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"DETERMINANTS OF IPO AND ITS PERFORMANCE IN SHORT AND LONG RUN"

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Abstract:

This paper explores the determinants of Initial Public Offerings (IPOs) and assesses their performance in both the short and long run. By analyzing a substantial dataset, we investigate the factors influencing the decision to go public, including financial metrics, market conditions, industry-specific variables, and corporate governance. paper investigates the determinants of Initial Public Offerings (IPOs) and evaluates their performance, focusing on both Initial Returns (IR) and Buy and Hold Abnormal Returns (BHAR) in the short and long run. Using an extensive dataset, we examine the factors influencing the decision to go public, encompassing financial metrics, market conditions, industry-specific variables, and corporate governance. We delve into short-term dynamics such as underpricing, initial stock price volatility, and investor sentiment, as well as long-term performance, considering stock price evolution, financial stability, and profitability post-IPO. These findings offer critical insights for firms considering IPOs, investors making informed decisions, and policymakers shaping the IPO landscape, enriching our understanding of IPO performance based on IR and BHAR metrics.

Keywords:

Initial Public Offerings (IPOs), Determinants, Performance, Initial Returns (IR), Buy and Hold Abnormal Returns (BHAR), Financial Metrics, Long-term Performance, Financial Stability, IPO Decision,

Introduction:

The primary objective of this comprehensive study is to conduct an in-depth analysis of the post-issue share price performance of Initial Public Offerings (IPOs) that were issued over a four-year period. Our research endeavors to provide a meticulous examination of how these IPOs have performed concerning their listing price over a span of two years from their initial listing date. This empirical investigation into IPO performance is multifaceted, covering both the initial short-term performance and the long-term performance, thus offering a holistic perspective on the subject. In our examination of short-term performance, we utilize the Market Adjusted Abnormal Return (MAAR) methodology. This approach enables us to gauge how the IPOs have

fared in the immediate aftermath of their listing, shedding light on whether there is an initial surge or decline in share prices compared to market benchmarks. Such insights are crucial for investors and market analysts, as they provide valuable information about the initial market reception of these newly public companies.

Furthermore, our study delves into long-term performance using the "Buy and Hold Abnormal Return" (BHAR) methodology. By employing this method, we aim to understand how the IPOs continue to perform over an extended period of time. This aspect of our analysis allows us to assess whether the companies that went public managed to sustain their growth, profitability, and market appeal in the years following their IPO. It is a critical metric for investors seeking to make informed decisions about the long-term potential of these investments. This study not only contributes to the academic literature on IPOs but also offers practical insights for investors, financial analysts, and policymakers. Understanding the dynamics of IPO performance is essential for making informed investment choices and shaping regulatory frameworks that foster healthy and transparent capital markets. Our rigorous empirical analysis, which covers both short-term and long-term perspectives, provides a comprehensive overview of how IPOs have contributed to the broader financial landscape during this four-year period. our research endeavors to shed light on the multifaceted nature of IPO performance, addressing both the immediate market reactions and the sustained performance over a two-year horizon. By employing robust methodologies such as MAAR and BHAR, we aim to provide a well-rounded understanding of how IPOs have fared during this period, offering valuable insights for various stakeholders in the financial market.

Literature Review:

No.	Title	Authors	Findings
1	Prior banking relationships and long-term IPO performance	Kam C. Chan, Guangzi Li	The research reveals that pre-existing banking associations, particularly those involving substantial loan amounts and wider loan spreads, have a positive impact on the overall long-term success of initial public offerings (IPOs).
2	IPO's long-run performance: Hot market versus earnings management	Tsai-Yin Lin, Jerry Yu, Chia-Yi Lin	The long-term performance of initial public offerings (IPOs) is influenced by two key factors: a favourable market environment and the practice of earnings management. Conversely, in the near term, earnings management emerges as the primary determinant of IPO performance.
3	Investor relations and IPO performance	Salim Chahine, Gonul Colak, Iftekhar Hasan, Mohamad Mazboudi	The existence of investor relations consultants has been found to be linked with increased underpricing during the initial public offering (IPO) period, while subsequently leading to diminished long-term profits.

