

# DETERMINANTS OF INITIAL RETURN PERFORMANCE IN INDONESIA INITIAL PUBLIC OFFERINGS: A 2018-2022 ANALYSIS

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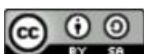
## ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh usia perusahaan, risiko penawaran umum, reputasi underwriter, reputasi auditor, industri perusahaan, nilai Altman Z-Score, ukuran perusahaan, dan rencana penggunaan dana penawaran umum terhadap tingkat initial return penawaran umum perdana. Dalam penelitian ini, rencana penggunaan dana penawaran umum terbagi atas growth opportunities, debt repayment, dan working capital. Sampel pada penelitian ini merupakan perusahaan yang melakukan aktivitas pencatatan pada Bursa Efek Indonesia di periode 2018-2022. Selain pengujian menggunakan Ordinary Least Square, metode regresi dengan Quantile Regression digunakan untuk menganalisis pengaruh dalam model pada tingkat kuantil. Secara keseluruhan, risiko penawaran umum, Altman Z-Score, total aset, dan growth opportunities memiliki pengaruh positif terhadap tingkat initial return penawaran umum. Selain itu, reputasi underwriter, reputasi auditor, industri perusahaan, debt repayment, dan working capital berpengaruh negatif terhadap tingkat initial return di Bursa Efek Indonesia. Sementara usia perusahaan tidak memiliki pengaruh yang signifikan terhadap tingkat initial return di pasar modal Indonesia.

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## ABSTRACT

*This research aims to analyze the impact of firm age, IPO risk, underwriter reputation, auditor reputation, company's industry, Altman Z-Score, firm size, and intended use of IPO proceeds on the level of initial returns of IPOs. In this study, the intended use of IPO proceeds is categorized into growth opportunities, debt repayment, and working capital. The sample for this study consists of companies listed on the Indonesia Stock Exchange during the period of 2018-2022. In addition to the Ordinary Least Square test, the regression method with Quantile Regression is used to analyze the effects in the model at different quantile levels. Overall, IPO risk, Altman Z-Score, total assets, and growth opportunities have a positive influence on the level of initial returns of IPOs. Furthermore, underwriter reputation, auditor reputation, company's industry, debt repayment, and working capital have a negative influence on the level of initial returns on the Indonesia Stock Exchange. On the other hand, firm age does not have a significant effect on the level of initial returns in the Indonesian capital market.*



## INTRODUCTION

As public participation in the capital market grows, the discussion around Initial Public Offering (IPO) initial returns becomes an intriguing subject to explore. EY's Global IPO Trends: 2021 survey ranks Indonesia eighth globally in IPO numbers (EY, 2021). Despite the economic downturn in 2020-2021, Indonesia saw consistently over 50 IPOs.

The value of an IPO is determined by underpricing and overpricing (Rathnayake et al., 2019). Underpricing indicates the offer price doesn't reflect the true value of the shares, potentially missing the company's funding opportunities (Loughran & Ritter, 2002). Previous research also found that underpricing occurs more frequently compared to overpricing (Ahmad-Zaluki & Badru, 2021; Loughran et al., 1994; Rathnayake et al., 2019). The level of IPO initial return is influenced by changes in stock values in the secondary market, linked to asymmetric information and ex ante uncertainty (Zou et al., 2020; Chen et al., 2004). Several theories have tried to explain the initial return, but there is still uncertainty regarding which theory is superior in explaining initial return (Yong, 2007).

Underwriters play a crucial role in determining the IPO offering price, ensuring shares are sold at an acceptable level, and avoiding losses from unsold shares in the capital market (Liu & Ritter, 2011). The study conducted by Leone et al. (2007) found that reputable auditors negatively impact on initial return, contrasting of findings by Sundarasan et al. (2018). Furthermore, Ahmad-Zaluki & Badru (2021) found a positive relationship between firm size and initial return, contrary to Leone et al. (2007). In addition to these findings, differences in market conditions and public offering policies necessitate a broader exploration of studies on initial return. Unlike *Bursa Malaysia* who commonly use fixed-price offerings as the pricing mechanism, (Ahmad-Zaluki & Badru, 2021), *Bursa Efek Indonesia* implements a book building period prior to the offering period. Additionally, the United States doesn't mandate IPO proceeds disclosure, unlike Indonesia, which requires such disclosure for IPO planning companies.

