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Determinants of Underpricing in Initial Public Offerings: A Study of Firm Size, Earnings per Share, Return on Assets, and Debt-to-Equity Ratio

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Purpose: This research paper aims to investigate the determinants of underpricing in Initial Public Offerings (IPOs) by analyzing the impact of firm size, earnings per share (EPS), return on assets (ROA), and debt-to-equity ratio (DER) on underpricing levels.
Design/Methodology/Approach: The study adopts an empirical research design, conducting cross-sectional data analysis on 73 companies that conducted IPOs between March 2018 and March 2023. Data is sourced from reputable financial databases and academic sources.
Findings: The results indicate that firm size has a significant negative relationship with underpricing, suggesting larger companies experience lower levels of underpricing. However, no significant relationships are found between underpricing and EPS, ROA, or DER, indicating these financial variables do not significantly influence IPO underpricing.
Originality: The study contributes to the existing literature on IPO pricing and underpricing, particularly focusing on firm size.
Research Limitations/Implications: Limitations include a relatively small sample size and unexplored factors impacting underpricing.
Practical Implications: The findings assist investors, companies, and analysts in making informed decisions about IPO participation and pricing strategies.
Social Implications: Understanding underpricing determinants contributes to a fairer and more predictable IPO pricing mechanism, promoting transparency and efficiency in the IPO market.

Keywords: IPOs, underpricing, firm size, EPS, ROA, DER, empirical research, cross-sectional data analysis.

1. Introduction

Initial Public Offerings (IPOs) are incredibly important in the Indian financial industry since they represent significant turning points for private businesses looking to generate cash by first opening up their shares to the public. By going public, these businesses are given new funding as well as improved prospects, visibility, and liquidity for their shareholders. However, there are many other aspects to the Indian IPO process, and one fascinating one that has long captured the attention of experts, investors, and market players is the underpricing issue. When the offer price of shares is set lower than their market value on the first day of trading, underpricing happens in the context of Indian IPOs, causing a considerable price increase once the market opens. This price gap frequently leads in significant returns for lucky investors who obtain shares during the IPO. Despite the inherent risks involved with freshly listed firms, the attraction of possible short-term rewards has brought significant attention to IPOs, making them a popular investment option for many.

The investigation of underpricing in Indian IPOs is critical for various reasons. For starters, it gives insights into the dynamics of IPO pricing mechanisms and market players' behaviour during the early phases of a company's public journey. Understanding the causes of underpricing can provide insight on the effectiveness of IPO pricing processes as well as how investors perceive the value of new offerings. Furthermore, researching the causes that contribute to underpricing can provide important insights on investor mood, current market circumstances, and the information asymmetry between issuers and investors in the Indian context. Second, understanding the causes of underpricing can provide useful insights into market efficiency, investor sentiment, and information asymmetry between issuers and investors. A low IPO price may imply considerable demand and favourable investor opinion toward the firm. However, it begs the question of whether the issuer might have acquired more cash by increasing the offer price. This research is critical in determining the

effectiveness of IPO pricing procedures and if corporations are losing money by underpricing their shares. Third, knowing the variables that influence underpricing enables investors, corporations, and financial analysts to make more educated judgments about IPO participation and pricing strategies in the Indian market. Investors may use this knowledge to more properly analyse IPOs, taking into account the possible risks and rewards of underpricing. Companies can benefit from knowing the consequences of underpricing for future financing endeavours and shareholder relations in the Indian setting at the same time.

The purpose of this research study is to look at the factors that contribute to underpricing in Indian IPOs, with a particular emphasis on four major financial variables: business size, earnings per share (EPS), return on assets (ROA), and debt-to-equity ratio (DER). These variables were chosen based on their potential impact on IPO underpricing in the Indian market. Firm size, for example, may signify a company's maturity and position in the Indian market. Larger and more established firms may have more access to information and resources, which might result in more accurate pricing during an IPO. Smaller enterprises, on the other hand, may have more information asymmetry, contributing to underpricing. EPS and ROA give information on the company's profitability and financial performance. Strong financial indicators may pique the curiosity and confidence of investors, decreasing the need for underpricing to tempt them. Companies with lower EPS and ROA, on the other hand, may underprice their IPOs to generate an appealing investment opportunity. The amount of financial leverage and risk connected with the firm is indicated by the DER. Higher leverage may suggest greater financial risk, necessitating underpricing to reward investors for taking on increased risk. Companies with lower debt levels, on the other hand, may be able to establish a higher offer price and avoid underpricing.

