital markets in Indonesia are fundamentally different from those in developed countries and developing countries in general.

Companies with characteristics consistent with higher information asymmetry and lower levels of operational performance are more likely to make bids through private placements. We used a dummy coverage analyst, where the company that receives coverage takes a value of one and zero for the other. This calculation method assigns a value closer to one for companies with a higher information supply, and a value that approaches zero if the information collection is lower. Previous literature suggests that the short-term market's reaction around SEO offer ads significantly adversely temporarily positive for personal placement ads. In this case, the impact of the stock issue selection is also economically significant.

Table 5: Structural model of the selection mechanism for the private placement

	(1) PP	(2) PP	(3) PP	(4) PP	(5) PP
BV_price20		0.089 (0.927)			0.173** (1.701)
Age			0.071 (1.117)		0.041* (1.510)
Analyst				0.176 (1.542)	0.076** (2.095)
BHAR	1.078*** (3.665)	0.809*** (3.408)	0.891*** (3.459)	1.058*** (3.621)	0.763*** (3.026)
Own_PP	0.007 (1.114)	0.010 (1.948)	0.022 (1.316)	0.008 (1.4062)	0.012* (1.733)
Mean_vol	1.323 (0.064)	1.112 (0.055)	2.212 (0.114)	1.067 (0.051)	2.098 (0.211)
Spread	0.016 (0.017)	0.010* (0.758)	0.011* (0.690)	0.014 (0.937)	0.013* (0.805)
_cons	0.170 (0.746)	0.291 (0.698)	-0.071 (-0.119)	0.030 (0.127)	-0.461 (-0.984)
Obs.	128	108	115	121	139
Pseudo R2	0.122	0.107	0.131	0.137	0.153
Chi2	17.966	16.111	18.009	19.219	20.002

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Through the bid-ask spread proxy, the significant relationship confirms our second hypothesis. When the potential for overvaluation in the stock market is high, companies with negative net income tend to choose private placements if other aspects remain constant. This finding is consistent with the study of Andriosopoulos and Panetsidou (2021); the results suggest that market time considerations tend to choose appropriate emission mechanisms with lower levels of information asymmetry. Choosing the right investment product when overvalued allows the company to have a positive stock bidding return, so the hypothesis in this study is confirmed. The allocation of bids obtained by companies still needs to be studied further, whether it will be used to finance investments, pay off debts, or keep cash.

Further research is also needed to understand the information behind the selection of stock offering mechanisms. Table 5 shows that BHAR shares of companies (-6,-1) and BHR markets (-6-1) were negatively linked to the possibility of using private placement in stock bids. These findings suggest that companies are more likely to switch to rights issues with poor equity market performance. Offering overvalued stocks has different implications for publication mechanisms, be it rights issues or private placements. Companies with overvalued stocks tend to rely on market mechanisms by issuing new equity. The study results show that the rise in share sales volume is triggered by mispricing. These results confirm the research hypothesis and market timing hypotheses at the same time. According to previous research, overvalued stocks have become one of the leading reasons that motivate companies to issue stocks Kim & Song (2020); Santos & Gama (2020); Sony et al. (2020).

Table 6: Comparison of Stock offering and market-to-book

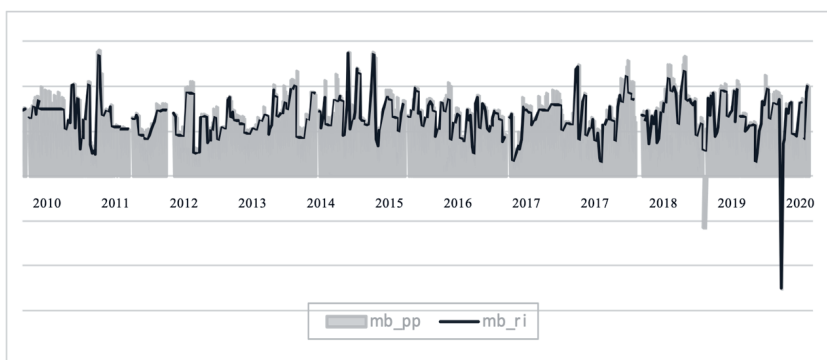
	Obs.	Mean	Std. dev.	Min	Max
<i>Right issue</i>					
Market-to-book	137	2.997	0.942	2.838	3.157
Volume	147	11.49	5.172	10.62	12.34
<i>Private placement</i>					
Market-to-book	154	3.083	0.926	2.635	3.131
Volume	161	12.55	4.799	11.80	13.29
<i>Combined</i>					
Market-to-book	291	3.043	0.933	2.935	3.151
		(-0.085)	(-0.301)		
Volume	308	12.05	5.000	11.48	12.61
		(-1.055)	(-2.173)		

