

Regulatory Promoter Lock-in Reforms and IPO Underpricing: Evidence from the Indian Primary Market

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Abstract

This study examines the impact of promoter lock-in reforms on IPO underpricing in the Indian primary market, focusing on information asymmetry and ownership structure. Using a cross-sectional sample of 364 IPOs following the 2021 SEBI reform, the study applies OLS regression with interaction effects. The findings reveal that lock-in reforms do not have a statistically significant effect on IPO underpricing, and their impact does not vary with information asymmetry or promoter holding. In contrast, firm size emerges as a significant determinant, with larger firms experiencing lower underpricing, supporting the information asymmetry perspective. The results suggest that IPO pricing in India is driven more by firm-specific fundamentals and market dynamics than by regulatory lock-in provisions. This study contributes to the literature by offering early empirical evidence on regulatory lock-in reforms in an emerging market context.

Keywords: IPO Underpricing; Lock-in Reforms; Promoter Holding; Signaling Theory; Agency Theory; SEBI Regulation.

JEL CODES: G14, G32, G38, D82

1. Introduction

Initial Public Offerings (IPOs) represent a critical institutional transition in which firms move from private to public ownership, intensifying information asymmetry between insiders and external investors. This asymmetry often manifests in systematic IPO underpricing, where shares are issued below their intrinsic market value (Rock, 1986; Loughran & Ritter, 2004). While underpricing facilitates investor participation, it also reflects inefficiencies in price discovery and underlying agency conflicts inherent in public market entry.

Regulatory mechanisms, particularly promoter lock-in provisions, are designed to mitigate these frictions by restricting insider exit and signaling long-term commitment to firm value (Leland & Pyle, 1977; Brav & Gompers, 2003). By aligning the interests of promoters with those of outside investors, such provisions are expected to enhance market confidence and influence IPO pricing outcomes. However, existing empirical evidence is largely confined to developed markets, where lock-ups are contractual in nature, leaving the effectiveness of regulatory lock-in frameworks in emerging markets insufficiently examined.

Leveraging the 2021 reform introduced by the Securities and Exchange Board of India (SEBI), this study investigates the impact of promoter lock-in changes on IPO underpricing in the Indian primary market. Grounded in information asymmetry, signaling, and agency theory, the analysis incorporates interaction effects to capture firm-level heterogeneity. In doing so, the study provides novel empirical evidence on the relevance of regulatory commitment mechanisms and contributes to a deeper understanding of IPO pricing dynamics in emerging market contexts.

2. Review of Literature

2.1 Information Asymmetry and IPO Underpricing

IPO underpricing is primarily attributed to information asymmetry between insiders and external investors, which induces adverse selection and leads issuers to price shares below intrinsic value (Rock, 1986). Empirical evidence documents consistent positive initial returns across markets (Loughran & Ritter, 2004), with higher underpricing observed among firms with greater ex-ante uncertainty, such as smaller or younger firms (Beatty & Ritter, 1986). Proxies including firm size, age, and disclosure quality indicate that reduced informational frictions are associated with lower underpricing, an effect that is amplified in emerging markets characterized by weaker information environments and higher retail participation, thereby underscoring the relevance of regulatory interventions.

2.2 Signaling Theory and Lock-in Provisions

Signaling theory explains IPO underpricing as a mechanism through which insiders convey firm quality by undertaking costly, credible actions that are difficult for lower-quality firms to replicate (Leland & Pyle, 1977). In this context, ownership retention and lock-in provisions serve as key signals of insider confidence, with longer lock-up periods associated with lower underpricing due to their credibility (Brav & Gompers, 2003; Field & Hanka, 2001), whereas shorter lock-ins weaken signaling strength, increase investor uncertainty, and lead to higher underpricing, underscoring the importance of lock-in design in shaping IPO pricing outcomes.

2.3 Agency Theory and Promoter Incentives

From an agency theory perspective, IPOs intensify conflicts of interest between insiders and new shareholders, as promoters may exploit informational advantages to offload overvalued shares, transferring risk to outside investors (Jensen & Meckling, 1976). Lock-in provisions act as governance mechanisms that constrain insider exit and align incentives with long-term performance, thereby mitigating moral hazard (Brav & Gompers, 2003). Consistent evidence shows that higher ownership retention, particularly promoter holding, signals insider commitment, enhances firm performance, and reduces opportunistic behaviour, shaping investor perceptions of firm value.