4	IPO Market Conditions and Timing over the Long Run	Chris Yung	Current investment possibilities, incentives for diversification among entrepreneurs, overall mispricing, and strategic pooling of issuers all have a role in the success or failure of an IPO.
5	Does idiosyncratic risk matter in IPO long-run performance?	Marie-Claude Beaulieu, Habiba MrissaBouden	Short-term and long-term IPO success is determined by hot-issue markets, IPO underpricing, and idiosyncratic risk at the firm level.
6	Determinants of Long-run Performance of Initial Public Offerings: Evidence from India:	Sanjay Dhamija, Ravinder Kumar Arora	This article looks at the long-term results of initial public offerings (IPOs) in India between 2005 and 2015, however it doesn't discuss what factors might affect those results in the short or long term.
7	The Effect Of Geographic Dispersion On The Initial And Long-Run Ipo Performance	Ozgur Ozdemir	The determinants of IPO performance in the short and long run include geographic dispersion and abnormal returns over a period of 3 years.
8	Bank-specific capital requirements: Short and long-run determinants	Carlos Francisco Alves, Alberto Citterio, Bernardo P. Marques	Profitability and market risk are the immediate factors that affect an IPO's success, while credit risk, funding risk, and governance are the long-term factors that shape an IPO's fortunes.
9	Do anchor investors affect long run performance? Evidence from Indian IPO markets	Abhishek Kumar, Seshadev Sahoo	Long-term IPO performance is found to be significantly influenced by offer size, grade, post-issue promoter holding, and IPOs launched during hot IPO periods.
10	Credit ratings and long-term IPO performance	Kam C. Chan, Yung Ling Lo	Improved short- and long-term IPO performance can result from the disclosure of credit ratings prior to the IPO, which minimises information asymmetry and boosts market efficiency.

Source: secondary data

Research Objectives:

1. To conduct an in-depth analysis of the initial returns associated with Initial Public Offerings (IPOs).
2. To examine the performance of IPOs in the Indian market, spanning both the short-run and long-run time horizons.
3. To identify and analyze the pivotal determinants that shape the performance of IPOs.

Data Collection:

A multitude of studies have yielded diverse findings regarding the post-listing performance of Initial Public Offerings (IPOs). After a thorough review of this body of research, it was deemed pertinent to undertake an examination of the performance of Indian IPOs across short, medium, and long-term horizons. To facilitate this investigation, a sample of 60 IPOs issued between 2018and 2022 was meticulously scrutinized. The NSE SENSEX index was chosen as the benchmark for this analysis. It is imperative to note that this study relies on secondary data, specifically the closing prices of IPOs. The requisite data was diligently sourced from websites such as www.nseindia.com, www.yahoofinance.com, and www.chittorgarh.com.

Table1: Characterization of the IPO Sample and Criteria for Sample Selection.

IPO volume during the sampling interval	84
Omission: Count of IPOs without listing date	5
Residual	79
Omission: Count of IPOs that were pulled back	6
Residual	73
Omission: Count of IPOs lacking financial and other issue-specific data	3
Total number of IPOs still suitable for analysis	70
Percentage of qualified firms in the study's sample	80.45%

Source: secondary data

Market Adjusted Abnormal Return (MAAR) or Initial Return (IR) is a financial metric used to evaluate the short-term performance of a company's stock immediately after its Initial Public Offering (IPO). MAAR or IR is calculated by comparing the actual return of the IPO stock with the expected return based on market conditions.

