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A Structural Equation Model for Constructing the Factors of IPO Underpricing Determinants in the Indian Capital Market

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ABSTRACT

This study examines IPO underpricing and long-term performance in the Indian capital market by analysing investor perceptions and key determinants influencing IPO pricing behaviour. Using primary data collected from 450 respondents and supported by structural equation modelling, the study finds that IPO underpricing is a widely perceived and systematic feature of the Indian market. Listing-day gains are viewed as clear evidence of underpricing and are found to benefit short-term investors more than long-term investors. Firm size, firm age, issue size, subscription rate, and market conditions significantly influence IPO pricing outcomes, while market volatility and underwriter reputation exert limited direct impact. The findings suggest that IPO underpricing in India is driven largely by investor psychology, demand management, and favourable market sentiment rather than pure pricing inefficiency. The study provides insights for investors, issuers, and regulators seeking to enhance IPO pricing efficiency and market transparency.

Keywords: *IPO Underpricing; Indian Capital Market; Listing-Day Returns; Market Conditions; Investor Behaviour; Long-Term Performance.*

1. Introduction

The Indian capital market forms a core pillar of the financial system by channelising long-term savings into productive investment through instruments such as equity, bonds, debentures, and hybrid securities. As India has liberalised and modernised, the capital market has expanded in depth, liquidity, transparency, and participation, making it increasingly significant for capital formation, industrial expansion, and innovation. Within this broader structure, the primary market—especially Initial Public Offerings (IPOs)—has gained prominence as firms raise equity capital and transition into public ownership. However, recurring patterns of IPO underpricing and mixed long-term outcomes raise concerns about market efficiency, information gaps, and investor behaviour, making the Indian IPO market a critical area for empirical analysis.

1.1 Indian Capital Market

India's capital market has evolved from a fragmented, broker-dominated ecosystem into a technology-driven and globally connected marketplace. The equity market, supported by exchanges like the BSE and NSE, enables fund mobilisation and investment opportunities for domestic and foreign investors. A key feature of this system is the role of the primary market in capital raising, where IPOs serve as the most visible mechanism for equity mobilisation. Yet, the persistence of listing-day gains suggests that offer prices often differ from market-clearing values, pointing towards pricing inefficiencies shaped by sentiment, risk considerations, and uneven access to information.

1.2 Evolution of the Indian Capital Market

The evolution of the Indian capital market can be understood through major phases of regulatory and structural change. Before 1991, the market operated under heavy controls, low transparency, and manual trading systems, with pricing influenced by administrative mechanisms rather than market forces. The post-1991 liberalisation transformed the market through SEBI's regulatory role, the rise of NSE, electronic trading, dematerialisation, and improved governance norms. These reforms strengthened efficiency, reduced settlement risk, widened participation, and aligned India with global practices, though pricing anomalies in IPOs continued despite improved infrastructure and disclosures.

1.3 Structure of the Indian Capital Market

The Indian capital market consists of the primary market and secondary market, which function in a complementary manner. The primary market supports new capital issuance for growth, diversification, and deleveraging, where IPOs are central to equity mobilisation and are largely conducted through book-building for market-based price discovery. The secondary market provides liquidity, continuous price discovery, and an exit route for investors through trading on NSE and BSE. Since IPO subscription decisions are influenced by expected post-listing trading performance and liquidity, the strength and volatility of the secondary market directly affect IPO demand, pricing, and post-issue returns.

1.4 History of Initial Public Offerings (IPOs)

The modern IPO concept traces its origin to early joint-stock companies, where public share issuance enabled collective ownership and tradeable equity. In India, IPO development moved from a limited colonial-era market structure to a post-independence-controlled regime, and then to a liberalised, market-oriented issuance environment after 1991. Regulatory strengthening, technology adoption, and innovations like book-building have expanded IPO participation, especially among retail investors, but have also intensified listing-day speculation. The historical trajectory explains why India's IPO market combines strong short-term returns with recurring long-term performance concerns, making it suitable for a critical study of underpricing and post-listing outcomes.

1.5 Concept of Initial Public Offering (IPO)

An IPO refers to a company's first public sale of equity shares, marking its transition from private to publicly listed status. It enables firms to raise long-term funds for expansion, R&D, debt reduction, or strategic investment while increasing corporate visibility and strengthening governance through mandatory disclosures and compliance. At the same time, IPOs provide liquidity and partial exit opportunities for promoters and early investors, while offering the public a chance to participate in corporate growth. Because IPO pricing sets the foundation for market expectations, the issue price and subsequent listing price behaviour become central to understanding underpricing and later performance patterns.

1.6 Capital Market in India: Overview

India's capital market comprises the primary market for new issuances and the secondary market for trading and liquidity, with SEBI ensuring regulation, investor protection, and disclosure compliance. The growth of online trading, dematerialisation, improved settlement, and digital payment systems has expanded participation and reduced transaction frictions. Exchanges such as NSE and BSE provide a robust platform for price discovery and trading across sectors, attracting domestic and foreign investors. However, the rapid expansion of IPO activity has also highlighted concerns around pricing efficiency, speculative participation, and the reliability of long-term returns compared to benchmark indices.