Ahmad-Zaluki & Badru (2021) assert that disclosing a company's intended use of IPO funds better explains initial return levels. Their study considers various variables, including company age, offer risk, underwriter reputation, auditor reputation, industry, Altman Z-Score, and firm size. This study extends their approach by applying the isometric log-ratio transformation method to classify the intended use of IPO proceeds, aiming to contribute new insights to the analysis of initial return in Indonesia's capital market.

### Literature Review

The initial return is defined as the difference in stock price change between the primary market and the first day of trading in the secondary market (Gautama et al., 2015). Underpricing and overpricing are associated with uncertainty about the company's stock value and investor interest in the offered share (Sanders & Boivie, 2004).

Ex ante uncertainty refers to the uncertainty on company's share valuation in the aftermarket, arises due to limitations and asymmetric information among investors during an IPO (Clarkson & Merkley, 1994; Rock, 1986). Higher ex ante uncertainty is related with higher initial returns due to varying expectations resulting from differences in information quality received by investors (Beatty & Welch, 1996). Engelen & van Essen (2010) argue issuers intentionally generate higher initial returns to compensate for high ex ante uncertainty.

Signaling theory addresses information asymmetry, where some parties have more access to information than others, and signals can be used to reduce this disparity (Connelly et al., 2011). Company signals its quality by offering its shares at a lower price, implying a higher expected return for investors (Allen & Faulhaber, 1989). Companies also send signals regarding its quality through various means, such as offering price, offering size, underwriter and auditor involvement, and others (Sundarasan et al., 2018).

The risk-return trade-off theory explains that companies with higher risk offers greater potential return (Ross et al., 2015). Badru & Ahmad-Zaluki (2018) and Rathnayake dkk. (2019) found a positive relationship between the risk of IPO

and the level of initial return, indicating higher potential returns with increased risk.

Liquidity refers to the ease with which an asset can be converted into cash, reduces financial distress risk related to debt repayment or current asset purchase. However, liquid assets have lower potential returns compared to other investments, which may reduce company's potential profit (Ross et al., 2015). Excessively liquid assets can be an indicator of unproductive funds, thereby lowering the company's level of profitability (Vätavu, 2015).

## **METHOD**

### *Sample Selection*

At the end of 2022, there were a total of 824 active companies listed on the Indonesia Stock Exchange. The sample of this study consists of 251 companies that conducted IPOs between 2018 and 2022, representing 92% of total. This study utilized secondary data which collected manually from the companies' prospectuses of initial public offerings (IPOs), including company age, IPO offer price, underwriter, auditor, financial information, and company's intended use of IPO proceeds. In addition, data is also sourced from Refinitiv Thomson Reuters and the Indonesia Stock Exchange website. The regression methods in this study are Ordinary Least Square (OLS) and Quantile Regression (QR). Prior to conducting the regression analysis, the researcher applied the isometric log-ratio transformation to variables that are compositional data.

### *Dependent and Independent Variable*

The variables used in this study are based on the research conducted by Ahmad-Zaluki & Badru (2021). In this study, the dependent variable is represented by initial return while the independent variables consist of company age, offer risk, underwriter reputation, auditor reputation, industry of the company, Altman Z-Score, firm size, and the intended use of initial public offering proceeds –categorized into growth opportunities, debt repayment, and working capital.

The regression model used are as follows:

$$IR_i = \beta_0 + \beta_1 AGE_i + \beta_2 IPORISK_i + \beta_3 UNDERWRITERD_i + \beta_4 AUDITORD_i + \beta_5 HITECH_i + \beta_6 Z\_SCORED_i + \beta_7 TOTALASSET_i + \beta_8 GRWTOPP_i + \beta_9 DEBTREP_i + \beta_{10} WRKCAP_i + e_i$$

