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Assessing the Impact of Post-COVID Demat Growth on IPO Oversubscription Behaviour and Listing-Day Gains in the Indian Stock Market

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Abstract

Purpose: This article examines how the Indian financial markets have changed, both from a macroeconomic standpoint and by understanding human behaviour, due to an unprecedented number of retail investors. The estimated number of retail Demat accounts grew from approximately 4.07 crore in March 2020 to an anticipated 21.6 crore by December 2025, creating the question of whether this increased access to capital markets has impacted the valuation of Initial Public Offerings (IPOs), specifically if the preferences and behaviours of a newly developed, digitally-savvy retail cohort are now dictating the price performance of IPOs on the day they become publicly listed.

Design/Methodology: The quantitative study design for this research consists of two phases: a descriptive phase that identifies both the magnitude and trend of growth in Demat accounts and activity associated with initial public offerings (IPOs) over the time period of the research; and an explanatory phase in which an Ordinary Least Squares (OLS) Regression analysis is conducted to examine whether the macro level infrastructure element of Demat account additions and the micro level demand element of oversubscription can account for observed variance in return on investment from an IPO. The study employs a complete census method, which encompasses all 370 mainboard IPOs over the study period of 69 months.

Findings: An independent t-test confirms a structural break in monthly Demat additions (post-COVID mean = 2.75 Mn vs. pre-COVID 1.15 Mn; $t = -3.52$, $p = 0.0008$). However, monthly Demat growth fails to predict aggregate oversubscription ($p = 0.765$) or listing gains ($p = 0.916$). HNI subscription emerges as the dominant proximate driver of listing-day gains ($R^2 = 0.510$, $p < 0.001$), narrowly outperforming total subscription ($R^2 = 0.499$, $p < 0.001$). The Retail Tsunami operates indirectly: it expands the investor base but does not uniformly inflate IPO returns.

Implications: Findings support tighter HNI margining, GMP-based price discovery reform, and enhanced retail investor education. The study contributes the first longitudinal Indian evidence linking digital financial inclusion to IPO pricing behaviour.

Keywords: IPO underpricing; Demat accounts; oversubscription; listing-day gains; retail investors; India; financial inclusion.

1. Introduction

Historically, Indian household savings have been concentrated in physical assets and fixed income instruments. In the post-pandemic environment, this landscape has rapidly evolved into a mobile-focused, low average ticket size, and an evident interest from this new breed of investors in flipping or gambling on stocks rather than holding them for the long term. This isn't just an academic issue but is also an interest to policymakers as the SEBI (Securities and Exchange Board of India) has expressed concerns regarding stock flipping, post-listing volatility and gamification of primary market participation; all related issues, created by this study, are associated with this same structural change in investor behaviours and preferences.

Three converging forces made the post-COVID retail boom in India inevitable and irreversible. First, there was a glut of savings. Consequently, urban households that had lost access to discretionary spending ended up with unusually large cash balances at a time when fixed deposit rates were delivering negative real returns. The 'TINA' logic – there is no alternative – led a generation of first-time savers to the equity markets (Zhang, Hu, & Ji, 2020). The second was time. Remote work provided millions of working professionals with unstructured hours during trading sessions. What had been a hurdle to keeping an eye on positions during a nine-to-five workday dissolved overnight (Mukherjee, 2023). The third condition was the availability of infrastructure. India's digital public infrastructure created through Aadhaar-linked eKYC, cashless payments through UPI and instant account verification means that the onboarding time was reduced from weeks to less than five minutes using a smartphone device.

Theories of IPO underpricing, in particular the Winner's Curse of Rock (1986) and the signalling models of Allen and Faulhaber (1989), are based on the assumption of a market of rational investors who know valuations. This research challenges that assumption and uses retail oversubscription as a proxy for what Barber et al. (2021) referred to as investor attention, not investor judgement. If prices are increased by social consensus and herd effects rather than intrinsic value, then the standard theories need to be revised. This paper is such an update, based on five years of real data from the Indian market.

Beyond theory, the research has real stakes. Data from SEBI for 2024 show that more than half of all IPO shares allotted to non-anchor investors are sold within seven days of listing. This paper examines three questions: (i) Does the post-COVID period represent a statistically significant structural break in retail entry? (ii) Does monthly Demat account growth translate into higher IPO oversubscription? (iii) Which subscription category most powerfully predicts listing-day gains?