To reach our study goal, we used an empirical research approach, conducting cross-sectional data analysis on a carefully chosen sample of 73 firms that went public in India. We acquired data from respected financial databases and academic sources to ensure the quality and robustness of our results, ensuring that the information collected reflects a broad and representative sample of Indian IPOs from various industries and market situations.
The findings of this study are likely to add to the current literature on IPO pricing and underpricing in the Indian context. We want to gain insights into IPO dynamics and promote more rational investment decisions in the Indian IPO market by evaluating the correlations between the selected financial factors and underpricing levels. Furthermore, this research can help to create a more equitable and transparent IPO pricing structure, improving market efficiency, transparency, and investor trust in India. The subsequent sections of this paper will delve into the relevant literature on IPO underpricing, define the variables under consideration, state the research objectives and hypothesis statements, outline the research methodology, and finally provide a detailed analysis of the collected data in the context of the Indian IPO market. The paper finishes with a review of significant results and conclusions, underlining the significance of understanding underpricing causes in supporting a healthy and sustainable Indian IPO market.

2. Literature Review

The research on underpricing in Indian IPOs suggests a number of major elements impacting this occurrence. Mahardika & Ismiyanti (2021) look at Islamic stocks and discover that block holders, Debt to Equity Ratio (DER), Return on Asset (ROA), current ratio, firm size, and business age all have an influence on underpricing. The data was analysed using multiple regression in the research. Saputri & Santoso Marsoem (2020) investigate Indonesian IPOs and discover that current ratio, size, return on assets, debt to equity, and earnings per share all have an impact on underpricing. The study used a quantitative approach with multiple linear regression. Su (2004) investigates Chinese IPOs, discovering a positive relationship between pre-IPO leverage and underpricing, as well as reinforcing signs of insider ownership. The study examined data from 348 initial public offerings (IPOs) using multiple regression analysis. According to Wang and Wilkins (2007), Big 6 auditors decrease underpricing in IPOs, with specialist auditors further reducing underpricing, particularly for small enterprises. The study looked at a large number of IPOs and used univariate and multivariate analyses to determine the association between IPO underpricing and auditor sector specialty. According to Indriani and Marlia (2014), underwriter reputation and financial leverage have a role in Indonesian underpricing. For analysis, the regression approach was applied in the study. Hanafi (2016) examines underpricing fluctuations in Indonesia, attributing them to book building techniques and industry type. Using regression analysis, the researchers examined three offered possibilities. Rodoni et al. (2018) investigates Shariah IPOs in Indonesia, discovering that ROE, underwriter repute, business type, and time all have a negative impact on underpricing. For analysis, the study employed a one-sample t-test and the GLS test. Hanafi & Setiawan (2018) discover that institutional ownership has a detrimental impact on underpricing in Indonesia. The study

examined IPO underpricing using an agency theory framework on 182 IPOs. Arora & Singh (2019) investigate Indian SME IPOs and demonstrate the signalling role of famous auditors and underwriters. Multiple regression analysis was performed in the study to experimentally assess the signalling role. Zou et al. (2020) show a negative link between media tone and Chinese IPO underpricing. The article evaluated the association between media tone and IPO underpricing as well as post-IPO volatility using textual analysis. Ali et al. (2020) investigates the economic repercussions of Pakistani IPO underpricing, finding the effects of asset return, equity, profits per share, and profit margin. For data analysis, the study employed regression analysis. Miswanto & Abdullah (2020) investigate the impact of business size and profitability on underpricing in Indonesia. The descriptive analysis and multiple linear regression analysis were employed in the study. According to Kasmad et al. (2021), ROA, DER, and company size all impact underpricing in Indonesian IPOs. Descriptive statistics and multiple linear regression analysis were employed in the study. Isynuwardhana and Febryan (2022) investigate the factors of underpricing in Indonesia, observing the negative impacts of firm size and earnings per share. Multiple linear regression analysis was employed in the study. Daeli & Wijaya (2020) discover that underwriter reputation and ROA have a major impact on Indonesian underpricing. The descriptive analysis, classical assumption test, and multiple linear regression analysis were employed in the study. Low earnings per share and information asymmetry are identified as drivers to Indonesian underpricing by Abbas et al. (2022). Multiple linear regression analysis was employed in the study. These studies, taken together, shed light on the complex interaction of variables impacting IPO underpricing in the Indian market, with practical implications for investors, issuers, and regulators in controlling underpricing risks.