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Referring to the fifth hypothesis, companies with a reasonably high market-to-book ratio tend to issue shares through rights issues. On the contrary, companies with overvalued conditions which are not too high will be inclined to choose the private placement mechanism of Kim & Weisbach (2008). According to the data analysis of this study, the average value of the market-to-book ratio is higher in companies that use private placement mechanisms. That's why the study's results do not fully support Hypothesis 4.

Figure 2: Right issue and private placement market-to-book ratio



The hypothesis analysis is shown in Table 6 and illustrated in Figure 2. The rights issue mechanism's market-to-book ratio (*mb_ri*) is not consistently higher than the private placement (*mb_pp*). The large market-to-book ratio in several stock offerings is higher than in private placements, such as in the time period from the year 2010 to 2011 and then from 2014 to 2015. However, from the overall analysis, the market-to-book ratio of the right issue is lower, and it even appears that stock value has a negative market-to-book ratio (early 2020).

4.2 Robustness Tests

To confirm the model, we repeated the analysis with different observation periods. We also investigated three intervals with a 10-day announcement period to ensure the previous analysis models were related to information asymmetry. Our findings are consistent with existing literature and suggest that the long-term performance of stocks under these conditions is usually harmed. Table 7 shows that the average BHAR for rights issues is 88%, the analyst for the rights issues is 90%, and the bid-ask spread is 16%. The results

provide evidence of some degree of weakness for the overvaluation hypothesis.

Table 7: Robustness check: measurement of undervaluation in different periods

	(1) RI	(2) RI	(3) RI	(4) RI	(5) RI
BV_price10		0.092 (1.160)			0.174** (1.969)
Age			0.024 (1.240)		0.033* (1.657)
Analyst				0.069 (1.635)	0.090** (2.074)
BHAR	1.059*** (3.998)	0.998*** (3.727)	0.992*** (3.782)	1.051*** (3.954)	0.886*** (3.399)
Own_RI	0.008 (1.187)	0.008 (1.179)	0.010 (1.482)	0.009 (1.415)	0.012* (1.801)
Mean_vol	1.323 (0.064)	1.129 (0.055)	2.212 (0.114)	1.067 (0.051)	2.540 (0.136)
Spread	0.014 (0.777)	0.014 (0.746)	0.013 (0.690)	0.018 (0.937)	0.016 (0.804)
_cons	0.343 (0.746)	0.343 (0.726)	-0.064 (-0.119)	0.063 (0.127)	-0.539 (-0.916)
Obs.	119	98	102	100	118
Pseudo R2	0.119	0.106	0.111	0.103	0.115
Chi2	17.504	16.421	17.129	16.503	24.901

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Before the planned corporate action announcement, trade volumes tend to decline, especially when there is a high level of information asymmetry. This figure is the result of a churn rate and trading volume analysis. This result is because an uninformed investor, aware of the potential trade competition with an informed counterparty, may choose to participate less in the market. Such an investor with limited access to information can delay the trade until an announcement is made and information asymmetry is resolved. After the announcement of the issuance of stocks, the level of information asymmetry decreases as information becomes public. This behaviour increases trading volumes because an uninformed investor now has the same information as an informed investor

and feels more confident. In short, information asymmetry can lead to a decrease in trade volumes before a planned corporate action announcement and an increase in trading volumes after the announcement.