**Table 1. Dependent and Independent Variables in The Study**

Dependent Variables	Description	Formula
Initial Return (IR)	The measurement of the level of initial return in initial public offering.	$IR_i = \left( \frac{P_{i,t} - P_{i,0}}{P_{i,0}} \right) * 100$
Independent Variables	Description	Formula
Firm Age (AGE)	The age of the firm i, form year of establishment to the listing year.	$AGE_i = TIPO_i - T_{i,0}$
IPO Risk (IPORISK)	The reciprocal of the IPO offer price.	$IPORISK_i = 1/P_{IPOi}$
Underwriter Reputation (UNDERWRITERD)	The measurement of underwriter reputation, represented as a dummy variable of 1 for highly reputable underwriter, otherwise 0. Reputable underwriters include Top 5 underwriter with highest IPO fund proceeds.	
Auditor Reputation (AUDITORD)	The measurement of auditor reputation, represented as a dummy variable of 1 for company's financial information audited by Big4 auditor's reputable auditor, otherwise 0.	
Company's Industry (HITECH)	Represents a dummy variable of 1 for IPO company from the technology industry, otherwise 0.	
Altman Z-Score (Z_SCORED)	The measurement of IPO company's financial soundness, represented as a dummy variable of 1 for company with Altman Z-score less than 1.23, otherwise 0.	$Z' = 0.717(X_1) + 0.847(X_2) + 3.107(X_3) + 0.420(X_4) + 0.998(X_5)$
Company Size (TOTALASSET)	The measurement of the natural logarithm of IPO company's total assets as disclosed in the prospectus.	
Growth Opportunities (GRWTOPP)	The percentage of the amount allocated to use of IPO proceeds for growth opportunities purposes divided by the total proceeds.	
Debt Repayment (DEBTREP)	The percentage of the amount allocated to use of IPO proceeds for debt repayment purposes divided by the total proceeds.	
Working Capital (WRKCAP)	The percentage of the amount allocated to use of IPO proceeds for working capital purposes divided by the total proceeds.	

### Hypothesis Development

Company age (AGE) measures the duration of the company's establishment. As the company matures, more information about the company becomes disseminated to the public, thereby reducing the ex-ante uncertainty associated with the company. Studies conducted by Engelen & van Essen (2010) found company age has a significant relationship with initial return in their research. However, Ahmad-Zaluki & Badru (2021) and Rathnayake dkk. (2019) did not find a significant relationship between company age and initial return.

**H<sub>1</sub>: Company age is significantly related to IPO initial return.**

The research conducted by Ahmad-Zaluki & Badru (2021) found that offer risk has a significant impact on the level of initial return. Several prior studies

also found a significant relationship between offer risk and initial return (Badru & Ahmad-Zaluki, 2018; Rathnayake et al., 2019).

**H<sub>2</sub>: IPO risk is significantly related to IPO initial return.**

Previous studies found a significant negative relationship between underwriter reputation and the level of initial return (Beatty & Ritter, 1986; Sundarasen dkk., 2018). In contrast, Ahmad-Zaluki & Badru (2021) found that companies utilizing renowned underwriters aim to signal their quality.

**H<sub>3</sub>: Underwriter reputation is significantly related to IPO initial return.**

Leone dkk. (2007) found a significant negative relationship between the auditor reputation and initial return. In contrast, the study conducted by Sundarasen dkk. (2018) discovered that companies employing renowned auditors send signals to investors regarding the quality of financial information, thereby increasing investor interest in the company's public offering.

**H<sub>4</sub>: Auditor reputation is significantly related to IPO initial return.**

The technology industry is associated with higher potential for company development, thereby increasing ex ante uncertainty in the company's initial public offering. Leone dkk. (2007) found a significant positive relationship between companies in the technology industry and the level of initial return, contrary with the results found by Ahmad-Zaluki & Badru (2021).

**H<sub>5</sub>: Company's industry is significantly related to IPO initial return.**

Altman Z-Score serves as an indicator to measure a company's financial survival ability, where companies with higher Altman Z-Score values reflect better financial quality and prospects. Agathee dkk. (2012) found a negative influence of Altman Z-Score on the level of initial return. Conversely, Ahmad-Zaluki & Badru (2021) found a positive relationship between Altman Z-Score and initial return.