2. Background

Krishnan et al. (2025) examined sector-wise effects of IPO underpricing in India and explained that underpricing did not remain uniform across industries. They reported that sector characteristics shaped the magnitude of initial returns and influenced how investors interpreted listing gains. They also indicated that policy environment, corporate strategy choices, and technology-driven market access collectively affected pricing outcomes and post-issue market response within different sectors.

Ungphakorn and Lersakullawat (2025) investigated behavioral biases behind IPO long-term performance in an emerging-market setting and argued that early optimism had later been corrected by market reality. They found that sentiment-driven participation and cognitive biases had contributed to short-run mispricing, while subsequent information flow and learning had weakened initial overvaluation. Their analysis suggested that long-run returns had been shaped by behavioral adjustments rather than only fundamentals.

Zaveri (2025) conducted a study on selected IPOs and assessed their long-term return potential. The author reported that post-listing performance had varied substantially across issues, indicating that listing gains had not guaranteed sustained wealth creation. The study highlighted that investors who had relied only on initial excitement had faced inconsistent outcomes, and it suggested that holding-period returns had depended on fundamentals, timing, and market conditions.

Nigudkar et al. (2025) evaluated the effectiveness of IPO pricing in Indian markets and showed that offer prices had often deviated from fair value. They found evidence that pricing efficiency had been influenced by demand conditions, valuation practices, and market sentiment, which together had affected initial returns. The authors concluded that improvements in due diligence and price discovery mechanisms had been necessary to reduce mispricing and protect investor interest.

Bavachan and Muthu Gopala Krishnan (2024) reviewed IPO pricing, performance, and market trends and synthesized findings from prior research. They reported that underpricing had remained a persistent feature across markets, while long-run performance had been mixed and context-dependent. They also noted that evolving market structures, regulatory shifts, and emerging technologies had altered subscription behaviour and post-listing dynamics, indicating that IPO outcomes had been shaped by both structural and behavioural forces.

Natesh et al. (2024) studied determinants of IPO investment decisions and reported that stock market experience had influenced expected returns and investment purposes. They found that experienced investors had evaluated IPOs differently than inexperienced participants and had relied more on risk-return considerations. The authors concluded that prior exposure to market cycles had shaped expectations about listing gains, subscription behaviour, and the perceived attractiveness of IPO investments.

Biswas and Joshi (2023) developed a performance-based ranking of Indian IPOs and showed that IPO outcomes had differed meaningfully across issues. They reported that ranking measures had helped compare offerings beyond headline listing gains and had highlighted variability in investor returns. Their analysis suggested that systematic evaluation had been useful for identifying relatively stronger IPOs, while also indicating that many issues had delivered uneven post-listing performance.

Khatoon et al. (2023) analysed Indian IPO allotment valuation and compared issue pricing with current market prices to assess potential overvaluation. They reported that several IPOs had appeared overpriced relative to later trading levels, implying that initial enthusiasm had not always matched fundamentals. The authors suggested that valuation gaps, investor sentiment, and disclosure interpretation had contributed to post-listing corrections and raised concerns about pricing efficiency.

Gogineni and Upadhyay (2023) examined how venture capital and private equity involvement, governance, and other factors had related to IPO success in India. They found that institutional backing had been associated with stronger governance signals and improved market reception. Their evidence suggested that investor confidence had increased when credible sponsors were present, and that governance quality had played an important role in subscription outcomes and post-IPO stability.

Mulchandani et al. (2023) studied deliberate underpricing and aftermarket mispricing in Indian IPOs using a stochastic frontier approach. They reported that underpricing had sometimes been strategic rather than accidental and had coexisted with post-listing price deviations. Their findings indicated that market frictions and information gaps had contributed to inefficiencies even after listing. The authors concluded that both issuer strategies and market dynamics had shaped observed mispricing.

Pulikottil (2023) investigated competitive and contagion effects of IPOs in India and reported that one IPO's reception had influenced investor response to subsequent issues. The study found that favourable or adverse outcomes had spilled over across offerings, shaping sentiment and subscription patterns. It suggested that IPO waves had been partly driven by imitation and mood effects, implying that market behaviour had not been fully independent across consecutive issues.

Singh and Goel (2022) assessed whether regulation had affected initial IPO returns in India and reported that regulatory changes had influenced pricing outcomes. They found that shifts in rules and compliance requirements had altered issuer behaviour, disclosure quality, and investor confidence, which in turn had affected first-day returns. The authors concluded that regulation had played a measurable role in moderating mispricing, though it had not eliminated underpricing.

Navyatha and Reddy (2022) conducted an event study on IPO stock performance in India and evaluated price reaction around listing. They reported that abnormal returns had been present around key event windows, indicating that listing had triggered significant market response. Their results suggested that short-term performance had been influenced by demand and sentiment, while later adjustments had reflected gradual incorporation of firm information into prices.