5. Conclusion and Implications

Companies are more likely to issue shares through private placement mechanisms when overvalued because the funding process is faster than the rights issue mechanism. Of course, this is important to consider when a company requires considerably quicker funding. In addition, consideration of the level of information asymmetry also influences the choice of publishing mechanism. High information asymmetry will trigger an adverse reaction by the market, so the stock price will likely fall. The company expects to sell through rights issues because it reduces stock dilution and aims to exploit market sentiment. Besides that, an underlying contributing factor is the manager's view of the individual investor's ability to assess and predict the return of their investments.

Information-based capital structures argue that companies choose equity issuance mechanisms with lower information costs in scenarios with information asymmetry. This research demonstrates the significance of information asymmetry in the decision-making process for selecting the preferred equity issuing method. Furthermore, it may be argued that considering market time in conjunction with undervaluation implies that the prevailing circumstances influence the selection of offering strategies in the stock market. The empirical results of our study indicate a negative relationship between the use of private placement mechanisms by enterprises and their operational performance, as well as a positive association with information asymmetry. Conversely, the employment of rights issues is linked to better operating performance and lower levels of information asymmetry. The findings indicate that the issuance of stocks increases the amount of investment capital and leverages advantageous market circumstances. Companies may issue shares to capitalise on favourable market conditions and carefully evaluate pricing considerations. However, firms may issue stocks when the stock price is less lucrative. In instances of this kind, the bid will mainly include primary shares. These funds facilitate acquisitions, purchase equities, undertake capital expenditures, or mitigate a firm's long-term debt.

Institutional investors are considered better able to assess their investment plans. So, if it turns out a company is issuing overvalued shares, it will trigger an adverse reaction and probably

also keep them from buying the company's shares. So private placement becomes a perfect window opportunity for the company in a market with higher information asymmetry. The relationship between information asymmetry and equity supply is generally negative. According to Myers and Majluf (1984), companies prefer private placement financing over rights issues when there is a high level of information asymmetry between managers and external investors. Asymmetric information increases the unfavourable cost of equity selection, making it a less attractive choice for investment and financing. Therefore, under conditions of severe information asymmetry, firms are more likely to rely on share distribution through private placement.

Research in this area of finance is expected to contribute to some of the financial literature. Firstly, it expands on the existing investment literature in the capital market by providing a measure of stock analysis through the types of stock issuance mechanisms. Furthermore, it ensures that the stock issuer's outcome can easily distinguish the company's motivation when accessing stock financing. Secondly, this research supplements the current financial literature by delineating why firms focus on the ex-ante objective regarding results for the share issuer. This contribution sheds light on a company's policy directions in share issuance. It is part of a study conducted by Kim and Weisbach (2008), Walker and Yost (2008), Autore et al. (2009), as well as a recent study by Wadhwa et al. (2016), Gustafson and Iliev (2017), and Rossi and Sahlström (2019), Thu Luu and Duong Dang (2022). In their research, there are still quite substantive gaps, so it is necessary to explore further how the content of information contained in stock bidding decisions through private placement and rights issue mechanisms reflect company policies in the future.

Thirdly, this research posits the empirical statement that information asymmetry, which leads to mispricing in capital markets, is one of the drivers of stock bidding. Fourthly, by focusing specifically on corporate policies which affect post-emission share performance, this study offers a new perspective to the literature by examining the relationship between trades conducted by people with access to better information compared to other investors related to the issuance or offering of stocks, through the determination of substantive factors that indicate opportunistic investor behaviour. The research plan focuses on transactions based on the issuance mechanism of equities by dividing them into two groups of investors through the analysis of the value of the M/B ratio, their trading

patterns, and the allocation of results. This research's contribution is providing a framework as guidelines for investors, prospective investors, and other stakeholders. It also serves as empirical evidence in determining whether a specific trade will cause detriment to other investors and ensure that stock offerings follow the share issuance mechanism regulations set by the UUPM in Indonesia. This research aims to enable market conditions where there is no infringement of regulations and also be an impetus in taking steps towards economic accountability.