1.1 Definition of Variable

Variable	Acronym	Evidence from prior studies
Panel A: Dependent Variables		
Underpricing	UP	(Indriani & Marlia, 2014); (Hanafi & Setiawan, 2018); (Daeli & Wijaya, 2020); (Kasmad et al., 2021)
Panel B: Independent Variables		
Size	SIZE	(Wang & Wilkins, 2007); (Hanafi, 2016); (Arora & Singh, 2019)
Earning Per Share	EPS	(Miswanto & Abdullah, 2020); (Ali et al., 2020); (Zou et al., 2020)
Profitability	ROA	(Rodoni et al., 2018); (Isynuwardhana & Febryan, 2022); (Abbas et al., 2022)
Leverage	DER	(Su, 2004); (Saputri & Santoso Marsoem, 2020); (Mahardika & Ismiyanti, 2021)

Table 2.1.1 Definition of Variables

In table 2.1.1, the variables and their corresponding acronyms are defined, along with evidence from prior studies that have examined these variables in the context of IPO underpricing.

Underpricing (UP): The percentage difference between the offer price of an initial public offering (IPO) and the closing price of the IPO's shares on the first day of trading is referred to as underpricing. A positive underpricing value shows that the IPO shares are trading at a higher price than the offer price on the first day. Several previous research have explored the phenomena of underpricing in IPOs and its drivers (Indriani & Marlia, 2014; Hanafi & Setiawan, 2018; Daeli & Wijaya, 2020; Kasmad et al., 2021).

$$UP_i = \frac{(P_{ic} - P_{io})}{P_{io}} \times 100$$

Where:

- UP_i is the underpricing of the ith IPO,
- P_{ic} is the closing price of the IPO shares on the first day of trading,
- P_{io} is the offer price or the initial price at which the IPO shares were offered to the public.

Size (SIZE): Size refers to the total assets or market capitalization of the company and symbolizes the firm's scale or magnitude. Previous research (Wang & Wilkins, 2007; Hanafi, 2016; Arora & Singh, 2019) has looked at how a company's size affects the extent of underpricing in IPOs.

$$Logarithm\ of\ Total\ Assets\ (base\ 10) = log_{10}(Total\ Assets)$$

Where:

• Logarithm of total assets represents size or scale of the company

Earnings Per Share (EPS): EPS is a financial statistic that determines the amount of profit distributed to each outstanding share of common stock in a firm. It is a measure of a company's profitability on a per-share basis. Previous study has investigated the association between EPS and IPO underpricing (Miswanto & Abdullah, 2020; Ali et al., 2020; Zou et al., 2020).

$$EPS = \frac{Net\ Income}{Number\ of\ Outstanding\ Shares}$$

Where:

• EPS represents the Earnings Per Share.

• Net Income refers to the company's net income, which is the total profit earned after deducting all expenses and taxes.

• Number of Outstanding Shares is the total number of common shares of the company held by shareholders.

Profitability (ROA): Return on Assets (ROA) measures a company's capacity to create profits in relation to its total assets. It is an important financial performance statistic. Several previous research (Rodoni et al., 2018; Isynuwardhana & Febryan, 2022; Abbas et al., 2022) have looked at how a company's profitability affects IPO underpricing.

$$ROA = \frac{Net\ Income}{Total\ Assets} \times 100$$

Where:

• ROA represents the Return on Assets, expressed as a percentage.

• Net Income refers to the company's net income, which is the total profit earned after deducting all expenses and taxes.

• Total Assets represents the total assets of the company.

Leverage (DER): The Debt-to-Equity Ratio (DER) assesses a company's financial leverage, or its use of debt financing in relation to equity. It is a critical indicator of financial risk. Previous study (Su, 2004; Saputri & Santoso Marsoem, 2020; Mahardika & Ismiyanti, 2021) investigated the association between a company's leverage and the extent of underpricing observed in its initial public offering (IPO).

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

Where:

• DER represents the Debt-to-Equity Ratio.

• Total Debt refers to the total debt of the company, which includes both short-term and long-term liabilities.

• Total Equity represents the total equity or shareholders' equity of the company, which includes common stock, retained earnings, and additional paid-in capital.