**H<sub>6</sub>: Altman Z-Score is significantly related to IPO initial return.**

Bigger companies possess more information for investors and provide a clearer outlook on their prospects, reducing ex ante uncertainty and resulting in smaller initial returns. (Rathnayake et al., 2019). Nagata (2013) also found a

significant negative relationship between company size and initial return. In contrast, Sundarasen dkk. (2018) discovered a significant positive relationship between company size and initial return.

**H7: Firm size is significantly related to IPO initial return.**

The research conducted by Ahmad-Zaluki & Badru (2021) discovered a positive correlation between the proportion of IPO proceeds allocated to growth opportunities and higher initial returns. Such allocations signal company prospects, thereby increasing ex-ante uncertainty to the potential earnings of the company, leading to higher initial returns (Beatty & Ritter, 1986). This finding aligns with McGuinness (2019) study, emphasizing increased demand for IPOs with proceeds allocated for growth opportunities.

**H8: Intended use of IPO proceeds for growth opportunities is significantly related to IPO initial return.**

Allocating IPO proceeds to debt repayment signals financial responsibility, but it also indicates a decrease in the company's income potential, deterring investor interest (McGuinness, 2019). The study conducted by Leone dkk. (2007) found a significant negative influence on initial return when IPO funds are used for debt repayment, consistent with Ahmad-Zaluki & Badru (2021). On the other hand, Komenkul dkk. (2016) discovered a positive relationship between the use of funds for debt repayment and underpricing.

**H9: Intended use of IPO proceeds for debt repayment is significantly related to IPO initial return.**

In their research, Ljungqvist & Wilhelm (2003) found higher initial returns when IPO proceeds are used for working capital, related to increasing uncertainty about the company's value. Amor & Kooli (2017) also found that investors are interested in companies directing IPO funds to daily operations. Consistent with these findings, Ahmad-Zaluki & Badru (2021) found a significant positive influence of IPO proceeds for working capital on initial return.

**H10: Intended use of IPO proceeds for working capital is significantly related to IPO initial return.**

## RESULTS AND DISCUSSION

### Descriptive Statistics

Prior to data processing, descriptive analysis was conducted to examine the characteristics of the variables used. The results of the descriptive statistical analysis include the number of observations, mean, standard deviation, minimum value, and the maximum value.

**Table 2. Descriptive Statistics**

Variable	N	Mean	Std. Dev.	Min.	Maks.
IR (%)	251	35.69	24.00	-35.71	70.00
AGE	251	17.01	12.58	1.00	64.00
IPORISK	251	0.01	0.00	0.00	0.01
Offer Price (Rp)	251	418.74	995.24	70.00	12100.00
UNDERWRITERD	251	0.35	0.48	0.00	1.00
AUDITORD	251	0.12	0.33	0.00	1.00
HITECH	251	0.09	0.29	0.00	1.00
Z_SCORED	251	0.43	0.50	0.00	1.00
Altman Z-Score	251	2.15	3.05	-2.11	34.92
TOTALASSET (ln)	251	26.57	1.58	23.01	32.63
Total Asset (Rp Miliar)	251	1787.72	9702.81	9.80	148212.74
GRWTOPP (%)	251	44.55%	36.17%	0.00%	100.00%
DEBTREP (%)	251	6.84%	16.59%	0.00%	100.00%
WRKCAP (%)	251	48.57%	36.57%	0.00%	100.00%
GRWTOPP (ilr)	251	1.30	3.26	-5.72	6.30
DEBTREP (ilr)	251	-3.53	2.60	-5.74	6.30
WRKCAP (ilr)	251	2.23	2.92	-5.74	6.30

**Notes:**

**IR:** Initial Return; **AGE:** Company age; **IPORISK:** The reciprocal of the IPO offer price; **UNDERWRITERD:** Dummy variable of 1 for highly reputable underwriter, otherwise 0; **AUDITORD:** Dummy variable of 1 for high-quality auditor, otherwise 0; **HITECH:** Dummy variable of 1 for technology industry, otherwise 0; **Z\_SCORED:** Dummy variable of 1 for company with Altman Z-score less than 1.23, otherwise 0; **TOTALASSET:** Natural logarithm of company's total asset; **GRWTOPP:** Percentage of IPO proceeds for growth opportunities; **DEBTREP:** Percentage of IPO proceeds for debt repayment; **WRKCAP:** Percentage of IPO proceeds for working capital.

