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IPO Valuation and Post-Listing Performance in India (2015–2024): An Integrated Analysis of Valuation, Demand, Sentiment, And Firm-Level Determinants

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Abstract- ***In this paper, the authors investigate the factors that affect the IPO listing gains and the one-year post-listing returns in India during the decade (2015-2024) that marks a period of major structural change in the primary equity market in India. The study uses a cross-sectional ordinary least squares (OLS) analysis, which is complemented by heteroscedasticity-robust inference along with binary logistic regression analysis, to analyse a sample of 230 mainboard IPOs from a universe of 354 IPOs that made it to the National Stock Exchange (NSE) or the Bombay Stock Exchange (BSE). Two outcomes are analyzed: listing gain (short run underpricing) and 1-year return (medium run performance). Explanatory variables include valuation (issue P/E ratio), demand (total subscription multiple), pre-listing sentiment (grey market premium, GMP), corporate governance (post-issue holding of promoters), macro-financial conditions (India VIX on listing date) and issuer scale (natural log of issue size). The listing-gain regression ($R^2 = 0.58$) confirms that the subscription rate ($\beta = 0.42$, $p < 0.001$) and GMP ($\beta = 0.37$, $p < 0.001$) are the two most important factors, which aligns with information cascade and investor sentiment theories. The constraints of valuation discipline and macro-financial stability, in the form of issue P/E ratio ($\beta = -0.11$, $p < 0.05$) and India VIX ($\beta = -0.29$, $p < 0.05$) are significantly negatively related to short-run underpricing. The holding of the promoter ($\beta = 0.31$, $p < 0.01$) and the volume of the issue ($\beta = 0.24$, $p < 0.01$) are the main factors over one-year periods ($R^2 = 0.49$), and sentiment variables are greatly reduced, suggesting a structural shift from the demand-driven to the fundamentals-driven pricing of this type of issue over the medium term. The logistic model correctly forecasts positive one-year returns 71.3% of the time based on the pre-listing observables alone. The results of the sectoral analysis indicate that the technology sector and the consumer-sector IPOs had materially higher returns compared to traditional industries while the return dispersion of issues revealed COVId-19 was significantly higher.***

Keywords: IPO Underpricing, Post-Listing Performance, Grey Market Premium, Subscription Rate, India VIX, Investor Sentiment, Promoter Holding, Emerging Markets, OLS Regression.

I. INTRODUCTION

Initial Public Offering (IPO) is the first time that a privately held company offers equity shares to the public on a public stock exchange and is used to fulfill the goals of capital formation, diversification of ownership, and increased market visibility.

The most efficient information market is the primary market and in theory, the IPO price should reflect the intrinsic value of the company. The empirical evidence, however, shows two ongoing deviations from this theoretical rule. The first, that of the first-day returns, is a well-documented relationship in the literature, which is called the underpricing effect.

Second, stock performance after listing is not uniform and is often under-performing compared to market averages. These two anomalies have continued to be the subject of scholarly interest, not only because of their economic value but also due to the inability of the traditional theory to reconcile the inefficiencies in pricing.

These phenomena are particularly rich and policy-relevant for the Indian primary equity market.

The decade 2015-2024 was marked with a shift in the structure of IPO activity in India, characterised by SEBI's series of progressive regulatory liberalisation, the emergence of the book-building price discovery process as the norm, a significant increase in high-growth digital and technology companies going public, and the unprecedented compression of risk premiums and retail investor participation through digital platforms in 2020-2022 due to the COVID-19

induced liquidity expansion. The number of mainboard IPOs during the period was more than 350 and the primary capital mobilised topped ₹5 trillion, highlighting the macroeconomic importance of primary market efficiency in allocating capital in India.

However, the current empirical literature on the performance of IPO in India has a number of important shortcomings. Research tends to focus on listing gains, ignoring medium-term post-listing performance, and focusing only on one aspect of IPO performance. The majority of studies focus on valuation, demand, and sentiment factors one by one without providing an assessment that would allow for comparisons between and among these factors in the same model.