The Debt-to-Equity Ratio compares the proportion of a company's funding from debt to equity. A greater DER shows that the firm relies on debt funding more frequently, which might raise financial risk owing to interest payments and debt obligations. A smaller DER, on the other hand, indicates a reduced reliance on debt and a more prudent financial structure. The Debt-to Equity Ratio is frequently used by investors and analysts to analyse a company's financial risk and capacity to satisfy its debt commitments. A high DER may suggest a larger default risk, whilst a low DER may indicate a more secure financial situation. Previous research on the association between leverage and IPO underpricing might provide insights into how a company's financial risk may impact the pricing of its initial public offering.

This section defines the factors linked to the research subject of IPO underpricing and gives an overview of previous studies that studied the relationship between these variables and underpricing. The findings from previous studies serves as the foundation for future investigation in the current study.

3. Research Objective and Hypothesis Statements

• The objective is to investigate how the company's size, earnings per share, return on assets, and debt-to-equity ratio influence the level of underpricing observed in initial public offerings.

Independent Variable	Null Hypothesis (H0)	Alternative Hypothesis (H1)
Firm size	There is no significant relationship between Firm size and Underpricing.	There is a significant relationship between Firm size and Underpricing.
EPS	There is no significant relationship between EPS and Underpricing.	There is a significant relationship between EPS and Underpricing.
ROA	There is no significant relationship between ROA and Underpricing.	There is a significant relationship between ROA and Underpricing.
DER	There is no significant relationship between DER and Underpricing.	There is a significant relationship between DER and Underpricing.

Table 3.1 Hypothesis Statements

The aim of this research is to look at how different financial factors (firm size, EPS, ROA, and DER) affect the extent of underpricing found in IPOs. According to the null hypothesis, there is no substantial association between any financial variable and underpricing. According to the alternative hypothesis, there is a substantial association between each financial indicator and underpricing. The objective of this research is to see if these financial parameters have an effect on the amount of underpricing in IPOs.

4. Research Methodology

4.1 Research Design

In order to accomplish the study's objectives, an empirical research approach will be used, with an emphasis on the examination of cross-sectional data acquired from enterprises that completed Initial Public Offerings (IPOs). To guarantee dependability and correctness, the data for this study will be collected from trustworthy financial sources and scholarly publications.

4.2 Data Collection

The research's main statistics will contain information on Underpricing (UP) as well as the independent variables, SIZE (firm size), EPS (earnings per share), ROA (return on assets), and DER (debt-to-equity ratio). To produce a complete dataset, important data points for each company's IPO issue, as well as accompanying financial information, will be compiled.The data collecting period chosen ranges from March 2018 to March 2023, capturing IPOs in the Indian market during this time. The study's emphasis on this era is motivated by the need to examine recent Indian IPOs and their potential association with underpricing and major financial factors.

4.3 Data Analysis

The obtained data will be submitted to rigorous econometric analysis in order to investigate the relationships between Underpricing (UP) and the independent variables (SIZE, EPS, ROA, and DER). A multiple linear regression model will be used to do this. This statistical method enables us to determine the coefficients of the independent variables and assess their relevance in explaining differences in Underpricing among IPOs. The multiple linear regression study will reveal how business size, profits per share, return on assets, and debt-to-equity ratio affect the extent of underpricing in IPOs. The study intends to discover possible factors of underpricing in the Indian IPO market by evaluating the correlations between these variables. It is important to acknowledge that the research design and data analysis are subject to certain limitations. The study's reliance on cross-sectional data restricts the ability to establish causality between variables. Additionally, the sample size of 73 company observations, though carefully selected based on data availability constraints, may affect the generalizability of the findings. These limitations will be duly considered when interpreting the results.

4.4 Econometric Model for Cross-Sectional Data Analysis

$$UP_i = \beta_0 + \beta_1 * SIZE_i + \beta_2 * EPS_i + \beta_3 * ROA_i + \beta_4 * DER_i + \varepsilon_i$$

The provided econometric model represents a multiple linear regression equation used for cross-sectional data analysis. The purpose of this model is to examine how various independent variables (SIZE, EPS, ROA, and DER) collectively

influence the dependent variable $Underpricing_i$, which represents the underpricing observed in initial public offerings (IPOs) for different companies.