Pandey and Pattanayak (2022) examined earnings management and IPO anomalies in India and reported that pre-IPO financial reporting behaviour had been linked to mispricing patterns. They found that firms had sometimes managed earnings prior to issuance, which had affected valuation and investor expectations. The study suggested that post-listing corrections had occurred when markets had revised beliefs about fundamentals, contributing to long-term underperformance in some cases.

Gorkhe and Garg (2022) studied selected Indian IPOs over a three-year period (2019–2021) and reported mixed performance across the sample. They observed that some IPOs had delivered sustained gains, while others had weakened after initial excitement. Their findings suggested that long-term results had depended on sector conditions, market cycles, and firm strength, indicating that listing-day performance had not reliably predicted three-year outcomes.

Singh et al. (2021) proposed a method for determining post-IPO pricing using artificial neural networks and analysed Indian IPO data. They reported that machine-learning models had captured nonlinear relationships among IPO variables and had improved prediction of post-listing prices compared with simpler approaches. The authors suggested that data-driven techniques had supported better valuation and risk assessment, potentially reduced mispricing if integrated into issuance and investment decisions.

Singla (2021) examined whether ownership structure and market sentiment had affected short-run IPO performance in India using dynamic panel methods. The study reported that sentiment indicators and ownership patterns had been associated with initial returns and early trading behaviour. It suggested that

concentrated ownership and optimistic sentiment had amplified listing gains, while weaker sentiment had moderated returns. The author concluded that behavioural and structural factors had jointly shaped short-run performance.

Udasi et al. (2021) analysed determinants of IPO underpricing in the Indian stock market and reported that both firm and issue characteristics had influenced initial returns. They found that demand conditions, pricing strategy, and market environment had affected the degree of underpricing. Their results suggested that underpricing had reflected risk compensation and information gaps, and they indicated that improved disclosure and pricing discipline had been important to enhance efficiency.

Basha et al. (2021) evaluated IPO performance and reported that IPO returns had shown variability across issues and time horizons. They observed that many IPOs had produced strong initial gains, but post-listing performance had not remained consistently positive. Their analysis suggested that investor decisions based only on short-term returns had been risky, and it indicated that fundamental assessment and market timing had influenced realised performance.

Trivedi et al. (2021) reviewed withdrawn and failed SME IPOs in India and reported that such outcomes had been linked to demand weakness, compliance challenges, and market conditions. They found that smaller issuers had faced greater vulnerability to sentiment shifts and credibility concerns. The study suggested that inadequate preparedness and weak investor confidence had increased failure risk, highlighting the need for stronger disclosure and support mechanisms for SME listings.

Singh et al. (2020) studied behaviour of the Indian IPO market and reported that IPO activity and returns had reflected cyclical sentiment and demand conditions. They found patterns consistent with hot and cold issue markets, where oversubscription and listing gains had risen during bullish phases. Their evidence suggested that investor psychology and market timing had influenced IPO outcomes, implying that pricing efficiency had fluctuated over time.

Sandhu and Guhathakurta (2020) examined how IPO offer price ranges had affected subscription, initial turnover, and ownership structure in India. They reported that wider or strategically set price bands had influenced bidding intensity and early trading. Their analysis suggested that offer range design had shaped investor participation and allocation outcomes across categories. The authors concluded that pricing range decisions had been an important tool affecting demand signalling and aftermarket liquidity.

Pešterac (2020) discussed the importance of IPOs for capital market development in developing countries and argued that IPOs had supported capital formation and market deepening. The study reported that successful IPO mechanisms had improved liquidity, expanded the investor base, and strengthened price discovery. It also suggested that institutional quality and regulation had been necessary conditions for sustainable IPO-led development, particularly where markets had been emerging and informational constraints had been high.

Sharma et al. (2020) analysed IPO listing returns on the NSE and reported that initial returns had often been positive, indicating underpricing in several issues. They found that listing-day performance had varied across offerings and had been influenced by market conditions at issuance. The study suggested that investors had benefitted from short-term gains, while issuers had potentially left money on the table, reinforcing concerns about pricing efficiency.

Bantwa (2020) examined the green shoe option and reported that it had been used as a stabilisation mechanism to manage post-issue price fluctuations in India. The study suggested that when stabilisation had been effectively implemented, it had reduced extreme volatility and supported orderly trading after listing. The author indicated that green shoe arrangements had strengthened investor confidence and improved aftermarket stability, especially during periods of uncertain demand.

Masulis et al. (2020) analysed IPOs within family business groups and reported that IPOs had enabled expansion while preserving control through internal capital markets. They found that groups had used IPO proceeds and internal financing channels to fund growth opportunities without excessive control dilution. Their evidence suggested that group structure had influenced issuance motives and post-IPO governance outcomes, indicating that ownership context had shaped how IPOs had functioned as a financing tool.

3. Research Methodology

This chapter presents a detailed explanation of the methodological framework adopted to examine IPO underpricing and long-term performance in the Indian capital market. Research methodology serves as the backbone of any empirical investigation, as it provides a systematic plan for collecting, analyzing, and interpreting data in a scientifically valid manner. The present study adopts a structured quantitative approach to understand investor perceptions and to empirically evaluate the determinants influencing IPO pricing behavior. The chapter elaborates the research design, population, sampling technique, data collection procedure, variables under study, tools used for analysis, and the limitations governing the scope of the research.