Research in the stock markets, especially in developing countries, is still limited in quantity because of the transparency restrictions on the disclosure of information about the financial health of companies. This lack of transparency severely restricts financial decisions for all parties that need such openness to facilitate informed decision-making. Similarly, in this study, sources of data and information require limited assumptions in the process of empirical analysis. On the other hand, this research has some limitations that can be used as a reference for further investigation. This study does not consider internal ownership, which can be used as a starting point to determine the motivation behind the issuance of stocks with more clear market time considerations. Some studies assume that managerial ownership is positively linked to the choice of personal placement mechanisms.

References

- Adam, T., & Goyal, V. K. (2008). The Investment Opportunity Set and Its Variables. *Journal of Financial Research*, 31(1), 41–63. <https://doi.org/10.1111/j.1475-6803.2008.00231.x>
- Aflatooni, A., & Khazaei, M. (2020). Information Asymmetry, Leverage Deviation, and Leverage Adjustment Speed. *Asian Journal of Business and Accounting*, 13(1), 1–34. <https://doi.org/10.22452/AJBA.VOL13NO1.1>
- Andriosopoulos, D., & Panetsidou, S. (2021). A global analysis of Private Investments in Public Equity. *Journal of Corporate Finance*, 101832. <https://doi.org/10.1016/J.JCORPFIN.2020.101832>
- Autore, D. M., Bray, D. E., & Peterson, D. R. (2009). Intended use of proceeds and the long-run performance of seasoned equity issuers. *Journal of Corporate Finance*, 15(3), 358–367. <https://doi.org/10.1016/j.jcorpfin.2008.12.003>

- Baker, M., & Wurgler, J. (2002b). Market timing and capital structure. *Journal of Finance*, 57(1), 1–32. <https://doi.org/10.1111/1540-6261.00414>
- Baker, M., & Wurgler, J. (2007). Investor Sentiment in the Stock Market. *Journal of Economic Perspectives*, 21(2), 129–151. <https://doi.org/10.1257/jep.21.2.129>
- Banerjee, P., & Deb, S. G. (2015). The Choice between QIP and Rights Issue: Evidence from India. *Global Business Review*, 16(5_suppl), 155S–174S. <https://doi.org/10.1177/0972150915601260>
- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *Journal of Finance*, 55(2), 773–806. <https://doi.org/10.1111/0022-1082.00226>
- Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies*, 21(2), 785–818. <https://doi.org/10.1093/RFS/HHM079>
- Bektić, D., & Regele, T. (2018). Exploiting uncertainty with market timing in corporate bond Markets. *Journal of Asset Management*, 19(2), 79–92. <https://doi.org/10.1057/s41260-017-0063-6>
- Brennan, M. J., & Wang, A. W. (2010). The mispricing return premium. *Review of Environmental Economics and Policy*, 23(9), 3437–3468. <https://doi.org/10.2139/SSRN.1232484>
- Bunnenberg, S., Rohleder, M., Scholz, H., & Wilkens, M. (2019). Jensen’s alpha and the market-timing puzzle. *Review of Financial Economics*, 37(2), 234–255. <https://doi.org/10.1002/rfe.1033>
- Cagnazzo, A. (2022). Market-timing performance of mutual fund investors in Emerging Markets. *International Review of Economics and Finance*, 77, 378–394. <https://doi.org/10.1016/j.iref.2021.10.004>
- Cella, C. (2020). Institutional investors and corporate investment. *Finance Research Letters*, 32. <https://doi.org/10.1016/j.frl.2019.04.026>
- Chen, H. C., Dai, N., & Schatzberg, J. D. (2010). The choice of equity selling mechanisms: PIPEs versus SEOs. *Journal of Corporate Finance*, 16(1), 104–119. <https://doi.org/10.1016/j.jcorpfin.2009.08.003>
- Chen, H.-C., Dai, N., & Schatzberg, J. D. (2010). The choice of equity selling mechanisms: PIPEs versus SEOs. *Journal of*