In the equation:

- UP_i is the dependent variable, representing the level of underpricing in the ith IPO.
- β_0 is the intercept or constant term, representing the expected value of $Underpricing_i$ when all independent variables are zero.
- β_1, β_2, β_3, and β_4 are the regression coefficients, indicating the change in $Underpricing_i$ for each one-unit change in the corresponding independent variable ($SIZE_i$, EPS_i, ROA_i, and DER_i) while holding other independent variables constant.
- $SIZE_i$ represents the ith company's size, typically measured by total assets or market capitalization.
- EPS_i represents the earnings per share for the ith company, which measures its profitability on a per-share basis.
- ROA_i represents the return on assets for the ith company, indicating its profitability relative to its total assets.
- DER_i represents the debt-to-equity ratio for the ith company, measuring its financial leverage.
- Lastly, ε_i is the error term, representing the difference between the actual observed $Underpricing_i$ and the predicted value based on the regression equation. It accounts for unexplained or random variations in $Underpricing_i$ that cannot be attributed to the independent variables.

By estimating the values of the regression coefficients (β_0, β_1, β_2, β_3, and β_4) using statistical methods, the researchers can assess the significance and magnitude of each independent variable's influence on underpricing in IPOs. The results will help determine which variables play a significant role in explaining variations in underpricing and how much they contribute to the overall underpricing observed in IPOs across different companies.

5. Data Analysis

5.1 Descriptive Statistics

Variables	Obs.	Mean	Median	Maximum	Minimum	Std. Dev.
Panel A: Dependent Variables						
UP	73	0.38	0.23	1.85	0	0.39
Panel B: Independent Variables						
SIZE	73	2.95	2.85	4.31	1.49	0.55
EPS	73	24.29	12.07	327	-24.23	52.47
ROA	73	10.05	10.62	30.04	-10.33	8.54
DER	73	0.33	0.14	4.47	-5.58	1

Table 5.1.1 Descriptive Statistics

Table 5.1.1 shows the dataset utilized for investigation, which contains 73 observations on several financial variables connected to initial public offers (IPOs). Underpricing, the dependent variable, measures the degree of underpricing seen in the IPOs, with an average of 38% and a range of no underpricing to 185%. Firm size, earnings per share (EPS), return on assets (ROA), and debt-to-equity ratio (DER) are among the independent factors. The selected firms had an average size of 2.95, EPS of 24.29, ROA of 10.05, and DER of 0.33. These variables' ranges differ, reflecting a wide variety of organizations in terms of financial data. The summary statistics offer valuable insights into the data distribution and central tendencies, providing a foundation for further econometric analysis to explore the relationships between these variables and underpricing in IPOs.

5.2 Pearson Correlation and Multicollinearity diagnostic

UP		SIZE	EPS	ROA	DER
Panel A: Correlation					
UP	1.00				
SIZE	-0.29	1.00			
EPS	-0.05	-0.04	1.00		
ROA	0.12	-0.33	0.21	1.00	

DER	-0.08	0.11	-0.07	-0.12	1.00
Panel B: Multicollinearity					
VIF		1.13	1.05	1.18	1.02

Table 5.2.1 Pearson Correlation and Multicollinearity diagnostic

The correlations between the dependent variable, Underpricing (UP), and the independent variables, Firm Size (SIZE), Earnings Per Share (EPS), Return on Assets (ROA), and Debt-toEquity Ratio (DER), are shown in table 5.2.1, correlation matrix (Panel A). The findings show that Firm Size and Underpricing have a -0.29 negative association, meaning that larger companies have lower levels of underpricing in their IPOs. Underpricing and EPS have a strongly negative connection (-0.05), implying that firms with greater profits per share may display somewhat lower levels of underpricing during IPOs. Underpricing and ROA, on the other hand, have a marginally positive (0.12) association, indicating that firms with better return on assets may face somewhat higher levels of underpricing in their IPOs. Underpricing and DER show a strongly negative connection (-0.08), indicating that firms with greater debtto-equity ratios may have somewhat lower levels of underpricing in their IPOs. Panel B shows the variance inflation factor (VIF) values, which are all close to one, indicating that there is no serious multicollinearity among the independent variables. This means that the independent variables are sufficiently independent of one another, lending credence to regression analysis's ability to understand the model's results.

5.3 Heteroskedasticity Test

Null hypothesis: Homoskedasticity

Test Statistics	Value	Probability
F-statistic	0.402799	0.9684
Obs * R-squared	6.468668	0.9533
Scaled explained SS	11.77339	0.6245

Table 5.3.1 Heteroskedasticity Test: White

The findings of the White test for heteroskedasticity are shown in table 5.3.1. According to the results, the p-values for all three test statistics are relatively high (all larger than 0.05). A high p-value in hypothesis testing suggests that we failed to reject the null hypothesis. As a result, we lack sufficient evidence to reject the null hypothesis of homoskedasticity in this circumstance. This implies that the variance of the errors in the regression model is essentially constant, and the assumption of homoskedasticity is not broken. As a consequence, because the test results do not indicate the occurrence of such a condition, the model's dependability in predicting the connections between variables is not jeopardized.