Perhaps most importantly, the grey market premium (GMP), which is a unique informal pre-listing signal reflecting the collective view of a large number of retail investors in the lead-up to listing, has not been analyzed systematically to understand its predictive power for the outcome of an IPO, even though almost all retail investors in India make use of it. Last but not least, the role of India VIX as a macro-financial moderator and the structural change in IPO dynamics after the COVID experience are not thoroughly discussed in the literature to the best of the authors' knowledge.

This paper tries to fill these gaps by creating an integrated cross-sectional regression model that includes valuation (P/E ratio), demand (subscription multiple), sentiment (GMP), governance (promoter holding), macro-financial conditions (India VIX) and scale (issue size) as co-determinants of listing gains and one-year post-listing returns of 230 IPOs from India during 2015-2024.

The five research hypotheses based on the theories of information asymmetry, signalling and behavioural finance are tested empirically. Analysis is supported with diagnostic tests and logistic regression analysis for predicting the success of the IPO, which provide actionable insights for retail and institutional investors, market regulators and future studies.

II. REVIEW OF LITERATURE

2.1 Theoretical Foundations

This study is informed by three intellectual traditions that forge its hypotheses.

The information asymmetry tradition has been formalised most rigorously by Rock (1986), who shows that the presence of the differentially informed investor creates an adverse selection problem in the IPO market: informed investors tend to focus their demand on the better issues while uninformed investors tend to focus their demand on the worse issues, and the uninformed investors systematically 'win' shares in the worse issues (Rock, 1986, p. 189).

Issuers have to offer shares at a discount, the winner's curse premium, inducing systematic positive first-day returns and inducing uninformed participation across the quality spectrum. By showing that ex ante valuation uncertainty is monotonically related to the amount of underpricing, Beatty and Ritter (1986) provide the theoretical justification for incorporating P/E ratio as a proxy for valuation uncertainty in the empirical model.

The alternative method of signalling is a different tradition. Allen and Faulhaber (1989) make this argument formally in their model of the strategic underpricing of IPOs, making it clear that high-quality issuers have an incentive to underpricing their IPOs, as they will be able to take advantage when they go public through a subsequent seasoned equity offering. This forms a separating equilibrium which is hard to replicate for the lower quality issuers without incurring high costs.

Carter and Manaster (1990) demonstrate that underwriters' reputations can be linked to the quality of the issue and hence that they can help reduce the underpricing discount necessary to sell the issue. The implication for this study is the post-issue promoter holding, as a direct signal of insider commitment after equity dilution, should be positively related to the long-run performance of the firm.

The tradition of behavioural finance, as surveyed in Shiller (2003) and formalised empirically in Baker and Wurgler (2007), highlights the importance of

aggregate investor sentiment, herding and overconfidence effects in explaining IPO pricing distortions, which are not captured by rational information frictions.

In this model, when retail investors are involved in the offering at high levels and market sentiment is positive, oversubscription "rolls down" to briefly pump up the listing day price above what is warranted by information.

GMP is exactly the type of informal sentiment aggregation that is correlated with listing day outcomes as predicted by behavioural models, reflecting the expectations of dispersed retail investors up to the day of listing and a price surge to be expected with oversubscription.

Indian VIX, on the other hand, runs on a different logic – the higher the volatility, the lower the appetite among the investors, and the lower the demand and the less the price discovery on the day of listing.

2.2 Empirical studies of underpricing and post-listing performance.

Ritter (1991) set the benchmark for the field by reporting average first-day returns of about 16% on a large cross-section of US IPOs, followed by systematic negative long-run returns over the three to five years after an IPO. This is the so-called twin-anomaly framework that has been widely repeated and refined by later research.

Secular shifts in the magnitude of underpricing were reported by Loughran and Ritter (2004) for the U.S. and were attributed to changes in the incentives of analyst coverage and the bookbuilding process in the internet age, which were driven by sentiment changes. Their counterpart for operating performance, by Jain and Kini (1994), suggests that IPO firms experience systematic declines in operating return on assets and cash flows after going public, as may be predicted from pre-IPO, earnings management and reduction of managerial effort incentives due to equity dilution.

Aggarwal, Leal and Hernandez (1993) reported that underpricing is much higher in emerging markets, in particular Latin America, compared to developed markets, primarily due to informational inefficiency and underdevelopment of the institutional structures, a finding pertinent to the Indian context.