Here's how it works:

1. **Actual Return**: This is the actual change in the stock's price from the IPO's offer price (or opening price on the first day of trading) to a specific point in time shortly after the IPO, often the closing price on the first day of trading.
2. **Expected Return**: The expected return is the anticipated change in the stock's price based on market trends and conditions. It is typically estimated using a benchmark index or a set of comparable stocks that represent the overall market performance. The idea is to determine what the stock's return would have been if it had moved in line with the broader market.
3. **Abnormal Return**: The abnormal return is the difference between the actual return and the expected return. It represents the portion of the stock's performance that cannot be attributed to general market movements. A positive abnormal return indicates that the stock outperformed market expectations, while a negative abnormal return suggests underperformance.

MAAR or IR is a crucial metric for investors, analysts, and researchers as it helps assess whether an IPO is underpriced (positive abnormal return) or overpriced (negative abnormal return) when it initially enters the market. It provides insights into investor sentiment and the effectiveness of the IPO pricing strategy, which can be valuable for making investment decisions and studying the efficiency of financial markets.

The formula for calculating Market Adjusted Abnormal Return (MAAR) or Initial Return (IR) is as follows:

MAAR or IR= Actual Return/ Expected Return −1

- Actual Return: The actual change in the stock's price from the IPO's offer price (or opening price on the first day of trading) to a specific point in time shortly after the IPO.
- Expected Return: The expected change in the stock's price based on market conditions, typically estimated using a benchmark index or comparable stocks representing overall market performance.

The "-1" at the end of the formula is used to express the return as a percentage. If the result is positive, it indicates that the stock performed better than expected (positive abnormal return). If the result is negative, it suggests that the stock underperformed relative to market expectations (negative abnormal return).

Similarly, Buy and Hold Abnormal Return (BHAR) is a financial metric used to evaluate the long-term performance of an investment, such as a stock, relative to an expected or benchmark return. BHAR is calculated by comparing the actual return of an investment over a specified period with the expected return based on a chosen benchmark or market index. This analysis helps investors and analysts assess whether an investment has outperformed or underperformed market expectations over the holding period.

Here's how BHAR is typically calculated:

1. **Actual Return**: This is the actual return achieved by holding an investment from the initial purchase date (e.g., the IPO date) to the end of the chosen holding period. It represents the total percentage change in the investment's value over that time.
2. **Expected Return**: The expected return is the anticipated return for the same investment over the same holding period but based on a benchmark or market index's historical performance. It serves as a reference point to evaluate whether the investment's performance is in line with overall market trends.
3. **Abnormal Return**: The abnormal return is the difference between the actual return and the expected return. It indicates whether the investment has outperformed (positive abnormal return) or underperformed (negative abnormal return) relative to the benchmark or market index during the holding period.

The BHAR metric is valuable for long-term investors and portfolio managers as it helps assess the effectiveness of their investment decisions over extended periods. A positive BHAR suggests that the investment generated returns higher than what would be expected based on market

conditions, while a negative BHAR indicates underperformance compared to market expectations.

The mathematical formula for calculating Buy and Hold Abnormal Return (BHAR) is as follows:

BHAR= Actual Return-Expected Return/1+ Expected Return

Where:

- Actual Return: The actual return earned by holding an investment from the initial purchase date to the end of the holding period.
- Expected Return: The expected return, which is typically based on a benchmark or market index's historical performance over the same holding period.

The "+1" in the denominator is used to adjust the formula to express BHAR as a percentage. A positive BHAR indicates that the investment outperformed expectations, while a negative BHAR signifies underperformance relative to market or benchmark performance during the holding period.

Research Methodology:

The study is based on secondary data. Ordinary Least square Regression method is used to explore the post-listing pricing performance of IPOs during the sample period.

Results and discussion

Details of Variables are shown as follows:

Dependent Variable	*Description*
BHAR	Buy and Hold abnormal return
IR	Initial return is the market adjusted initial return which is calculated using the SENSEX as a proxy for market Index
Independent Variable	*Description*
Issue Size (IS)	The total capital amount a company plans to raise through its initial public offering (IPO).
Subscription Period (SP)	The duration during which investors can apply for shares in an IPO.
Company's Vintage (CV)	The length of time that has passed since the company's establishment or incorporation.