The descriptive statistics in Table 2 reveal that the level of initial return tends to experience underpricing, as indicated by the positive mean value. In addition, outliers were identified in the study.

### Regression Results

The tests were conducted at significance levels of 1%, 5%, and 10%. The regression methods used are Ordinary Least Squares (OLS) and Quantile Regression (QR).

**Table 3. Regression Results**

Variable	OLS	OLS	Q1	Q2	Q3
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AGE	-0.090	-0.067	-0.006	0.212	-0.007
IPORISK	<b>1021.37*</b>	<b>1020.25*</b>	722.648	1.119.459	<b>1346.18*</b>
UNDERWRITERD	0.055	-0.486	3.046	-6.397	-2.453
AUDITOR	<b>-16.91***</b>	<b>-15.56***</b>	<b>-14.35*</b>	<b>-16.20*</b>	<b>-16.24**</b>
HITECH	-8.747	-7.900	1.623	4.432	-4.891
Z_SCORED	<b>6.97**</b>	<b>7.12**</b>	0.787	-2.359	1.228
TOTALASSET	<b>2.25*</b>	<b>2.09*</b>	<b>3.96**</b>	<b>4.04**</b>	2.504
GRWTOPP		0.727	<b>1.89***</b>	<b>1.24*</b>	0.903
DEBTREP		-0.331	<b>-1.84**</b>	-1.060	-0.895
WRKCAP		-0.396	-0.051	-0.188	-0.007
_cons	-28.603	-25.771	<b>-109.26**</b>	<b>-100.05*</b>	-51.212
R2	10.82%	11.74%			
Adj R2	8.25%	8.45%			
Pseudo R2			7.93%	8.37%	7.44%
<b>Variable</b>	<b>Q4</b>	<b>Q5</b>	<b>Q6</b>	<b>Q7</b>	<b>Q8</b>
AGE	0.003	0.025	0.020	-0.071	-0.012
IPORISK	<b>1142.24*</b>	931.311	<b>1444.36*</b>	1.170.594	<b>2023.84***</b>
UNDERWRITERD	0.323	1.961	-0.797	-1.463	<b>-6.20*</b>
AUDITOR	<b>-14.97**</b>	<b>-14.68**</b>	-9.271	<b>-17.43**</b>	<b>-12.00**</b>
HITECH	-4.947	-9.321	-3.034	-10.167	<b>-12.87**</b>
Z_SCORED	3.377	<b>15.09***</b>	<b>18.51***</b>	<b>10.77**</b>	5.281
TOTALASSET	0.713	0.250	-1.176	-0.471	0.369
GRWTOPP	0.333	0.657	1.064	1.067	0.619
DEBTREP	-0.022	0.313	0.347	-0.147	-0.484
WRKCAP	-0.312	-0.965	<b>-1.41*</b>	-0.920	-0.135
_cons	4.509	21.257	60.056	57.379	38.582
R2					
Adj R2					
Pseudo R2	6.42%	5.24%	9.43%	8.05%	15.54%
<b>Notes:</b> ***, **, and * represent the level of significance 1, 5, and 10% respectively.					

### Discussion

Table 3 reveals that company age does not have a significant impact on the initial return, with varied directional influences at different quantile levels. Therefore, the company age is not an indicator for measuring the level of initial return. This aligns with findings from Rathnayake dkk. (2019) on the *Colombo Stock Exchange* and Ahmad-Zaluki & Badru (2021) on the *Bursa Malaysia*.

Regression results indicate that IPO risk has a significant positive influence on the initial return, particularly at the 10% level in OLS estimation and at the third, fourth, and sixth quantiles, and 1% level of influence at the eighth quantiles. This aligns with the risk-return trade-off theory and is consistent with

findings from Badru & Ahmad-Zaluki (2018), and Rathnayake dkk. (2019). But it is in contrast with the finding by Abdul Rahim & Yong (2010).