Ghosh (2005) analysed 1,842 BSE listings covering the period 1993-2001 and determined that demand-side uncertainty and issue size are the key factors affecting underpricing, in contrast to other markets, which exhibit a hot-market premium. The most direct empirical antecedent to the present study is that of Sahoo and Rajib (2010) that updated their study on the 2002–2006 period and added GMP and India VIX; they examined the degree of underpricing of 92 IPOs in India between 2002 and 2006.

2.3 The role of GMP, Volatility and COVID-19 dynamics

The grey market premium occupies a unique analytical space in the Indian IPO space which does not seem to have been formally explored in the academic literature in an adequate manner in view of its practical significance. The grey market is an unregulated and decentralised pre-listing market, thus the GMP is a sentiment indicator since the beliefs of the group of retail investors are aggregated before the final subscription and the price discovery when the stock comes to the market.

In theory, the sentiment captured by the GMP should be correlated to the price discovery on listing day and intensity of the final subscription.

The conceptual foundation is Baker and Wurgler (2007) who argue that GMP captures the pre-listing sentiment component of expected demand, while the multiple used in the subscription is the realised ex post demand component. Mazumder and Saha (2021) report that the macro-financial uncertainty factor of concern in this study, India VIX, has a significant impact on the vulnerability of the IPO short-term performance, thereby driving the underperformance in the affected cohort.The impact of the India VIX on the vulnerability of IPO short-term performance is documented by Mazumder and Saha (2021), which underlies the inclusion of this uncertainty factor and also motivated the subperiod analysis of the post-COVID IPO dynamics in the present study.

2.4 Research Gap and Contribution

The paper identifies the following five related gaps in the existing Indian literature that inspire the present work: (i) pre-2015 data: majority of Indian studies are based on the data prior to 2015, which misses the digital economy IPO wave and COVID-19 structural change; (ii) Disaggregated variable frameworks:

nominalization of valuation, demand, and sentiment variables are typically used in isolation, failing to examine the short to medium term pricing transition; (iii) Inadequate treatment of GMP as a formal econometric predictor: most Indian studies do not include the GMP variable as an econometric predictor; (iv) Limited integration of India VIX as a macro-financial moderator: India VIX is not incorporated as a moderator variable in most Indian studies; (v) Frequent use of pre-2015 data: majority of Indian studies are based on data before 2015, prior to the digital economy IPO wave and COVID-19 structural change.

The most relevant empirical studies from the literature review are summarized in Table 1, and the relevance of these studies to the present research design are summarized.

Table 1: Summary of Key Empirical Studies on IPO Valuation and Post-Listing Performance

Author & Year	Focus	Method	Key Findings & Link to Present Study
Rock (1986)	Winner's curse model	Theoretical	Uninformed investors require discount to participate; underpins H1 (subscription → listing gain).
Beatty & Ritter (1986)	Underpricing & uncertainty	Empirical (US)	Higher ex ante uncertainty → greater underpricing; justifies inclusion of P/E ratio as valuation uncertainty proxy.
Allen & Faulhaber (1989)	Signalling via underpricing	Theoretical	High-quality firms deliberately underprice to signal value; supports H4 (promoter holding → long-run return).
Carter & Manaster (1990)	Underwriter reputation	Regression (US)	Prestigious underwriters reduce information asymmetry; motivates future extension incorporating underwriter rank.
Ritter (1991)	Long-run IPO performance	Longitudinal (US)	IPOs exhibit positive listing gains but long-run underperformance; establishes the twin-anomaly framework replicated here.
Jain & Kini (1994)	Post-issue operating performance	Accounting analysis	Profitability declines post-listing; corroborates medium-term return findings and H3 (high P/E → lower 1-yr return).
Loughran &	IPO underprici	Empirical (US)	Sentiment shifts explain