Research Design: The study employs a descriptive–analytical research design, which is most appropriate for examining behavioral and financial phenomena such as IPO underpricing. The descriptive component facilitates a clear understanding of investors' attitudes, beliefs, and perceptions regarding IPO pricing, listing-day performance, and market behavior. At the same time, the analytical dimension enables the examination of statistical relationships among multiple variables influencing IPO underpricing. This integrated design allows the researcher not only to describe existing market behavior but also to evaluate cause–effect relationships using advanced statistical techniques such as correlation analysis and structural equation modeling. The research design is thus suitable for addressing both perceptual and empirical dimensions of IPO pricing efficiency.

Locale of the Study: The geographical scope of the study is confined to India, one of the fastest-growing emerging capital markets in the world. The Indian IPO market has witnessed significant transformation due to regulatory reforms, increased retail participation, digital trading platforms, and rising institutional investment. The study covers respondents from different regions of the country, thereby capturing diversified investor experiences and market exposure.

The Method: A survey research method was adopted for the collection of primary data. Survey methodology is widely used in financial behavior studies as it allows direct assessment of investor perception, sentiment, and decision-making patterns. A structured questionnaire was designed based on extensive review of literature and theoretical models of IPO underpricing. Responses were measured using a five-point Likert scale ranging from Strongly Disagree to Strongly Agree. This scale enables quantification of subjective opinions and supports advanced statistical analysis.

Universe and Population

The universe of the study consists of all individuals participating in IPO investments in the Indian capital market. The population includes retail investors, active traders, financial professionals, and individuals possessing knowledge or experience in IPO investment decisions. Given the vast and dynamic nature of the Indian investor base, it was not feasible to survey the entire population; hence a representative sample was selected. For covering the propsoed population size we initited the questionnaire through google form to various respondents through India who are practicing the scock markets as their prime profession.

Sampling Technique: The study adopted purposive sampling combined with convenience sampling. Respondents were selected based on their involvement in IPO investments and their familiarity with capital market operations. This sampling technique was appropriate because IPO investment requires financial awareness, and random sampling could have included respondents without relevant exposure. A total of 450 respondents were selected, which is considered statistically adequate for multivariate techniques such as CFA and SEM.

Conduct of the Study: The research was carried out in a systematic and well-structured manner to ensure accuracy, reliability, and academic rigor. In the initial stage, an extensive review of relevant national and international literature was undertaken to develop a clear conceptual understanding of IPO underpricing and its associated determinants. This review helped in identifying key variables such as firm size, firm age, issue size, subscription rate, market conditions, volatility risk, and underwriter reputation. Based on insights derived from the literature, a structured questionnaire was designed to capture investor perceptions related to IPO pricing behavior and performance. The questionnaire items were framed using a five-point Likert scale to ensure consistency and ease of response. Prior to final administration, a pilot study was conducted to test clarity, relevance, and reliability of the instrument. Feedback obtained during this stage was used to refine ambiguous statements and improve overall measurement accuracy.

Table 1: Variables under Study and Their Measurement

Type of Variable	Variable Name	Abbreviation	Description / Measurement
Dependent Variable	IPO Underpricing	IU	Measured through investor perception of offer price discount, listing-day returns, and realization of short-term gains after IPO listing.
Independent Variable	Firm Size	FS	Reflects the scale of the company, financial strength, asset base, and overall market visibility influencing investor confidence.
Independent Variable	Firm Age	FA	Indicates the operational experience, business history, and reputation of the firm in the market.
Independent Variable	Issue Size	IS	Represents the total volume and value of shares issued during the IPO, influencing liquidity and pricing behavior.
Independent Variable	Subscription Rate	SR	Measures the level of investor demand and extent of oversubscription across retail, institutional, and non-institutional categories.
Independent Variable	Volatility Risk	VR	Captures market uncertainty, price fluctuations, and perceived risk during the IPO period.
Independent Variable	Market Conditions	MC	Reflects prevailing market sentiment, including bullish or bearish phases affecting IPO pricing strategies.
Independent Variable	Underwriter Reputation	UR	Indicates credibility, experience, and perceived trustworthiness of underwriters and intermediaries managing the IPO.

4. Analysis and Interpretation of Data

Data analysis was carried out in two major stages. First, exploratory analysis was conducted using descriptive statistics to identify prevailing investor perceptions regarding IPO underpricing and its determinants. Second, CFA and SEM were applied to test construct validity and structural relationships. The results were interpreted based on factor loadings, path coefficients, regression weights, and goodness-of-fit indices. This sequential approach enhanced the robustness and reliability of the findings.