2. Review of Literature

Scholarly research on initial public offerings (IPOs) brings together many different traditions—information economics, behavioural finance, market microstructure theory, and the economics of financial inclusion—but has not developed an integrated framework that accounts for all the complexity involved in a digitally disintermediated retail base's transformation.

According to Rock's framework for the underpricing of initial public offerings (IPOs), not all investors in a public offering have the same information at the time of bidding for an IPO. Retail investors bid on a large number of IPOs without regard to the issue's market value or its prior performance, thus receiving an almost equal allocation of shares from the issues in which institutional investors have filed more than one order. Such retail investors (uninformed) must then be compensated for the systematic disadvantage associated with purchasing a share at a price below its expected secondary market value (Aggarwal, Leal, and Hernandez, 1993). This conclusion was reinforced by Ibbotson, Sindelar and Ritter (1988) through their empirical analysis to establish a statistical relationship between the volume of oversubscription, the rate of underpricing, and the future volatility of returns of subsequently issued shares.

According to Baker & Wurgler (2006), aggregate market sentiment and tendency to speculate rather than to invest can provide drivers for pricing of assets, especially for hard-to-value assets, without regard to any fundamentals that underlie their values. Derrien (2005) has shown that retail-dominated markets are characterized by noise traders driving up offer prices beyond what they would be without noise traders, resulting in elevated returns on the first day of listing that are subject to mean reversion over a period of weeks and/or months. In India, Ghosh (2005) found that when a stock has a large oversubscription from domestic retail investors, it often reflects speculative positioning rather than investors having a fundamental conviction in the stock. Marishetty and Subrahmanyam (2010) provide supporting evidence to confirm the long-run reversal identified by Derrien, with short-lived gains based on market sentiment being replaced by persistent underperformance in the future.

According to Barber et al. (2021), in their study of retail investors on Robinhood, there was an identifiable trend in the types of stocks that these retail investors bought; these retail investors would tend to purchase new stocks that had generated some kind of buzz via recent news articles. Chaudhary's (2021) work also confirmed that zero-brokerage models have increased retail market transactions in India due to digital platforms. The empirical relationship between demand and listing performance is perhaps the most consistently replicated finding in the literature on the primary market. Cornelli and Goldreich (2001) showed that information about demand revealed in the book-building process is efficiently incorporated into offer prices, and that residual excess demand (oversubscription) predicts first-day appreciation. Retail-heavy oversubscription consistently outperforms institutionally-driven demand in predicting first-day returns as found by Gandhi and Gupta (2019) and Sharma and Singh (2020). This literature collectively supports the central hypothesis of the current study: that the oversubscription ratio, and in particular its HNI component, is the proximate mechanism through which the macro-level Demat account expansion impacts IPO pricing outcomes.

Despite this well-developed theoretical base, three distinct gaps remain unaddressed in the extant literature. The Cohort Gap: the studies most cited on Indian IPO market behavior – Sahoo and Rajib (2010), Gandhi and Gupta (2019) – rely on datasets from the pre-smartphone, pre-discount-broker era (2002–2015). The Elasticity Gap: no study in any emerging market has estimated the elasticity of listing-day gains with respect to Demat account growth. The Flipping Gap: SEBI's report for 2024 shows a 54% weekly sell-off rate for allotted investors, yet academic research has focused almost exclusively on long-run post-IPO performance. This study addresses all three.

3. Methodology

The quantitative study design for this research consists of two phases: a descriptive phase that identifies both the magnitude and trend of growth in Demat accounts and activity associated with initial public offerings (IPOs) over the time period of the research; and an explanatory phase in which an Ordinary Least Squares (OLS) Regression analysis is conducted. Since there is no experimental manipulation of the independent variables, which cannot be controlled by the researcher (Cooper & Schindler, 2014), an ex post facto design is suitable.

The sampling frame is the entire universe of mainboard IPOs listed on NSE or BSE from April 2020 to December 2025. Instead of adopting a purposive sub-sample, the study employs a complete census method, which encompasses all 370 mainboard IPOs over the study period of 69 months. This choice must be justified, as an earlier version of the study design had envisaged a purposive sub-sample of the 15 most and 15 least over-subscribed issues per fiscal year ($N = 150$ over five years). The census method was preferred because choosing only the extremes of the subscription distribution would result in truncation bias.