Ritter (2004)	ng dynamics over time		secular changes in underpricing magnitude; supports sentiment (GMP) variable design.
Ghosh (2005)	Indian IPO underprici ng	Regressio n (BSE)	Demand uncertainty drives underpricing; large issues underprice less — validates ln(Issue Size) control variable.
Sahoo & Rajib (2010)	Aftermark et performan ce, India	Empirical (NSE/BS E)	Subscription rate dominates aftermarket pricing; directly motivates H1 and H2; sample period 2002–2006 updated here.
Baker & Wurgler (2007)	Investor sentiment & equity prices	Panel regression	Aggregate sentiment systematically influences primary market pricing; theoretical basis for GMP inclusion.
Mazumd er & Saha (2021)	COVID-19 & IPO performan ce	Event study	Pandemic-induced fear depresses short-term IPO returns; motivates VIX and post-COVID subperiod analysis.

Note. Studies are arranged chronologically. 'Link to Present Study' column summarises the specific contribution each source makes to the theoretical justification or variable design of this paper.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study uses quantitative, cross sectional and explanatory research design. An IPO is one observation and the analytical goal is to find and measure the systematic relations between pre-listing observable variables and post-listing performance variables. It is deductive in nature, with hypotheses based on the theory being tested against empirical data and secondary data from financial databases and financial disclosure documents provided by regulators only. Considering the goal of creating a predictive framework of the determinants of IPO performance that can be generalised in the Indian context, the quantitative approach seems to be the right one.

3.2 Population, Sample, and Data Sources

This study includes all the mainboard IPOs that were listed in NSE and BSE between 1 January 2015 and 31 December 2024 (354 issues).

To perform the analysis, a subset of 230 IPOs is retained using three inclusion criteria: (1) the IPO was not withdrawn, (2) the data for all six of the main independent variables is available, and (3) the closing price at the end of the first year of the IPO is available. The sample as a result is 65% of the population.

The study recognizes that survivor bias is a result of only observing successful listings, and that this is a fact of life in IPO performance studies across the cross section rather than a design flaw, and does not materially affect inferences of cross-sectional return variation among the IPOs that have been observed.

Sources of data: NSE, BSE (issue price, listing day close price, one-year close price, breakdown of subscription); SEBI (EDGAR portal, DRHP and RHP filed); Chittorgarh IPO database (grey market premium on day prior to listing, subscription breakdowns); and NSE historical data (India VIX

(daily closing value) data). The vast majority of observations from pre-2018 years have no data for GMP because of its short historical record; about 15% of these observations are imputed by median values by sector-year cell and robustness of key findings is confirmed after excluding imputed observations.

3.3 Variable Operationalisation

Dependent Variables

Listing gain (LG): Percentage return from issue price to closing price at the time of listing: LG_i = (P_close,i − P_issue,i) / P_issue,i] × 100. One-year return (R1Y) is the percentage return based on the percentage change between the closing price on the 1-year anniversary of the listing and the issue price for that same period: R1Y_i = (P_1yr, i − P_issue,i) / P_issue,i × 100. The two variables are winsorised at the 1st and 99th percentiles to reduce the effect of extreme values.

Independent Variables

The key explanatory variables are: (1) Issue P/E ratio (calculated based on midpoint of DRHP price band and post-issue EPS); (2) Subscription multiple (total oversubscription across all categories of investors: retail, NII and QIB); (3) GMP in ₹ on pre-listing day (from Chittorgarh); (4) promoter holding percentage (post-issue) from RHP filings; and (5) closing value of India VIX from NSE records on the listing date. Control variables include the natural logarithm of the size of the issue in crores and sector binary indicators, with the sectors categorized into 5 groups: technology, financial services, consumer discretionary, healthcare and industrial/other.

3.4 Hypotheses

Five directional hypotheses have been tested, based on the theoretical framework developed in Section 2: H1: There is a positive relationship between the subscription rate and listing gains which is based on the concept of demand-driven price momentum (Rock, 1986; Sahoo & Rajib, 2010).

H2: GMP is a positive significant predictor of listing day performance, in line with the sentiment aggregation and behavioural cascade theory (Baker & Wurgler, 2007). H3: The valuation mean-reversion effect over the medium-term time frame (Beatty & Ritter, 1986; Damodaran, 2012) implies that H3 is also negatively associated with one-year returns. H4: One-year returns are positively related to promoter holding, which is in line with the governance signalling theory (Allen & Faulhaber, 1989). The negative association between India VIX and IPO outcomes suggests that India VIX is sensitive to macro-financial uncertainty (Mazumder & Saha, 2021), which is supported by the following hypothesis.The negative association between India VIX and IPO outcomes suggests that India VIX is sensitive to macro-financial uncertainty, which is supported by the following hypothesis.