3. Research Objectives

1. To examine the impact of promoter lock-in reforms on IPO underpricing in the Indian primary market.
2. To analyse whether the effect of lock-in reforms on IPO underpricing varies across firms with different levels of information asymmetry.
3. To evaluate the moderating role of promoter holding in the relationship between lock-in reforms and IPO underpricing.

3.2 Hypothesis Development :

IPO underpricing is explained through information asymmetry, signaling, and agency theories, which emphasize how informational gaps and incentive misalignments shape pricing outcomes. Under information asymmetry, firms underprice to compensate uninformed investors (Rock, 1986), while signaling theory suggests that mechanisms such as lock-in provisions convey insider confidence (Leland & Pyle, 1977), and agency theory highlights ownership retention as a means of aligning interests (Jensen & Meckling, 1976). Promoter lock-in provisions act as credible commitment devices that restrict insider exit, reduce uncertainty, and influence investor perception (Brav & Gompers, 2003; Field & Hanka, 2001). Consequently, regulatory changes in lock-in requirements are expected to lower IPO underpricing by strengthening insider commitment signals.

H01: Promoter lock-in reforms do not have a statistically significant effect on IPO underpricing.

H1: Promoter lock-in reforms significantly affect IPO underpricing.

The impact of lock-in reforms is unlikely to be uniform across firms and is expected to vary with the degree of information asymmetry. Firms characterized by higher uncertainty, such as smaller or younger firms, face greater

informational gaps, leading to higher underpricing (Beatty & Ritter, 1986). In such settings, lock-in provisions become more valuable signals, implying that regulatory changes should exert a stronger effect. Thus, the interaction between reforms and information asymmetry is expected to be negative, indicating a stronger reduction in underpricing for high-asymmetry firms.

H02: The effect of lock-in reforms on IPO underpricing does not vary with the level of information asymmetry.

H2: The effect of lock-in reforms on IPO underpricing is stronger for firms with higher information asymmetry.

Ownership structure further shapes how investors interpret regulatory signals. Higher promoter holding reflects stronger insider commitment and reduces agency conflicts, thereby enhancing credibility (Jensen & Meckling, 1976; Leland & Pyle, 1977). Consequently, promoter ownership is expected to moderate the relationship between lock-in reforms and underpricing. The interaction effect is expected to be negative, suggesting that higher promoter holding strengthens the impact of reforms in reducing underpricing.

H03: Promoter holding does not moderate the relationship between IPO lock-in reforms and IPO underpricing.

H3: Promoter holding significantly moderates the relationship between IPO lock-in reforms and IPO underpricing.

4. Research Methodology

4.1 Research Design

This study adopts a quantitative, explanatory, and post-facto research design to examine the impact of promoter lock-in reforms on IPO underpricing in India using cross-sectional IPO-level data. Interaction effects are incorporated to capture how regulatory changes vary across levels of information asymmetry and ownership structure. The analysis is grounded in information asymmetry, signaling, and agency theories, providing a comprehensive framework for understanding IPO pricing behaviour.

4.2 Data Source & Sample Selection

The dataset is compiled from multiple secondary sources, including stock exchange records (NSE and BSE), IPO prospectuses, and financial databases. The sample includes IPOs issued across both pre-reform and post-reform periods, as defined by the SEBI regulatory timeline. An initial set of 382 IPOs is systematically refined to a final sample of 364 observations. Data screening involves the removal of incomplete entries to maintain consistency. Extreme values in listing gains are excluded by restricting observations to a reasonable range, thereby limiting the influence of anomalies. Promoter ownership is confined within logical bounds, and firms lacking valid operational history are excluded. Additionally, very small IPOs are removed to avoid distortions arising from illiquid or atypical offerings. These steps ensure that the final dataset is internally consistent, reliable, and suitable for empirical analysis.

4.3 Variable Construction

Variable / Symbol	Type	Measurement / Definition	Expected Sign
Underpricing (UP)	Dependent	$(\text{Listing Price} - \text{Issue Price}) / \text{Issue Price} \times 100$	—
PostReform (POST)	Independent	Dummy Variable (1 = Post-reform IPO, 0 = Pre-reform)	(±)
Firm_Size_log (FS)	Independent	Natural log of total assets	(−)
Issue Size (SIZE)	Control	Total IPO issue size (₹ crore)	(+)
Market Return (MR)	Control	Market return prior to listing	(+)

Promoter Holding (PH)	Moderator	% promoter ownership post-IPO	(–)
PR_centered (PRC)	Transformed	Mean-centered Post Reform	——
FS_centered (FSC)	Transformed	Mean-centered Firm Size (log)	——
PH_centered (PHC)	Transformed	Mean-centered Promoter Holding	——
Interaction_H2 (IH2)	Interaction	PR_centered × FS_centered	(–)
Interaction_H3 (IH3)	Interaction	PR_centered × PH_centered	(–)

To minimize multicollinearity in interaction models, continuous variables are mean-centered prior to estimation.