- Corporate Finance*, 16(1), 104–119. <https://doi.org/10.1016/J.JCORPFIN.2009.08.003>
- Chen, Y., & Liang, B. (2007). Do market timing hedge funds time the market? *Journal of Financial and Quantitative Analysis*. <https://doi.org/10.1017/s0022109000003410>
- Clarke, J., Dunbar, C., Kahle, K. M., Clarke, J., Dunbar, C., & Kahle, K. M. (2001). Long-Run Performance and Insider Trading in Completed and Canceled Seasoned Equity Offerings Published by : Cambridge University Press on behalf of the University of Washington School of Business Administration Stable URL: <http://www.jstor.org/stable/267>. *Journal of Financial and Quantitative Analysis*, 36(4), 415–430.
- Cohen, L., Malloy, C., & Pomorski, L. (2012). Decoding Inside Information. *Journal of Finance*, 67(3), 1009–1043. <https://doi.org/10.1111/j.1540-6261.2012.01740.x>
- Cooper, D. R., & Schindler, P. S. (2001). Business research methods. Irwin/McGraw-Hill.
- Dittmar, A., & Field, L. C. (2015). Can managers time the market? Evidence using repurchase price data. *Journal of Financial Economics*, 115(2), 261–282. <https://doi.org/10.1016/J.JFINECO.2014.09.007>
- Edelen, R. M., Ince, O. S., & Kadlec, G. B. (2016). Institutional investors and stock return anomalies. *Journal of Financial Economics*, 119(3), 472–488. <https://doi.org/10.1016/J.JFINECO.2016.01.002>
- El Ammari, A., Vidal, M., & Vidal-García, J. (2023). European market timing. *Journal of Economic Asymmetries*, 27. <https://doi.org/10.1016/j.jeca.2022.e00279>
- Elyasiani, E., & Jia, J. (2010). Distribution of institutional ownership and corporate firm performance. *Journal of Banking and Finance*, 34(3), 606–620. <https://doi.org/10.1016/j.jbankfin.2009.08.018>
- Fajri, S., Irawan, T., & Andati, T. (2019). Kajian Penerapan Market Timing di Pasar Modal Indonesia. *Jurnal Manajemen Indonesia*, 19(1), 46–55. <https://doi.org/10.25124/jmi.v19i1.1983>
- Frijns, B., Huynh, T. D., Tourani-Rad, A., & Westerholm, P. J. (2018). Institutional trading and asset pricing. *Journal of Banking and Finance*, 89, 59–77. <https://doi.org/10.1016/j.jbankfin.2018.01.018>