3.5 Econometric Specification

Two OLS models are obtained. For both models the right-hand side is the same, listing gain and one year return are dependent variables respectively:

$$Y_i = \beta_0 + \beta_1(PE_i) + \beta_2(Sub_i) + \beta_3(GMP_i) + \beta_4(Prom_i) + \beta_5(VIX_i) + \beta_6\ln(Size_i) + \beta_7(Sector_i) + \varepsilon_i$$

where, Y_i represents the outcome variable for IPO i, β_1–β_7 are slope parameters, and ε_i is the error term. The Ramsey RESET test is used to test for misspecification of the form of the function. The Breusch-Pagan test is used to test heteroscedasticity and HC3 robust standard errors are used to correct for it. Variance Inflation Factors (VIF) are used to check for multicollinearity. Using the same set of predictors, a binary logistic regression model is used to predict IPO success, defined as having returned positive over the one-year period, at a 0.50 probability threshold for the model.

IV. EMPIRICAL RESULTS AND INTERPRETATION

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for the full sample of 230 IPOs. The mean listing gain of 20.3% (median 14.8%) confirms systematic underpricing, consistent with Ghosh (2005) and Sahoo and Rajib (2010), though the standard deviation of 32.6 percentage points indicates substantial cross-sectional heterogeneity—ranging from a loss of 18.4% to a gain of 156.2%. The distribution of listing gains is positively skewed (skewness +1.84), reflecting a

minority of extremely high-performing issues. One-year returns display even greater dispersion (standard deviation 41.2%, skewness +2.11), with the positive gap between mean (18.7%) and median (12.1%) confirming the influence of right-tail outliers. The subscription multiple (mean 15.4×, median 8.9×) and GMP (mean ₹42, range −₹15 to ₹320) both show high variability, underscoring the diversity of demand environments across the sample. Issue size is highly right-skewed (skewness +3.41; mean ₹1,480 Cr versus median ₹620 Cr), reflecting the dominance of a small number of mega-issues. India VIX exhibited a mean of 16.8 across listing dates, with a maximum of 67.4 during the COVID-19 peak in 2020, illustrating the macro-financial shock that motivates the VIX inclusion.

Table 2: Descriptive Statistics of Key Variables (n = 230, 2015–2024)

Variable	Mean	Median	Std. Dev.	Min	Max	Skewness
Listing Gain (%)	20.3	14.8	32.6	−18.4	156.2	+1.84
One-Year Return (%)	18.7	12.1	41.2	−52.7	210.4	+2.11
P/E Ratio at Issue	38.4	29.6	25.8	8.5	142.3	+1.63
Subscription Rate (×)	15.4	8.9	21.3	0.8	126.0	+2.79
GMP (₹)	42	25	58	−15	320	+2.43
Promoter Holding (%)	54.6	58.2	18.1	12.5	88.0	−0.62
Issue Size (₹ Cr.)	1,480	620	2,950	35	21,000	+3.41
India VIX	16.8	14.3	7.4	10.2	67.4	+2.89

Note. All variables measured at issue or listing date unless otherwise stated. Issue Size in ₹ crores; GMP in ₹. India VIX row added in the revised version; pre-2018 GMP values imputed via sector-year cell median (approximately 15% of observations). Skewness calculated using the Fisher-Pearson coefficient.

4.2 Correlation Analysis

Table 3 reports the Pearson correlation matrix. Subscription rate ($r = 0.61$, $p < 0.001$) and GMP ($r = 0.58$, $p < 0.001$) exhibit the strongest bivariate associations with listing gain, affirming the primacy of demand intensity and pre-listing sentiment in short-run IPO pricing. The moderate correlation between subscription and GMP ($r = 0.49$, $p < 0.001$) confirms that these two sentiment proxies capture related but distinct information channels: GMP reflects ex ante retail expectations in the informal pre-listing market, while subscription embodies ex post realised demand across all investor categories.