Delimitation of the Study

The present study is conducted within certain defined boundaries, which are necessary to maintain focus, feasibility, and clarity of analysis. These delimitations do not undermine the value of the research; rather, they specify the scope within which the findings should be interpreted. Firstly, the study is restricted to primary data based on investor perceptions collected through a structured questionnaire. While perception-based analysis provides valuable insights into investor behavior and market psychology, it may not always reflect actual market outcomes. The findings therefore represent how investors interpret IPO underpricing rather than precise market-generated return figures. Secondly, the research is confined exclusively to the Indian IPO market. IPO mechanisms, regulatory frameworks, investor composition, and pricing practices vary significantly across countries. Hence, the results of this study cannot be generalized to developed or other emerging markets without contextual modification.

Thirdly, the study does not incorporate firm-level financial ratio analysis such as profitability, leverage, earnings quality, or valuation multiples using secondary market data. The exclusion of such quantitative financial indicators limits the ability to directly compare perception-based findings with accounting or market-based performance measures. Fourthly, investor responses may differ based on individual experience, risk appetite, investment horizon, and exposure to past IPO outcomes. These subjective variations are inherent in behavioral research and may influence response consistency despite the use of standardized measurement scales. Finally, long-term IPO performance is examined conceptually and perceptually rather than through stock-wise return tracking over multiple years. The study focuses on understanding investor belief regarding long-term sustainability of IPO returns rather than calculating actual abnormal returns.

5. Data Analysis

This section presents the survey-based findings of the study titled “A Critical Analysis of IPO Underpricing and Long-Term Performance in the Indian Capital Market,” based on responses collected from 450 respondents using a structured questionnaire and a five-point Likert scale (Strongly Disagree to Strongly Agree). The primary objective of this analysis is to understand how investors perceive IPO underpricing in India and to examine the key factors that shape IPO pricing behaviour and outcomes. IPO underpricing is treated as the dependent variable, while major explanatory variables include firm size, firm age, issue size, subscription rate, market conditions, and underwriter reputation. The statements in each category were framed to capture investor beliefs about whether IPOs are commonly priced below expected market value, whether they deliver listing-day gains, and whether such gains mainly benefit short-term investors. In addition, the study evaluates how firm characteristics influence investor confidence and pricing uncertainty, how issue size affects first-day returns and volatility, and how demand indicators such as oversubscription and subscription rate are interpreted by market participants. Market-condition statements assess whether bullish phases encourage underpricing and aggressive pricing, and whether volatility increases pricing uncertainty. Finally, responses related to underwriter reputation provide insight into investor trust and whether reputed intermediaries are perceived to reduce information

asymmetry or improve pricing accuracy. Overall, this section offers a structured foundation for interpreting the descriptive results and linking investor perceptions to the broader research objectives on IPO pricing efficiency and performance in the Indian capital market.

5.1 Exploratory Analysis of Respondent Data

The exploratory analysis forms an essential foundation for understanding investors' perceptions regarding IPO underpricing and its key influencing factors in the Indian capital market. This section aims to provide a preliminary examination of respondents' opinions before conducting advanced statistical and structural modeling. Through descriptive analysis, the study captures how investors interpret IPO pricing behavior, listing-day performance, firm-related characteristics, market conditions, and the role of intermediaries in the IPO process.

A structured questionnaire was administered to 450 respondents, and their responses were analyzed using frequency and percentage distributions. This approach enables the identification of dominant trends, consensus levels, and areas of divergence among investors. The exploratory analysis helps in assessing whether IPO underpricing is perceived as a systematic phenomenon and how various determinants such as firm size, firm age, issue size, subscription rate, market condition, and underwriter reputation shape investor expectations.

The findings of this section reveal strong agreement on the prevalence of IPO underpricing, the significance of listing-day gains, and the dominant influence of market conditions and firm characteristics on pricing outcomes. At the same time, mixed perceptions emerge regarding subscription rates and underwriter reputation, indicating investor skepticism toward demand indicators and intermediary credibility. Overall, this exploratory analysis provides valuable descriptive insights and establishes a conceptual basis for subsequent confirmatory analysis using structural equation modeling, thereby strengthening the empirical rigor of the study.

Table 2: Exploratory Analysis of Respondent Data

Variable	Statement (Item)	SD %)	D (%)	N (%)	A (%)	SA (%)	Total
IU	Offer price lower than expected market value	0 (0.00)	25 (5.56)	123 (27.33)	204 (45.33)	98 (21.78)	450
IU	High returns on first day of listing	0 (0.00)	7 (1.56)	80 (17.78)	250 (55.56)	113 (25.11)	450
IU	Listing-day gains indicate underpricing	1 (0.22)	3 (0.67)	72 (16.00)	241 (53.56)	133 (29.56)	450
IU	Underpricing benefits short-term more than long-term	0 (0.00)	8 (1.78)	99 (22.00)	232 (51.56)	111 (24.67)	450
IU	Underpricing is common in India	0 (0.00)	8 (1.78)	100 (22.22)	229 (50.89)	113 (25.11)	450
FS	Smaller firms underprice to attract investors	1 (0.22)	6 (1.33)	56 (12.44)	231 (51.33)	156 (34.67)	450
FS	Large firms are safer for IPO investment	0 (0.00)	9 (2.00)	85 (18.89)	232 (51.56)	124 (27.56)	450
FS	Firm size influences investor confidence	0 (0.00)	0 (0.00)	85 (18.89)	262 (58.22)	103 (22.89)	450