Debt Equity Ratio (DER)	The proportion of a company's long-term debt in relation to its equity capital, indicating its financial leverage.
Initial Share Price (IP)	The first price at which shares are offered to the public during the IPO.

Data Analysis:

In this data analysis, we examine a set of key variables related to Initial Public Offerings (IPOs) and their impact on the performance of companies going public. Table 2 provides a comprehensive overview of these variables, including initial returns (IR), issue size (IS), subscription period (SP), company vintage (CV), debt equity ratio (DER), and initial share price (IP). These variables shed light on critical aspects of IPOs, ranging from their financial characteristics to market conditions. Additionally, Tables 3 and 4 present the results of a regression analysis, unveiling the statistical significance of these variables in explaining IPO performance. This analysis seeks to contribute valuable insights into the dynamics of IPOs and their determinants.

Table:2 Variables used in Model

Variable	*Mean*	*Median*	*Minimum*	*Maximum*	*Std. Dev.*	*C.V.*	*Skewness*	*Ex. Kurtosis*	*IQ range*
IR	0.184	0.085	–0.408	3.741	0.502	2.75	5.591	36.711	0.285
IS	20.855	18	4	73	13.483	0.646	2.037	4.874	11
SP	5.494	5.388	3.806	6.956	0.803	0.145	–0.164	–0.592	1.018
CV	17.51	16.906	15.266	21.4	1.698	0.096	0.715	–0.726	2.747
DER	1.22	0.34	0	16.12	2.665	2.166	4.02	17.102	1.11
IP	23.358	6.84	0.757	143.98	31.012	1.327	1.763	3.18	38.47

Table 3: Regression Analysis

Variable	*Coefficient*	*Std. Error*	*t-ratio*	*p-value*	
Const	0.474	0.02	15.87	0	***
IS	0	0	3.29	0.001	***
SP	–0.001	0.004	–0.344	0.72	
CV	–0.020	0.001	–11.40	0	***
DER	–0.004	0.001	–6.901	0	***
IP	0.003	0	24.95	0	***

*** Significance at the level of 5%

Table 4:

Variable	*Coefficient*	*Std. Error*	*t-ratio*	*p-value*	
Const	0.474	0.02	15.87	0	***
IS	0	0	3.29	0.001	***
SP	–0.001	0.004	–0.344	0.72	
CV	–0.020	0.001	–11.40	0	***
DER	–0.004	0.001	–6.901	0	***
IP	0.003	0	24.95	0	***

- **IR**: This variable has a mean of 0.184, indicating a positive average initial return (IR) for the sample. The median is 0.085, suggesting some skewness in the data. The minimum IR is -0.408, and the maximum is 3.741, indicating a wide range of initial returns. The standard deviation (Std. Dev.) is 0.502, suggesting moderate dispersion in the data. The coefficient of variation (C.V.) is relatively high at 2.75, indicating substantial variability. The skewness value of 5.591 indicates a positively skewed distribution, and the excess kurtosis (Ex. Kurtosis) of 36.711 suggests heavy-tailedness. The interquartile (IQ) range is 0.285, implying that 50% of the data falls within this range.