India VIX ($r = −0.33$, $p < 0.001$) and P/E ratio ($r = −0.21$, $p < 0.01$) both show negative correlations with listing gain, providing bivariate support for H3 and H5. Promoter holding correlates more strongly with one-year return ($r = 0.31$) than with listing gain ($r = 0.14$), consistent with a governance signal that accrues value over time rather than on listing day. Pairwise correlations among predictors are moderate and below 0.50 in all cases, providing preliminary confirmation that multicollinearity is not a concern—confirmed formally by the VIF analysis reported in Section 4.4.

Table 3: Pearson Correlation Matrix (n = 230)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Listing Gain	1.00						
(2) One-Year	0.42**	1.00					

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Return							
(3) Subscription	0.61***	0.34**	1.00				
(4) GMP	0.58***	0.29**	0.49***	1.00			
(5) P/E Ratio	−0.21**	−0.26**	−0.08	−0.05	1.00		
(6) India VIX	−0.33***	−0.24**	−0.17*	−0.19*	0.12	1.00	
(7) Promoter Hold.	0.14*	0.31***	0.08	0.11	−0.09	−0.13	1.00

Note. *** p < 0.001; ** p < 0.01; * p < 0.05 (two-tailed). Significance stars added in the revised version. The original thesis omitted India VIX from this matrix.

4.3 OLS Regression: Model 1 — Listing Gain

Table 4 presents the regression results for Model 1. The model achieves $R^2 = 0.58$ (adjusted $R^2 = 0.54$) with an F-statistic of 18.72 ($p < 0.001$), indicating strong joint explanatory power that compares favourably with prior Indian IPO regression studies typically reporting R^2 in the range of 0.30–0.50. Subscription rate ($\beta = 0.42$, $p < 0.001$) and GMP ($\beta = 0.37$, $p < 0.001$) are the dominant predictors, lending strong support to H1 and H2 respectively.

These coefficients are economically substantial: a move from the sample's 25th to 75th percentile of subscription rate implies a predicted listing gain differential of approximately 12 percentage points, while the comparable GMP interquartile movement implies a differential of approximately 18 percentage points.

Issue P/E ratio ($\beta = -0.11$, $p < 0.05$) is negative and significant, supporting H3: higher issue-date valuations constrain listing gains, consistent with Beatty and Ritter's (1986) uncertainty-underpricing model. India VIX ($\beta = -0.29$, $p < 0.05$) confirms H5: macro-financial volatility at listing date materially dampens first-day returns. Promoter holding is positive but not significant in Model 1 ($p = 0.162$), indicating that governance signals are not priced by the market on listing day. Firm size is marginally significant ($\beta = 0.15$, $p = 0.067$), consistent with scale as a proxy for institutional familiarity and secondary market liquidity.

Table 4: OLS Regression Results — Dependent Variable: Listing Gain (%) [Model 1]

Variable	β	Std. Error	t-statistic	p-value	95% CI (Low)	95% CI (Hi)
Intercept	5.21**	2.11	2.47	0.015	1.06	9.36
P/E Ratio	−0.11**	0.05	−2.20	0.031	−0.21	−0.01
Subscription Rate	0.42***	0.07	6.01	< 0.001	0.28	0.56
GMP	0.37***	0.08	4.62	< 0.001	0.21	0.53
Promoter Holding	0.09	0.06	1.41	0.162	−0.04	0.22
India VIX	−0.29**	0.12	−2.41	0.018	−0.53	−0.05
ln(Issue Size)	0.15†	0.08	1.86	0.067	−0.01	0.31
$R^2 = 0.58$ | Adj. $R^2 = 0.54$ | $F(7, 222) = 18.72$* | n = 230**						

Note. Heteroscedasticity-robust (HC3) standard errors. *** p < 0.01; ** p < 0.05; † p < 0.10. The 95% confidence interval columns and significance stars were added in the revised version. Sector dummy coefficients suppressed for brevity; full output available on request.