- Ghaly, M., Dang, V. A., & Stathopoulos, K. (2020). Institutional investors' horizons and corporate employment decisions. *Journal of Corporate Finance*, 64. <https://doi.org/10.1016/j.jcorpfin.2020.101634>
- Gomes, A., & Phillips, G. (2012). Why do public firms issue private and public securities? *Journal of Financial Intermediation*, 21(4), 619–658. <https://doi.org/10.1016/J.JFI.2012.03.001>
- Gompers, P. A., & Metrick, A. (2001). Institutional Investors and Equity Prices. *The Quarterly Journal of Economics*, 116(1), 229–259. <https://www.jstor.org/stable/2696448>
- Gustafson, M. T., & Iliev, P. (2017). The effects of removing barriers to equity issuance. *Journal of Financial Economics*, 124(3), 580–598. <https://doi.org/10.1016/j.jfineco.2017.03.008>
- Hasnaoui, J. A., Rizvi, S. K. A., Reddy, K., Mirza, N., & Naqvi, B. (2021). Human capital efficiency, performance, market, and volatility timing of Asian equity funds during COVID-19 outbreak. *Journal of Asset Management*, 22(5), 360–375. <https://doi.org/10.1057/s41260-021-00228-y>
- Hertzel, M. G., & Li, Z. (2010). Behavioral and rational explanations of stock price performance around SEOs: Evidence from a decomposition of market-to-book ratios. *Journal of Financial and Quantitative Analysis*, 45(4), 935–958. <https://doi.org/10.1017/S002210901000030X>
- Hovakimian, A., & Hu, H. (2016a). Institutional shareholders and SEO market timing. *Journal of Corporate Finance*, 36, 1–14. <https://doi.org/10.1016/j.jcorpfin.2015.09.009>
- Hovakimian, A., & Hu, H. (2016b). Institutional shareholders and SEO market timing. *Journal of Corporate Finance*, 36, 1–14. <https://doi.org/10.1016/J.JCORPFIN.2015.09.009>
- Huang, Y., Uchida, K., & Zah, D. (2015). How Can Managers Anticipate Future Stock Overvaluation? *SSRN Electronic Journal*. <https://doi.org/10.2139/SSRN.2564917>
- Karpoff, J. M., & Lee, D. (1991). Insider Trading before New Issue Announcements. *Financial Management*, 20(1), 18. <https://doi.org/10.2307/3666093>
- Kim, J. H., & Song, K. (2020). The choice of SEO method in Korea: Rights vs. public offers. *Journal of Financial Markets*, 51, 100532. <https://doi.org/10.1016/j.finmar.2020.100532>

- Kim, W., & Weisbach, M. S. (2008a). Motivations for public equity offers: An international perspective. *Journal of Financial Economics*, 87(2), 281–307. <https://doi.org/10.1016/j.jfineco.2006.09.010>
- Kim, W., & Weisbach, M. S. (2008b). Motivations for public equity offers: An international perspective. *Journal of Financial Economics*, 87(2), 281–307. <https://doi.org/10.1016/j.jfineco.2006.09.010>
- Lorenz, F. (2019). Underpricing and market timing in SEOs of European REITs and REOCs. *Journal of Property Investment & Finance*, 38(3), 163–180. <https://doi.org/10.1108/JPIF-07-2019-0099>
- Lorenz, F. (2020). Underpricing and market timing in SEOs of European REITs and REOCs. *Journal of Property Investment and Finance*, 38(3), 163–180. <https://doi.org/10.1108/JPIF-07-2019-0099>
- Loughran, T., & Ritter, J. R. (1995). The New Issues Puzzle. *The Journal of Finance*, 50(1), 23–51. <https://doi.org/10.1111/j.1540-6261.1995.tb05166.x>
- Loughran, T., & Ritter, J. R. (1997). The operating performance of firms conducting seasoned equity offerings. *Journal of Finance*, 52(5), 1823–1850. <https://doi.org/10.1111/J.1540-6261.1997.TB02743.X>
- Melia, A., Docherty, P., & Easton, S. (2020). The impact of regulation on the seasoned equity offering decision. *Australian Journal of Management*, 45(1), 94–113. <https://doi.org/10.1177/0312896219833724>
- Miller, S., Qiu, B., Wang, B., & Yang, T. (2022). Monitoring institutional ownership and corporate innovation. *Journal of Empirical Finance*, 69, 144–165. <https://doi.org/10.1016/j.jempfin.2022.09.004>
- Pagano, M., Panetta, F., & Zingales, L. (1998). American Finance Association. Why Do Companies Go Public? An Empirical Analysis. *The Journal of Finance*, 53(1), 27–64.
- Pereira da Silva, P. (2021). Do managers pay attention to the market? A review of the relationship between stock price informativeness and investment. *Journal of Multinational Financial Management*, 59, 100675. <https://doi.org/10.1016/j.mulfin.2020.100675>
- Porta, R. La, Lopez-De-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal Determinants of External Finance. *The Journal of Finance*, 52(3), 1131. <https://doi.org/10.2307/2329518>