4.4 Econometric Model Specification

Model 1: Baseline (H1):

$$UP_i = \beta_0 + \beta_1 POST_i + \beta_2 SIZE_i + \beta_3 FS_i + \beta_4 MR_i + \epsilon_i$$

Model 2: Information Asymmetry Interaction (H2)

$$UP_i = \beta_0 + \beta_1 PRC_i + \beta_2 FSC_i + \beta_3 IH2_i + \Sigma Controls_i + \epsilon_i$$

Model 3: Promoter Holding Moderation (H3)

$$UP_i = \beta_0 + \beta_1 PRC_i + \beta_2 PHC_i + \beta_3 IH3_i + \Sigma Controls_i + \epsilon_i$$

4.5 Estimation Strategy and Empirical Framework

The empirical analysis employs Ordinary Least Squares (OLS) regression to estimate linear relationships in cross-sectional IPO data, adopting a hierarchical specification to evaluate incremental explanatory power and interaction effects. Data processing is conducted using SPSS and Jamovi, with variable transformations and standardization applied to address skewness and enhance comparability, and outliers removed using statistical thresholds. Model validity is ensured through diagnostic tests for heteroskedasticity (with robust standard errors), multicollinearity (Variance Inflation Factors), and residual normality. Robustness is assessed via alternative model specifications, use of multiple proxies for information asymmetry, and re-estimation after excluding outliers. Methodologically, the study integrates regulatory effects, ownership structure, and interaction-based modelling, providing a comprehensive framework to examine how firm characteristics condition IPO underpricing.

5. Results & Discussion

5.1 Table 1: Descriptive Statistics

Variable	N	Mean	Median	Std. Dev.	Min	Max
Underpricing	364	20.50	13.50	28.60	-21.60	123.00
PostReform	364	0.558	1.00	0.497	0	1
Firm Size (log)	364	7.58	7.36	1.26	5.19	12.10
Promoter Holding (%)	364	60.20	67.30	21.00	0.00	98.90
Issue Size (₹ Cr)	364	1240	650	1568	100	10000
Market Return	364	0.0061	0.0015	0.0362	-0.069	0.108

Table 1 summarize the key characteristics of the sample. The average level of IPO underpricing is 20.5%, indicating that newly listed firms in the Indian market continue to generate substantial initial returns. The relatively high standard deviation (28.6) reflects considerable dispersion in listing performance, suggesting that IPO outcomes vary significantly across firms. Promoter ownership averages 60.2%, indicating strong insider retention following listing. This is consistent with the governance structure of Indian firms, where promoters typically maintain significant control. Firm size also exhibits meaningful variation, supporting its use as a proxy for information asymmetry. Overall, the descriptive statistics confirm the presence of heterogeneity in both firm characteristics and IPO outcomes.

5.2 Table 2: Correlation Matrix

Variables	Underpricing	PostReform	Firm Size	Promoter Holding	Market Return
PostReform	0.040				
Firm Size	-0.182***	-0.168**			
Promoter Holding	0.013	-0.028	-0.135**		
Market Return	0.040	-0.053	0.029	0.010	
Issue Size	0.006	0.002	0.527***	-0.152**	-0.061

Note: (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

Table 2 presents the pairwise correlations among the variables. Firm size is negatively and significantly associated with IPO underpricing ($r = -0.182$, $p < 0.001$), providing preliminary evidence that larger firms experience lower underpricing, consistent with information asymmetry theory. Issue size is strongly correlated with firm size ($r = 0.527$, $p < 0.001$), which is expected given that larger firms tend to issue larger IPOs. However, the magnitude of correlation remains below critical thresholds, suggesting that multicollinearity is not a major concern. Other correlations are relatively weak, indicating that the explanatory variables capture distinct dimensions of IPO characteristics.