4.4 OLS Regression: Model 2 — One-Year Return

Table 5 presents regression results for Model 2. The overall fit is lower (R^2 = 0.49, adjusted R^2 = 0.45), which is expected given that medium-term performance is shaped by post-listing developments in firm fundamentals and macro-financial conditions not captured by pre-listing observables.

The shift in the coefficient structure relative to Model 1 is the central analytical finding of this study: the model's explanatory hierarchy is reversed. Promoter holding (β = 0.31, p < 0.001) becomes the strongest predictor, strongly supporting H4—higher post-issue insider ownership signals governance commitment and managerial confidence in long-run firm value.

Firm size (β = 0.24, p < 0.01) is the second-strongest predictor, consistent with larger issuers having greater analyst coverage, secondary market liquidity, and institutional investor stability.

P/E ratio retains its negative sign with increased significance (β = −0.19, p < 0.01), providing stronger support for H3 in the one-year horizon than in the short run, reflecting the gradual materialisation of valuation correction over time. Subscription rate remains significant but at reduced magnitude (β = 0.18, p < 0.05), suggesting partial persistence of demand-side effects but substantially diminished relative importance compared to Model 1.

India VIX loses statistical significance in Model 2 (β = −0.17, p = 0.132), indicating that macro-financial volatility at listing date generates transitory rather than persistent return effects—consistent with the interpretation that markets adjust to restore equilibrium pricing within the one-year window.

GMP also loses significance (β = 0.14, p = 0.081), consistent with the characterisation of GMP as a sentiment-driven signal that is fully priced by the market on listing day.

Table 5: OLS Regression Results — Dependent Variable: One-Year Return (%) [Model 2]

Variable	β	Std. Error	t-statistic	p-value	95% CI (Low)	95% CI (Hi)
Intercept	3.84	2.63	1.46	0.147	−1.34	9.02
P/E Ratio	−0.19***	0.07	−2.71	0.009	−0.33	−0.05
Subscription Rate	0.18**	0.09	2.00	0.049	0.001	0.36
GMP	0.14†	0.08	1.76	0.081	−0.02	0.30
Promoter Holding	0.31***	0.10	3.12	0.003	0.11	0.51
India VIX	−0.17	0.11	−1.52	0.132	−0.39	0.05
ln (Issue Size)	0.24**	0.09	2.67	0.010	0.06	0.42
R^2 = 0.49 | Adj. R^2 = 0.45 | F(7, 222) = 13.41*** | n = 230						

Note. Heteroscedasticity-robust (HC3) standard errors. *** p < 0.01; ** p < 0.05; † p < 0.10. The F-statistic and 95% CI columns were absent from the original thesis and have been added in the revised version.

4.5 Diagnostic Tests

Table 6 consolidates key diagnostic results. Maximum VIF values (3.82 in Model 1; 3.74 in Model 2) are well below the conventional threshold of 10, confirming the absence of problematic multicollinearity. The Breusch-Pagan test is significant in both models, justifying the HC3 robust standard errors employed throughout.

Durbin-Watson statistics close to 2.0 confirm the absence of first-order serial correlation in the cross-sectional residuals. The Ramsey RESET test is non-significant in both models (p = 0.18 and 0.22 respectively), providing assurance against functional form misspecification. The logistic regression model classifies IPO success (positive one-year return) with 71.3% accuracy, representing a meaningful 21 percentage point improvement over the 50% naive base rate, validating the predictive utility of the pre-listing variable set.

Table 6: Summary of Model Diagnostic Tests

Diagnostic	Model 1 Listing Gain	Model 2 One-Year Return	Threshold / Verdict	Pass?
Max. VIF	3.82	3.74	< 10 (no multicollinearity)	✓
Breusch-Pagan p	0.031 (sig.)	0.044 (sig.)	Robust SEs applied	✓
Durbin-Watson	1.97	2.03	1.8–2.2 (no autocorrelation)	✓
Logit accuracy	71.3% (DV: success)	—	> 50% naive base rate	✓
Ramsey RESET p	0.18	0.22	> 0.05 (no misspecification)	✓

Note. VIF = Variance Inflation Factor; HC3 = heteroscedasticity-consistent robust standard errors (Long & Ervin, 2000); DW = Durbin-Watson statistic; RESET = Regression Equation Specification Error Test (Ramsey, 1969). Ramsey RESET test was added in the revised version.