FS	Larger firms face less pricing uncertainty	1 (0.22)	5 (1.11)	90 (20.00)	227 (50.44)	127 (28.22)	450
FA	New firms underprice due to limited reputation	3 (0.67)	13 (2.89)	94 (20.89)	207 (46.00)	133 (29.56)	450
FA	Older firms price IPOs more accurately	0 (0.00)	10 (2.22)	60 (13.33)	209 (46.44)	171 (38.00)	450
FA	Experience reduces information asymmetry	1 (0.22)	10 (2.22)	88 (19.56)	213 (47.33)	138 (30.67)	450
FA	Younger firms underprice to gain trust	2 (0.44)	15 (3.33)	89 (19.78)	211 (46.89)	133 (29.56)	450
IS	Smaller issue sizes show higher first-day returns	0 (0.00)	4 (0.89)	41 (9.11)	198 (44.00)	207 (46.00)	450
IS	Large issue sizes reduce price volatility	2 (0.44)	5 (1.11)	49 (10.89)	219 (48.67)	175 (38.89)	450
IS	Issue size plays major role in pricing decisions	0 (0.00)	22 (4.89)	83 (18.44)	196 (43.56)	149 (33.11)	450
IS	Larger issue sizes increase investor confidence	0 (0.00)	20 (4.44)	84 (18.67)	197 (43.78)	149 (33.11)	450
SR	High oversubscription leads to higher listing gains	16 (3.56)	80 (17.78)	150 (33.33)	146 (32.44)	58 (12.89)	450
SR	Subscription rate reflects strong investor demand	34 (7.56)	105 (23.33)	170 (37.78)	99 (22.00)	42 (9.33)	450
SR	Retail participation affects pricing outcomes	10 (2.22)	60 (13.33)	131 (29.11)	177 (39.33)	72 (16.00)	450
SR	Institutional demand improves price discovery	33 (7.33)	115 (25.56)	168 (37.33)	108 (24.00)	26 (5.78)	450
SR	Oversubscription creates positive listing-day sentiment	64 (14.22)	152 (33.78)	129 (28.67)	82 (18.22)	23 (5.11)	450
MC	Bull markets lead to more underpricing	0 (0.00)	19 (4.22)	97 (21.56)	235 (52.22)	99 (22.00)	450
MC	Market trends increase IPO enthusiasm	5 (1.11)	14 (3.11)	67 (14.89)	173 (38.44)	191 (42.44)	450
MC	Volatile markets increase pricing uncertainty	1 (0.22)	17 (3.78)	93 (20.67)	206 (45.78)	133 (29.56)	450
MC	Favourable markets encourage aggressive pricing	1 (0.22)	20 (4.44)	92 (20.44)	204 (45.33)	133 (29.56)	450

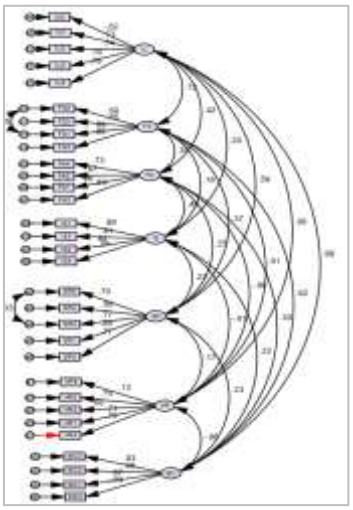
UR	Reputed underwriters reduce information asymmetry	29 (6.44)	145 (32.22)	134 (29.78)	127 (28.22)	15 (3.33)	450
UR	Investors trust IPOs with well-known underwriters	72 (16.00)	187 (41.56)	78 (17.33)	84 (18.67)	29 (6.44)	450
UR	Underwriter reputation improves pricing accuracy	28 (6.22)	161 (35.78)	117 (26.00)	122 (27.11)	22 (4.89)	450
UR	Reputed underwriters show lower underpricing	42 (9.33)	131 (29.11)	153 (34.00)	109 (24.22)	15 (3.33)	450
UR	Underwriter credibility influences subscription decisions	53 (11.78)	108 (24.00)	133 (29.56)	111 (24.67)	45 (10.00)	450

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

5.2 CFA And SEM Analysis of Respondents Data

Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were employed in this study to validate the measurement framework and to examine the causal relationships among the selected variables influencing IPO underpricing in the Indian capital market. CFA was first applied to assess the reliability and validity of the latent constructs, including Firm Size, Firm Age, Issue Size, Subscription Rate, Volatility Risk, Market Conditions, and IPO Underpricing. The factor loadings obtained were largely satisfactory, indicating strong associations between observed indicators and their respective constructs, thereby confirming adequate convergent validity and measurement consistency. Following CFA, SEM was used to test the proposed theoretical model and to analyze the direct effects of independent variables on IPO underpricing. SEM offers a comprehensive analytical approach by simultaneously evaluating multiple relationships while accounting for measurement error. The structural model enabled the assessment of both firm-specific and market-related determinants within a unified framework.