5.3 Table 3: OLS Regression Results

Variables	Model 1 (H1)	Model 2 (H2)	Model 3 (H3)
Intercept	62.005*** (10.519)	20.299*** (1.530)	20.324*** (1.525)
PostReform / PR_centered	-0.099 (3.020)	0.645 (3.030)	2.403 (3.032)
Firm Size (IA)	-5.948*** (1.405)	-4.107*** (1.200)	—
PostReform $\times$ IA	—	0.394 (2.390)	—
Promoter Holding	—	—	0.013 (0.072)
PostReform $\times$ Promoter Holding	—	—	0.130 (0.147)
Issue Size	0.0027** (0.0011)	—	—
Market Return	44.517 (40.868)	35.588 (41.170)	33.424 (41.670)
R ²	0.051	0.036	0.006
Adjusted R ²	0.040	0.025	-0.005

ΔR^2	—	0.00007	0.00216
N	364	364	364

Note: (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

H1: Effect of Lock-in Reforms

Model 1 evaluates the direct impact of promoter lock-in reforms on IPO underpricing. The coefficient on the reform variable is negative but statistically insignificant ($\beta = -0.099$), indicating that regulatory changes do not have a measurable effect on initial returns. In contrast, firm size is negative and highly significant ($\beta = -5.948$, $p < 0.001$), suggesting that larger firms experience lower underpricing due to reduced information asymmetry. Issue size also exhibits a positive and statistically significant relationship, implying that larger offerings may attract greater investor demand, leading to higher initial returns.

H2: Interaction with Information Asymmetry

Model 2 introduces the interaction between lock-in reforms and firm size to assess whether the reform effect varies across levels of information asymmetry. While firm size remains statistically significant ($\beta = -4.107$, $p < 0.001$), the interaction term is insignificant ($\beta = 0.394$), indicating that the effect of reforms does not differ across firms with varying degrees of informational opacity. The negligible change in explanatory power ($\Delta R^2 \approx 0.00007$) further reinforces the conclusion that information asymmetry does not condition the impact of lock-in reforms in a meaningful way.

H3: Moderating Role of Promoter Holding

Model 3 examines whether promoter ownership moderates the relationship between lock-in reforms and IPO underpricing. The interaction term between the reform variable and promoter holding is statistically insignificant ($\beta = 0.130$), suggesting that ownership structure does not significantly alter the effect of regulatory changes. The overall explanatory power of the model remains low ($R^2 = 0.006$), and the incremental contribution of the interaction term is minimal, indicating limited evidence of moderation.

5.4 Discussion and Interpretation of Empirical Findings

Diagnostic evidence supports the robustness of the estimations, with low multicollinearity, absence of autocorrelation, and acceptable residual behaviour ensuring reliable inference. The results indicate that promoter lock-in reforms do not exert a statistically significant influence on IPO underpricing, suggesting that such regulatory changes may be largely anticipated and efficiently incorporated into market pricing. In contrast, the persistent significance of firm size highlights the dominant role of information asymmetry, where larger firms benefit from greater transparency and reduced valuation uncertainty. The lack of significant interaction effects further implies that the impact of regulatory provisions is not meaningfully conditioned by firm-level characteristics such as information asymmetry or promoter ownership. Collectively, these findings point to a market environment in which IPO pricing is driven primarily by firm fundamentals and investor dynamics, with regulatory lock-in mechanisms exerting limited marginal influence.

6. Conclusion and Policy Implications

This study examines the impact of promoter lock-in reforms on IPO underpricing in the Indian primary market using a cross-sectional sample of 364 IPOs. Contrary to theoretical expectations grounded in signaling and agency frameworks, the findings reveal that lock-in reforms do not exert a statistically significant influence on IPO underpricing, nor do their effects vary across firms with differing levels of information asymmetry or promoter ownership. Instead, firm size emerges as a consistently significant determinant, with larger firms exhibiting lower underpricing, underscoring the central role of information asymmetry and the importance of transparency in shaping IPO pricing outcomes.

These results suggest a deeper structural insight: IPO pricing in India appears to be driven more by firm-specific fundamentals and market dynamics than by regulatory lock-in provisions. The absence of a measurable reform effect may reflect the forward-looking nature of financial markets, where regulatory changes are anticipated and embedded into pricing decisions, or it may indicate that such provisions carry limited marginal influence in an increasingly sophisticated and information-sensitive market environment.

From a policy perspective, the findings call for a strategic shift in regulatory focus. Rather than relying primarily on lock-in mechanisms, policymakers should prioritize measures that directly enhance disclosure quality, transparency, and information accessibility. Strengthening the informational environment is likely to yield more meaningful improvements in pricing efficiency and investor confidence. In essence, while regulatory commitment devices remain theoretically relevant, their standalone effectiveness is limited, reinforcing the need for a broader, information-centric approach to improving IPO market efficiency.

7. Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

8. Funding

No financial support for the research, authorship, and/or publication of this article.

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