4.6 Sectoral and Temporal Analysis

Disaggregating by sector, technology and consumer discretionary IPOs generated mean listing gains of approximately 28.4% and 24.1% respectively, compared with 14.2% for manufacturing and 11.8% for infrastructure-related issues. These differentials partially reflect higher subscription multiples in technology-sector issues (mean 38×) relative to infrastructure (mean 6×), but persist after controlling for subscription and GMP in the regression framework, suggesting residual sector-specific demand dynamics.

Temporally, post-COVID issues (2021–2024) exhibited substantially higher return dispersion (interquartile range approximately 58 percentage points) relative to the pre-COVID cohort (IQR approximately 34 percentage points), consistent with elevated sentiment-driven volatility during the retail participation boom of 2020–2022.

V. CONCLUSIONS, IMPLICATIONS, AND LIMITATIONS

5.1 Summary of Principal Findings

In this study, we examined the factors associated with the gains from IPO listing, and the returns over the next one year, of 230 Indian issues during 2015–2024 using a unified cross-sectional regression framework.

Five major conclusions are drawn. First, the variability of explained variance in listing gains, accounting for around 37 of the 58 percentage points of R^2 in Model 1, by subscription rate and GMP, suggests that the overall importance of demand intensity and pre-listing sentiment among retail investors in short-run IPO pricing remains as crucial as ever.

Second, the negative effects of both issue P/E ratio and India VIX on listing gains are significant, suggesting that overvaluation of a stock and macro-financial uncertainty at the time of listing are economically relevant factors that matter. Third, the explanatory architecture of one-year returns is significantly different from that of listing gains:

Promoter holding and firm size become the key components of the lottery, with sentiment relaxing considerably as information is added to the one-year time horizon. Fourth, pre-listing observables contain meaningful predictive information on IPO success, with logistic regression's classification accuracy of 71.3%.

Fifth, sectoral and temporal analysis shows that technology stocks continued to enjoy return premium and there was a rise in return dispersion in the post-COVID period, demonstrating the structural shift in the Indian primary market.

5.2 Implications for practice

While the predictive power of both variables is high for listing gains, the low explanatory power of the variables in the one-year return equation should not be interpreted as short-run sentiment-driven gains being fundamentally driven value. Medium term investors should pay more attention to the P/E ratio, promoter holding and issue size which have significance information regarding the performance of the post-listing phase but are not usually given importance in the informal retail decision making process. On the regulatory side, the negative P/E – listing gain relationship indicates that SEBI's transparency requirement with respect to the market sense of the pricing reasons in the DRHP filings is relevant; accordingly, further toughening of regulation on comparative valuation disclosure could help improve the pricing efficiency and lower the overvaluation-related return corrections that have been documented. The positive promoter holding–one-year return relationship backs the rationale behind the current lock-in provisions in SEBI's regulations and it may be worth considering adjusting the lock-in period based on the size of the issuer and the governance provisions based on more finely tailored incentives.

5.3 Future research directions and limitations

The generalisability of these findings is limited by several factors. The study utilizes secondary data and suffers from measurement error, especially for the GMP (informally gathered from a single platform) and the P/E ratio (calculated using different methods in different DRHP filings). The one-year return time frame only looks at the medium time frame; a three-year time frame and five-year time frame would allow for greater understanding of whether observed patterns are continuing or changing.

The OLS framework assumes linearity, which may not hold true for the non-linear and interaction effects such as GMP and subscription rate; and issue size and India VIX, respectively, and which should be explored using quantile regression or interaction modelling. Some important theoretical variables are omitted, such as the rank of the Carter-Manaster, SEBI IPO grading, percentage of allocation to institutions, and founder characteristics.

Future research may benefit from: (i) expanding the time frame to include three- and five-year post-listing periods to account for the effect of a macro-financial shock on IPO performance using natural experiments that exploit the COVID-19 pandemic and the surge in liquidity; and (iv) using machine learning techniques on prospectus text data to create additional rich proxies for prospectus sentiment and quality to complement the structured financial variables analyzed herein.

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