- Qian, H. (2014). The timing of seasoned equity offerings: a duration analysis. *Managerial Finance*, 40(6), 565–586. <https://doi.org/10.1108/MF-09-2013-0244>
- Ratih, D. (2019). Equity market timing and capital structure: evidence on post-IPO firms in Indonesia. *International Journal of Emerging Markets*, 16(2), 391–407. <https://doi.org/10.1108/IJOEM-04-2018-0197>
- Rhodes-Kropf, M., Robinson, D. T., & Viswanathan, S. (2005). Valuation waves and merger activity: The empirical evidence. *Journal of Financial Economics*, 77(3), 561–603. <https://doi.org/10.1016/j.jfineco.2004.06.015>
- Rossi, A., & Sahlström, P. (2019). Equity issuance motives and insider trading. *Journal of Corporate Finance*, 58(January), 726–743. <https://doi.org/10.1016/j.jcorpfin.2019.07.013>
- Santos, D. D., & Gama, P. (2019). Timing the market with own stock: an extensive analysis with buying and selling evidence. *International Journal of Managerial Finance*, 16(2), 141–164. <https://doi.org/10.1108/IJMF-05-2019-0194>
- Santos, D. D., & Gama, P. (2020). Timing the market with own stock: an extensive analysis with buying and selling evidence. *International Journal of Managerial Finance*, 16(2), 141–164. <https://doi.org/10.1108/IJMF-05-2019-0194>
- Shleifer, A., & Vishny, R. W. (1986). Large Shareholders and Corporate Control. *Journal of Political Economy*, 94(3, Part 1), 461–488. <https://doi.org/10.1086/261385>
- Sony, B., Bhadurib, S., Sony, B., & Bhadurib, S. (2020). *Information Asymmetry and the Choice between Rights Issue and Private Placement of Equity*. October.
- Tchamyou, V. S., Asongu, S. A., & C. Nwachukwu, J. (2018). Effects of asymmetric information on market timing in the mutual fund industry. *International Journal of Managerial Finance*, 14(5), 542–557. <https://doi.org/10.1108/IJMF-09-2017-0187>
- Thu Luu, Q., & Duong Dang, K. (2022). Trading behavior of institutional investors and CEO's market timing. *Asia Pacific Management Review*. <https://doi.org/10.1016/J.APMRV.2022.03.002>
- Utamaningsih, A., Utamaningsih, A., Tandelilin, E., Husnan, S., & Sartono, R. A. (2015). Asymmetric Information in The IPO

- Underwriting Process on The Indonesia Stock Exchange: Pricing, Initial Allocation, Underpricing, and Price Stabilization. *Journal of Indonesian Economy and Business*, 28(3), 311–321. <https://doi.org/10.22146/jieb.6220>
- Wadhwa, K., Nagi Reddy, V., Goyal, A., & Mohamed, A. (2016a). IPOs and SEOs, real investments, and market timing: Emerging market evidence. *Journal of International Financial Markets, Institutions and Money*, 45, 21–41. <https://doi.org/10.1016/j.intfin.2016.05.007>
- Wadhwa, K., Nagi Reddy, V., Goyal, A., & Mohamed, A. (2016b). IPOs and SEOs, real investments, and market timing: Emerging market evidence. *Journal of International Financial Markets, Institutions and Money*, 45, 21–41. <https://doi.org/10.1016/j.intfin.2016.05.007>
- Walker, M. D., & Yost, K. (2008). Seasoned equity offerings: What firms say, do, and how the market reacts. *Journal of Corporate Finance*, 14(4), 376–386. <https://doi.org/10.1016/j.jcorpfin.2008.04.001>
- Wruck, K. H. (1989). Equity ownership concentration and firm value: Evidence from private equity financings. *Journal of Financial Economics*, 23(1), 3–28. [https://doi.org/10.1016/0304-405X\(89\)90003-2](https://doi.org/10.1016/0304-405X(89)90003-2)
- Wu, Y. (2004). The choice of equity-selling mechanisms. *Journal of Financial Economics*, 74(1), 93–119. <https://doi.org/10.1016/J.JFINECO.2003.08.003>