The regression results reveal a significant negative relationship between underwriter reputation and initial return at the eighth quantile with a 1% significance level, consistent with Sundarasen dkk. (2018). It suggests that the underwriter reputation variable serves as a proxy for ex ante uncertainty. In addition to underwriters, the OLS estimation also shows that auditor reputation has a negative relationship with the initial return at a 5% significance level, aligning with finding by Wang & Wilkins (2007). Furthermore, study also found that the Big 4 auditors provide better audit quality (Park, 2017), thereby reducing information asymmetry and ambiguity related to the company.

Based on the regression result, HITECH shown a significant negative relationship with IR at the eighth quantile and a non-significant positive relationship at the first and second quantiles. Similar findings of a negative relationship were also observed in the study conducted by Ahmad-Zaluki & Badru, (2021), although they didn't find significant results regarding the level of initial return. This suggests that using the HITECH variable as a proxy for ex ante uncertainty may not fully explain its influence on initial return.

In contrast, Z\_SCORED shows a significant positive relationship with initial return, with a 5% significance level on OLS regression. Quantile regression indicates a strengthened positive relationship at upper quantiles (quantile 7) and middle quantiles (quantiles 5 and 6) at a 1% significance level. These findings are consistent with study by Agathee dkk. (2012) on the Stock Exchange of Mauritius. The results also support Altman Z-Score as an indicator of a company's financial distress (Altman et al., 1977).

Firm size demonstrates a significant positive relationship with initial return, with a 10% significance level in OLS and 5% in the first and second quantiles. This emphasizes the signaling role of firm size, suggesting larger companies signal higher quality, attracting investor interest and leading to higher initial returns (Allen & Faulhaber, 1989). These findings are consistent

with previous research (Ahmad-Zaluki & Badru, 2021; Sundarasen et al., 2018) that found a positive relationship between firm size and initial return.

The use of IPO proceeds is categorized into GRWTOPP (Growth Opportunities), DEBTREP (Debt Repayment), and WRKCAP (Working Capital). In OLS, GRWTOPP, DEBTREP, and WRKCAP did not show significant relationships. However, at the quantile level, GRWTOPP displayed a positive relationship at a 10% significance level in the second quantile, strengthening in the first quantile at 1%. DEBTREP exhibited a negative relationship at a 5% significance level in the first quantile, while WRKCAP showed a significant negative effect in the sixth quantile.

The allocation of IPO proceeds to growth opportunities increases risk and ex ante uncertainty related to potential earnings, leading to higher return volatility. This aligns with previous studies showing a positive relationship between growth opportunities and initial return (Ahmad-Zaluki & Badru, 2021; McGuinness, 2019). Conversely, using IPO proceeds for debt repayment exhibits a significant negative relationship with initial return, consistent with McGuinness, (2019) indicating a weakened IPO subscriptions for companies that allocate their IPO proceeds to debt repayment, resulting in lower initial returns. The negative effect between WRKCAP and IR contradicts previous research (Ahmad-Zaluki & Badru, 2021; Wyatt, 2014). Consistent with the Liquidity-Profitability Trade-off theory, funds allocation to current assets tends to reduce profit potential, providing a clearer picture of future profitability, as opposed to being a non-investment commitment of the company as explained in the study by Ljungqvist & Wilhelm (2003). Therefore, funds allocated to growth opportunities are seen as more valuable in the market, supporting the positive relationship observed in this study.

## CONCLUSION

This study aims to examine the factors influencing the initial return in IPOs on the Indonesia Stock Exchange from 2018 to 2022. Results show that

company age has no significant effect, while offer risk shows a positive impact on initial return. In contrast, the underwriter and auditor's reputation, and the company's industry show a significant negative influence on initial return. This study aligns with the Altman Z-Score as a proxy for a company's ex ante uncertainty, indicating that companies with poor financial conditions exhibit higher uncertainty. Larger firm size has a positive influence on the level of initial return suggesting that companies signal their quality through their total asset. Allocating more IPO proceeds to growth opportunities positively influence the level of initial return, while higher allocations to debt repayment and working capital lead to lower returns. These findings support the use of IPO proceeds as proxies for ex ante uncertainty and align with the liquidity-profitability trade-off theory.

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