5.4 Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	-0.192256	0.087107	-2.207116	0.0307
EPS	-0.000587	0.000889	-0.659857	0.5116
ROA	0.001994	0.005782	0.344914	0.7312
DER	-0.020421	0.046186	-0.442141	0.6598
C	0.943574	0.283026	3.333882	0.0014

Table 5.4.1 Regression Results: Underpricing (UP) and Independent Variables

The regression equation is:

$UP_i = -0.192256 * SIZE_i - 0.000587 * EPS_i + 0.001994 * ROA_i - 0.020421 * DER_i + 0.943574 \times C$

Where:

The independent variables are SIZE, EPS, ROA, and DER (Firm Size, Earnings Per Share, Return on Assets, and Debt-to-Equity Ratio).

C represents the constant term (intercept) in the regression equation.

Interpretation of the coefficients:

SIZE (Firm Size): The coefficient of $SIZE_i$ is -0.192256. This indicates that all else being constant, a one-unit increase in Firm Size is associated with a decrease of approximately 0.192256 units in Underpricing. The negative sign suggests an

inverse relationship between Firm Size and Underpricing. The t-statistic of -2.207116 and the probability (p-value) of 0.0307 indicate that the coefficient is statistically significant at a 5% significance level.

EPS (Earnings Per Share): The coefficient of EPS_i is -0.000587. This indicates that all else being constant, a one-unit increase in Earnings Per Share is associated with a decrease of approximately 0.000587 units in Underpricing. The negative sign suggests a negative relationship between EPS and Underpricing. However, the t-statistic of -0.659857 and the probability (p-value) of 0.5116 suggest that the coefficient is not statistically significant at a 5% significance level. This means that the data do not support the relationship between EPS and Underpricing.

ROA (Return on Assets): The coefficient of ROA_i is 0.001994. This indicates that all else being constant, a one-unit increase in Return on Assets is associated with an increase of approximately 0.001994 units in Underpricing. The positive sign suggests a positive relationship between ROA and Underpricing. However, the t-statistic of 0.344914 and the probability (p-value) of 0.7312 suggest that the coefficient is not statistically significant at a 5% significance level. This means the data do not support the relationship between ROA and Underpricing.

DER (Debt-to-Equity Ratio): The coefficient of DER_i is -0.020421. This indicates that all else being constant, a one-unit increase in the Debt-to-Equity Ratio is associated with a decrease of approximately 0.020421 units in Underpricing. The negative sign suggests an inverse relationship between DER and Underpricing. However, the t-statistic of -0.442141 and the probability (p-value) of 0.6598 suggest that the coefficient is not statistically significant at a 5% significance level. This means the data do not support the relationship between DER and Underpricing.

C (Constant Term): The constant term (intercept) is 0.943574. This represents the expected value of Underpricing when all independent variables are zero. The t-statistic of 3.333882 and the probability (p-value) of 0.0014 indicate that the constant term is statistically significant at a 5% significance level.

The regression model indicates that Firm Size (SIZE) is statistically significant in explaining the variation in Underpricing (UP). However, the coefficients for EPS, ROA, and DER are not statistically significant, suggesting that these variables do not significantly influence Underpricing in the given dataset.

5.5 Hypothesis Testing Results for the Regression Model

Independent Variable	Null Hypothesis (H0)	Alternative Hypothesis (H1)	Probability (p-value)	Result
Firm Size (SIZE)	There is no significant relationship between Firm Size and Underpricing.	There is a significant relationship between Firm Size and Underpricing.	0.0307	Accepted
Earnings Per Share (EPS)	There is no significant relationship between EPS and Underpricing.	There is a significant relationship between EPS and Underpricing.	0.5116	Rejected
Return on Assets (ROA)	There is no significant relationship between ROA and Underpricing.	There is a significant relationship between ROA and Underpricing.	0.7312	Rejected
Debt-to-Equity Ratio (DER)	There is no significant relationship between DER and Underpricing.	There is a significant relationship between DER and Underpricing.	0.6598	Rejected