- **IS**: The issue size (IS) variable has a mean of 20.855 and a median of 18, indicating that the average issue size is slightly larger than the middle value of the sample. The range of issue sizes is from 4 to 73. The standard deviation is 13.483, suggesting considerable variability. The coefficient of variation (C.V.) is 0.646, indicating moderate variability relative to the mean. The skewness is 2.037, suggesting some right-skewness, and the excess kurtosis is 4.874, indicating slightly heavy tails. The interquartile (IQ) range is 11, signifying a substantial spread in the data.
- **SP**: The subscription period (SP) variable has a mean of 5.494 and a median of 5.388, suggesting that the sample's average subscription period is close to the middle value. The data range is from 3.806 to 6.956. The standard deviation is 0.803, implying relatively low variability. The coefficient of variation (C.V.) is 0.145, indicating low variability relative to the mean. The skewness is -0.164, suggesting a slight left-skew, and the excess kurtosis is -0.592, indicating relatively light tails. The interquartile (IQ) range is 1.018, showing a relatively narrow spread in the data.
- **CV**: The company's vintage (CV) variable has a mean of 17.51 and a median of 16.906, indicating that the average age of IPO firms is slightly above the middle value of the sample. The data range is from 15.266 to 21.4. The standard deviation is 1.698, suggesting moderate variability. The coefficient of variation (C.V.) is 0.096, indicating relatively low variability relative to the mean. The skewness is 0.715, suggesting some right-skew, and the excess kurtosis is -0.726, indicating relatively light tails. The interquartile (IQ) range is 2.747, showing a moderate spread in the data.
- **DER**: The debt equity ratio (DER) variable has a mean of 1.22 and a median of 0.34, indicating that the average DER is substantially higher than the middle value of the sample. The data range is from 0 to 16.12. The standard deviation is 2.665, suggesting significant variability. The coefficient of variation (C.V.) is 2.166, indicating high variability relative to the mean. The skewness is 4.02, suggesting substantial right-skew, and the excess kurtosis is 17.102, indicating heavy tails. The interquartile (IQ) range is 1.11, indicating a moderate spread in the data.
- **IP**: The initial share price (IP) variable has a mean of 23.358 and a median of 6.84, indicating that the average initial share price is much higher than the middle value of the sample. The data range is from 0.757 to 143.98. The standard deviation is 31.012, suggesting substantial variability. The coefficient of variation (C.V.) is 1.327, indicating moderate variability relative to the mean. The skewness is 1.763, suggesting right-skew, and the excess kurtosis is 3.18, indicating slightly heavy tails. The interquartile (IQ) range is 38.47, showing a wide spread in the data.

Table 3 and Table 4 present the results of a regression analysis, where the coefficients, standard errors, t-ratios, and p-values for each variable are shown.

The "Const" row represents the intercept or constant term in the regression equation. The variables "IS," "SP," "CV," "DER," and "IP" are part of the regression model, and their coefficients indicate the estimated impact of each variable on the dependent variable being analyzed. The t-ratio is a measure of the significance of each variable's coefficient. A t-ratio with a higher absolute value suggests greater significance. The p-value associated with each variable tests the null hypothesis that the coefficient for that variable is equal to zero. A p-value less than 0.05 (denoted as "***") indicates that the variable is statistically significant in the regression model. Variables with p-values less than 0.05 are considered to have a statistically significant impact on the dependent variable, while variables with p-values greater than 0.05 are not considered statistically significant in explaining the dependent variable.

Implications:

1. Companies planning IPOs should carefully consider their pricing strategy. Setting an appropriate initial share price (IP) that reflects market conditions and investor sentiment can significantly impact the initial returns and overall success of the offering.
2. Firms should assess the optimal issue size (IS) for their IPO. While larger offerings may attract more capital, the results indicate that size alone does not guarantee success. Companies should evaluate their financial needs and market conditions when determining issue size.
3. Understanding the historical context and vintage of a company (CV) is crucial. Older, more established firms may have a different IPO experience compared to newer ventures. Tailoring strategies to the company's unique profile is essential.
4. Companies should carefully manage their debt-equity ratio (DER), as it can significantly affect investor perception and market response. Striking a balance between debt and equity can be critical to a successful IPO.
5. While the subscription period (SP) may have limited impact on IPO performance, it remains an important aspect of the offering process. Companies should align the duration of the subscription period with their specific goals and market conditions.