The results demonstrate that the model achieved acceptable goodness-of-fit indices, confirming its empirical suitability. The findings highlight the dominant influence of market conditions, firm size, and subscription rate on IPO underpricing, while issue size and volatility risk exhibit comparatively weaker effects. Overall, the CFA and SEM analyses provide robust empirical support for the multidimensional nature of IPO underpricing and strengthen the explanatory power of the proposed research model.



This model illustrates the relationships between IPO underpricing (IU) and its key determinants: firm size (FS), firm age (FA), issue size (IS), subscription rate (SR), volatility risk (VR), and market conditions (MC). The factor loadings indicate acceptable construct reliability, with most observed variables showing strong associations with their latent constructs. The path coefficients reveal that issue size, firm size, and market conditions exert relatively stronger influences on IPO underpricing, while subscription rate and underwriter-related risk show weaker or mixed effects. Overall, the model demonstrates a satisfactory structural fit, confirming that multiple firm-specific and market-related factors jointly explain IPO underpricing behavior in the Indian capital market.

Table 3: Correlation Matrix of IPO Underpricing and Determinants (Default Model)

Variables	IU	FS	FA	IS	SR	VR	MC
IU	1.000	0.725	0.419	0.204	0.585	0.064	0.690
FS	0.725	1.000	0.353	0.159	0.373	0.009	0.619
FA	0.419	0.353	1.000	0.494	0.246	−0.061	0.300
IS	0.204	0.159	0.494	1.000	0.233	−0.012	0.225
SR	0.585	0.373	0.246	0.233	1.000	0.171	0.227
VR	0.064	0.009	−0.061	−0.012	0.171	1.000	−0.057
MC	0.690	0.619	0.300	0.225	0.227	−0.057	1.000

Note: IU = IPO Underpricing, FS = Firm Size, FA = Firm Age, IS = Issue Size, SR = Subscription Rate, VR = Volatility Risk, MC = Market Condition.

Interpretation

The correlation analysis highlights meaningful relationships between IPO Underpricing (IU) and its key determinants. Firm Size (FS) shows a strong positive correlation with IU (r = 0.725), indicating that firm size plays a dominant role in shaping IPO pricing behaviour and investor expectations. Market Condition (MC) also exhibits a strong association with IU (r = 0.690), suggesting that favourable or bullish market environments significantly intensify underpricing perceptions and listing-day gains.

Subscription Rate (SR) demonstrates a moderately strong positive correlation with IU (r = 0.585), implying that higher investor participation and oversubscription are generally linked with greater underpricing, though not decisively. Firm Age (FA) shows a moderate positive relationship with IU (r = 0.419), indicating that firm maturity influences pricing outcomes by reducing uncertainty and information asymmetry.

Issue Size (IS) is weakly correlated with IU (r = 0.204), suggesting a limited but supportive role in explaining underpricing. In contrast, Volatility Risk (VR) shows a negligible correlation with IU (r = 0.064), indicating that market volatility does not directly influence perceived underpricing.

Overall, the results suggest that IPO underpricing in the Indian capital market is primarily driven by firm size and market conditions, followed by investor subscription behaviour and firm age, while issue size and volatility risk play relatively minor roles.

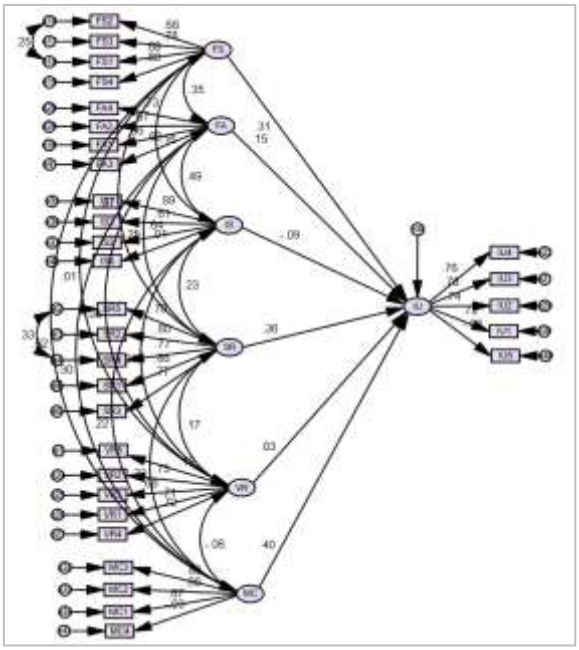


Fig 1: The Structural Equation Model (SEM) Shows Direct Effects of Six Independent Variables

The Structural Equation Model (SEM) illustrates the direct effects of six independent variables—Firm Size (FS), Firm Age (FA), Issue Size (IS), Subscription Rate (SR), Volatility Risk (VR), and Market Conditions (MC)—on IPO Underpricing (IU). The model provides empirical evidence on the relative strength and direction of these relationships based on standardized path coefficients.