Table 5.5.1 Hypothesis Testing Results for the Regression Model

The results of hypothesis testing for the research objective, which is to investigate how the size of the company, earnings per share, return on assets, and debt-to-equity ratio influence the level of underpricing observed in initial public offerings (IPOs), are presented in table 5.5.1. The table gives the null hypothesis (H0) and alternative hypothesis (H1) about the presence of a significant association with underpricing for each independent variable. The p-values associated with each hypothesis test are also displayed. Based on the p-values, the "Result" column indicates whether the null hypothesis is accepted or rejected. The generally used significance threshold is 0.05. If the p-value is less than 0.05, the null hypothesis

is rejected and the alternative hypothesis is accepted, showing that the independent variable and underpricing have a significant association. The null hypothesis is accepted if the p-value is greater than or equal to 0.05, indicating that there is no significant association between the independent variable and underpricing. The null hypothesis is accepted based on the results for Earnings Per Share (EPS), Return on Assets (ROA), and Debt-to-Equity Ratio (DER), since their p-values (0.5116, 0.7312, and 0.6598, respectively) are all larger than 0.05. This suggests no statistically significant association between these financial factors and IPO underpricing. The null hypothesis is rejected for Firm Size (SIZE), however, because its pvalue (0.0307) is less than 0.05. This suggests that there is a substantial association between Firm Size and Underpricing, implying that larger firms may face different levels of underpricing in their IPOs than smaller firms.

6. Summary

This research aims to investigate the association between various financial characteristics and underpricing reported in initial public offers (IPOs). Firm size, earnings per share (EPS), return on assets (ROA), and debt-to-equity ratio (DER) are the variables under consideration. The objective of this research is to see if these financial parameters impact the amount of underpricing in IPOs. To do this, the study employs an empirical research approach, utilizing a cross-sectional data analysis of IPO businesses. The information is gathered from reliable financial databases and scholarly sources.
The results of the data analysis indicate the following:
Firm Size (SIZE): Underpricing is negatively connected to business size. Therefore, larger companies tend to have lower levels of underpricing in their IPOs. There is a statistically significant association between business size and underpricing.
Earnings Per Share (EPS): There is no statistically significant link between EPS and underpricing. This implies that a company's earnings per share have little effect on the extent of underpricing found in its IPO.
Return on Assets (ROA): There is no statistically significant link between ROA and underpricing. This means that a company's profitability, as measured by return on assets, has no effect on the extent of underpricing in its initial public offering.
Debt-to-Equity Ratio (DER): The debt-to-equity ratio has no statistically meaningful relationship with underpricing. This suggests that a company's financial leverage, as reflected by the DER, has no discernible effect on the degree of underpricing found in its IPO.
The regression model's findings highlight the links between the independent factors and underpricing in IPOs. Only business size, however, has a statistically meaningful impact on underpricing, but profits per share, return on assets, and debt-to-equity ratio do not. The study findings add to a better understanding of the variables causing IPO underpricing and can help investors, corporations, and analysts make educated decisions about initial public offerings.

7. Conclusion

This study looks into the connections between business size, profits per share, return on assets, debt-to-equity ratio, and underpricing seen in Indian IPOs from March 2018 to March 2023. The data show a substantial negative link between firm size and underpricing, implying that larger companies face less underpricing during their IPOs. However, no significant relationships are found between underpricing and profits per share, return on assets, or debt-to-equity ratio, demonstrating that these financial factors have no major effect on underpricing in Indian IPOs. These findings immediately affect investors, businesses, and analysts involved in or researching the IPO market. Understanding the elements that impact underpricing can help investors make educated judgments about whether or not to participate in initial public offerings (IPOs). Furthermore, firms preparing to go public may use this data to strategize and calculate acceptable offer prices, avoiding the hazards of underpricing. Nonetheless, it is critical to recognize the study's shortcomings. The research's small sample size, which included data from IPOs between March 2018 and March 2023, might benefit from enlargement, and data from other industries and economic situations could give a more thorough understanding of the underlying phenomena. Future research could examine expanding the dataset and investigating additional contributing elements to better understand the intricacies of IPO underpricing.
In conclusion, this study adds to the current literature on IPO pricing and the role of financial considerations in determining underpricing by providing a basic examination of the drivers of underpricing in Indian IPOs from March 2018 to March 2023. By throwing light on critical linkages between financial factors and underpricing, this work paves the way for future research to improve knowledge of IPO pricing processes and promote efficient capital market operations.