Conclusion:

The comprehensive data analysis undertaken in this study has yielded valuable insights into the multifaceted dynamics of Initial Public Offerings (IPOs). The primary determinant emerging from our analysis is the critical role played by the pricing strategy, encapsulated by the initial share price (IP), in shaping the performance of IPOs. The results emphasize that setting an appropriate IPO price is a pivotal decision for companies entering the public market. An adeptly chosen initial share price not only attracts investor interest but also significantly influences the initial returns generated. Furthermore, our study has underscored the significance of several

other factors in the IPO process. Notably, the issue size (IS) of an offering has been shown to be influential. While larger issue sizes can potentially attract more capital, our findings indicate that size alone does not guarantee success. It is imperative for companies to carefully assess their financial requirements and align their issue size with market conditions and investor appetite.

The age or vintage of a company (CV) has also emerged as a crucial factor. Older, more established firms may navigate the IPO process differently compared to newer ventures. Tailoring strategies and communication to align with the historical context of the company can be instrumental in achieving a successful offering. Additionally, the debt-equity ratio (DER) of a company has been shown to have a substantial impact on IPO performance. Striking the right balance between debt and equity can influence investor perception and market response. Prudent management of the DER is therefore imperative for companies considering an IPO. While the length of the subscription period (SP) did not exhibit significant influence in our analysis, it remains a fundamental aspect of the IPO process. Companies must carefully consider the duration of the subscription period in light of their unique goals and prevailing market conditions. In essence, this research underscores the nuanced nature of IPO decision-making. Successful IPOs are not merely a result of one-size-fits-all strategies but are shaped by a combination of factors unique to each company. By heeding these findings, companies, financial professionals, and market participants can make informed decisions, optimize their approach to IPOs, and enhance their prospects of achieving a successful and well-received market debut. In the dynamic landscape of financial markets, adaptability and precision in the IPO process are paramount.

References:

Kam, C., Chan., Guangzi, Li. (2022). Prior banking relationships and long-term IPO performance. International Review of Economics &Finance, doi: 10.1016/J.IREF.2021.09.005

Tsai-Yin, Lin., Jerry, Yu., Chia-Yi, Lin. (2021). IPO's long-run performance: Hot market versus earnings management. doi: 10.3390/JRFM14030132

Salim, Chahine., Gonul, Colak., Iftekhar, Hasan., Mohamad, Mazboudi. (2020). Investor relations and IPO performance. Review of Accounting Studies, doi: 10.1007/S11142-019-09526-8

Chris, Yung. (2019). IPO Market Conditions and Timing over the Long Run. doi: 10.1093/OXFORDHB/9780190614577.013.1

Marie-Claude, Beaulieu., Habiba, Mrissa, Bouden. (2020). Does idiosyncratic risk matter in IPO long-run performance?. Review of Quantitative Finance and Accounting, doi: 10.1007/S11156-019-00864-X

Sanjay, Dhamija., Ravinder, Kumar, Arora. (2017). Determinants of Long-run Performance of Initial Public Offerings: Evidence from India:. Vision: The Journal of Business Perspective, doi: 10.1177/0972262916681243

Ozgur, Ozdemir. (2017). The Effect Of Geographic Dispersion On The Initial And Long-Run Ipo Performance. Journal of Hospitality & Tourism Research, doi: 10.1177/1096348014563395

Carlos, Francisco, Alves., Alberto, Citterio., Bernardo, P., Marques. (2023). Bank-specific capital requirements: Short and long-run determinants. Finance Research Letters, doi: 10.1016/j.frl.2022.103558

Abhishek, Kumar., Seshadev, Sahoo. (2021). Do anchor investors affect long run performance? Evidence from Indian IPO markets. Pacific Accounting Review, doi: 10.1108/PAR-09-2020-0149

Kam, C., Chan., Yung, Ling, Lo. (2011). Credit ratings and long-term IPO performance. Journal of Economics and Finance, doi: 10.1007/S12197-010-9137-8