The results indicate that Subscription Rate (SR) exerts a moderate positive influence on IPO underpricing ($\beta = 0.36$). This suggests that higher levels of investor participation and oversubscription are associated with increased listing-day gains, reinforcing the role of demand pressure in short-term IPO performance. However, the coefficient is not excessively high, indicating that subscription alone does not fully determine underpricing.

Market Conditions (MC) show a strong positive effect on IPO underpricing ($\beta = 0.40$), highlighting the importance of broader market sentiment. IPOs launched during bullish market phases tend to experience higher underpricing due to increased investor optimism, stronger risk appetite, and aggressive bidding behavior.

Firm Size (FS) exhibits a positive but relatively moderate impact on IPO underpricing ($\beta = 0.31$). This indicates that firm size significantly shapes investor perception and pricing decisions, as larger firms typically enjoy higher visibility and credibility, which influences pricing strategies and market reactions.

Firm Age (FA) shows a weaker positive relationship with IPO underpricing ($\beta = 0.15$). While firm experience contributes to reduced information asymmetry, its direct influence on underpricing appears limited compared to firm size and market conditions.

In contrast, Issue Size (IS) demonstrates a negative relationship with IPO underpricing ($\beta = -0.09$), suggesting that larger issue sizes are associated with lower listing-day gains due to improved liquidity and reduced scarcity effects.

Volatility Risk (VR) exhibits a negligible positive effect ($\beta = 0.03$), indicating that market volatility does not significantly influence underpricing decisions in the Indian IPO market.

The measurement model shows strong factor loadings across constructs, generally exceeding 0.65–0.89, confirming acceptable convergent validity. Overall, the SEM results reveal that market conditions and subscription rate are the most influential determinants of IPO underpricing, while firm characteristics play supportive roles and volatility risk remains largely insignificant. These findings confirm that IPO underpricing in India is primarily driven by market sentiment and investor demand dynamics rather than purely firm-specific risk factors.

Table 4: Model Fit Indices and Structural Path Results (Default Model)

Category	Indicator / Path	Value
Model Fit	Sample moments	496
	Parameters estimated	85
	Degrees of freedom	411
	Chi-square (χ^2)	1021.986 (p = 0.000)
	CMIN/DF	2.487
	RMR	0.087
	GFI / AGFI	0.892 / 0.869
	PGFI	0.739
	Convergence	Minimum achieved
Structural Paths → IU	Firm Size (FS)	β = 0.317***
	Firm Age (FA)	β = 0.130**
	Issue Size (IS)	β = −0.077 (ns)
	Subscription Rate (SR)	β = 0.245***
	Volatility Risk (VR)	β = 0.018 (ns)
	Market Condition (MC)	β = 0.299***

*Note: *** p < 0.001, ** p < 0.01, ns = not significant.*

The overall model demonstrates an acceptable fit to the data. Although the Chi-square statistic is significant, this outcome is expected in large samples. The relative Chi-square (CMIN/DF = 2.487) lies within the recommended threshold, while GFI, AGFI, RMR, and PGFI values collectively indicate a satisfactory and parsimonious model. Successful convergence further confirms the statistical adequacy and stability of the default SEM model. The structural path results reveal that Firm Size and Market Conditions exert the strongest positive influence on IPO underpricing, highlighting the importance of firm credibility and broader market sentiment in shaping listing-day outcomes. Subscription Rate also shows a strong and significant effect, emphasizing the role of investor demand and oversubscription in driving short-term IPO gains. Firm Age has a smaller but statistically significant impact, suggesting that experience and reputational capital improve pricing outcomes by reducing information asymmetry. Issue Size shows a weak and marginally negative effect, while Volatility Risk is insignificant, indicating that short-term market uncertainty does not materially affect IPO underpricing in India. Overall, the findings confirm that IPO underpricing is primarily driven by firm size, demand pressure, and market conditions rather than volatility or underwriter-related factors.

6. Findings and Conclusion

The study finds a strong investor consensus that IPO underpricing is a common and persistent feature of the Indian capital market. IPO offer prices are widely perceived to be set below expected market value, resulting in significant listing-day gains that primarily benefit short-term investors. Firm characteristics play a key role: smaller and younger firms are seen to underprice strategically to attract investors, while larger and older firms enjoy greater credibility, lower uncertainty, and more accurate pricing. Issue size also matters, as smaller issues generate higher first-day returns, whereas larger issues reduce volatility. Market conditions strongly influence pricing, with bullish phases amplifying underpricing, while underwriter reputation and oversubscription are viewed with skepticism.

The study concludes that IPO underpricing in India is a systematic and behaviour-driven phenomenon rather than a pricing anomaly. It is shaped mainly by firm size, firm age, issue size, investor demand, and market sentiment. Underpricing serves as a demand-management and confidence-building strategy, favouring short-term gains over long-term performance. Traditional signals such as oversubscription and underwriter reputation are not considered decisive by investors. IPO pricing in India reflects a complex interaction of firm fundamentals, market conditions, and behavioural factors, highlighting the need for improved valuation discipline and investor awareness.

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