References

1. Abbas, D. S., Rauf, A., Hidayat, I., & Sasmita, D. (2022). Determinant on Underpricing at The Initial Public Offering: Evidence Indonesia Stock Exchange. *Quantitative Economics and Management Studies*, *3*(2), 175–185.
2. https://doi.org/10.35877/454ri.qems852
3. Ali, G., Khan, A. J., & Rafiq, S. (2020). Economic Analysis of Ipo Underpricing in Stock Market of Pakistan. *International Journal of Economics and Financial Issues*, *10*(4), 198–205. https://doi.org/10.32479/ijefi.10040
4. Arora, N., & Singh, B. (2019). Impact of Auditor and Underwriter Reputation on
5. Underpricing of SME IPOs in India. *Management and Labour Studies*, *44*(2), 193–208. https://doi.org/10.1177/0258042X19829285
6. Daeli, A. L., & Wijaya, R. A. (2020). Analysis of Factors Affecting Underpricing in Initial Public Offerings. *UPI YPTK Journal of Business and Economics (JBE)*, *5*(3), 7–12.
7. Hanafi, M. M. (2016). Analysis of Ipo Underpricing Fluctuation: Empirical Study in Indonesia Stock Exchange. *Jurnal Dinamika Manajemen*, *7*(2), 129–138.
8. https://doi.org/10.15294/jdm.v7i2.8197
9. Hanafi, M. M., & Setiawan, A. (2018). Ownership concentration, institutional ownership, and IPO underpricing: evidence from Indonesia Stock Exchange. *International Journal of Governance and Financial Intermediation*, *1*(1), 3.
10. https://doi.org/10.1504/ijgfi.2018.10012597
11. Indriani, S., & Marlia, S. (2014). The Evidence of IPO Underpricing in Indonesia 2009 - 2013. *Review Of Integrative Business and Economics Research*, *4*(1), 299–316.
12. Isynuwardhana, D., & Febryan, F. V. (2022). Factors Affecting Underpricing Level during
13. IPO in Indonesia Stock Exchange 2018 - 2019. *The Indonesian Accounting Review*,
14. *12*(1), 87. https://doi.org/10.14414/tiar.v12i1.2660
15. Kasmad, K., Pranoto, P., Bhasnawi, M., Maddinsyah, A., & Sunarsi, D. (2021). *Changes in*
16. *Underpricing Due to Changes in Return on Assets, Debt to Equity Ratio, and Firm Size Analysis*. *1*. https://doi.org/10.4108/eai.17-7-2020.2302980
17. Mahardika, D. F., & Ismiyanti, F. (2021). the Effect of Financial and Non-Financial
18. Variables on Underpricing. *European Journal of Economic and Financial Research*,
19. *4*(4), 65–81. https://doi.org/10.46827/ejefr.v4i4.991
20. Miswanto, M., & Abdullah, Y. R. (2020). Analysis of the Effect of Firm Size, Profitability and Capital Structure on IPO Underpricing on the Indonesia Stock Exchange (IDX). *International Journal of Innovation, Creativity and Change*, *13*(10), 829–844.
21. www.ijicc.net
22. Rodoni, A., Mulazid, A. S., & Febriyanti, R. (2018). Phenomena and determinants of underpricing, flipping activity and long term performance: An empirical investigation of sharia IPO in Indonesia. *International Journal of Monetary Economics and Finance*,
23. *11*(4), 394–410. https://doi.org/10.1504/ijmef.2018.095745
24. Saputri, E., & Santoso Marsoem, B. (2020). Analysis of financial factors that influence Underpricing of Company Conducting IPO in Indonesia Period 2018. *International Journal of Innovative Science and Research Technology*, *5*(3), 401–412. https://ijisrt.com/analysis-of-financial-factors-that-influence-underpricing-of-companyconducting-ipo-in-indonesia-period-2018
25. Su, D. (2004). Leverage, insider ownership, and the underpricing of IPOs in China. *Journal of International Financial Markets, Institutions and Money*, *14*(1), 37–54. https://doi.org/10.1016/S1042-4431(03)00043-X
26. Wang, K., & Wilkins, M. S. (2007). The impact of audit firm industry differentiation on IPO underpricing. *Pacific Accounting Review*, *19*(2), 153–164.
27. https://doi.org/10.1108/01140580710819906
28. Zou, G., Li, H., Meng, J. G., & Wu, C. (2020). Asymmetric Effect of Media Tone on IPO Underpricing and Volatility. *Emerging Markets Finance and Trade*, *56*(11), 2474–2490.
29. https://doi.org/10.1080/1540496X.2019.1643320