The independent variable, Net Demat Additions (X_1), is the absolute monthly change in the cu-

mulative number of beneficial owner accounts held at NSDL and CDSL combined, sourced from SEBI Monthly Bulletins. The intermediate variable, Retail Oversubscription (X_2), is the subscription ratios for QIB, HNI and Retail investor categories, expressed as the total number of shares demanded by that category to the number of shares offered in that category. Monthly values are the arithmetic average of all active mainboard IPOs in the calendar month. The dependent variable, Listing-Day Gain (Y), is the percentage return from offer price to first-day closing price. All Demat figures for the full study period have been verified against SEBI Bulletins, with September–December 2025 actuals replacing earlier projected values.

The analysis was conducted in four subsequent steps: (a) trend analysis with CAGR and an independent t-test comparing pre-COVID (April–December 2020, $n = 9$) and post-COVID (January 2021–December 2025, $n = 60$) net additions; (b) descriptive statistics; (c) Pearson correlation analysis among IPO-active months; and (d) seven OLS regression models (A–G) testing time trends, the Demat-to-subscription pathway, the subscription-to-listing-gain pathway, and a direct robustness check.

4. Results

4.1 Trend Analysis and Structural Break

The cumulative holdings of Demat accounts showed a continuous growth trend during the study period. The total grew to 216.00 million in December 2025 from a base of 41.72 million in April 2020, representing 174.28 million net new accounts over five and a half years, or a compound annual growth rate of around 33.6%. Pandemic digitisation took hold with monthly additions averaging 1.19 million in FY2020-21. FY2021-22 was the breakout year with annual net additions of 34.56 million, a 142.5% increase on the prior year. A pullback was observed in FY2022-23 (24.53 million net additions), in line with the dampening impact of the RBI's rate-tightening cycle. Growth picked up in FY2023-24 (37.13 million) and scaled a fresh high-water mark in FY2024-25 (41.04 million).

The independent samples t-test confirmed that post-COVID monthly additions (2.75 Mn) significantly exceeded the pre-COVID baseline (1.15 Mn) with $t = -3.52$, $p = 0.0008$. H_{01} is rejected. The post-COVID monthly addition rate was 2.39 times the pre-COVID baseline. This gap was large and persistent enough to warrant Patnaik and Shah's (2021) characterization of it as a structural transformation rather than a transitory surge.

Table 1. Annual Demat Account Growth Summary

Fiscal Year	Opening Stock (Mn)	Closing Stock (Mn)	Net Addition (Mn)	YoY Growth (%)	IPO Count	Avg Monthly Add (Mn)
FY 2020–21	41.72	55.97	14.25	—	33	1.19
FY 2021–22	55.97	90.53	34.56	+142.5%	51	2.88
FY 2022–23	90.53	115.06	24.53	–29.0%	37	2.04
FY 2023–24	115.06	152.19	37.13	+51.4%	76	3.09
FY 2024–25	152.19	193.23	41.04	+10.5%	78	3.42
FY 2025–26*	193.23	216.00	22.77	—	95	2.53

Note. *FY 2025-26 covers April–December 2025 only (9 months). Data compiled from SEBI Monthly Bulletins, NSDL, and CDSL Annual Reports.

4.2 Descriptive Statistics

When looking at the various types of subscriptions, the most unpredictably subscribed type is HNI (high net worth individuals). The average HNI subscription ratio for all issues was 91.73

times (SD = 104.09 times), with a maximum subscription ratio of 487.50 times. The excess kurtosis measure of 8.40 indicates that HNI subscriptions follow a leptokurtic distribution — characterised by a sharper central peak and fatter tails than a normal distribution — meaning that extreme speculative episodes occur far more frequently than a Gaussian model would predict. QIB and retail subscriptions are clearly less volatile; the average QIB subscription ratio is 66.20 times; the average retail subscription ratio is 22.38 times. Average listing-day gains were 24.31% (SD = 22.49%), well above the developed-market norm of 15–18% (Ritter, 1991).

Table 2. Descriptive Statistics: IPO-Active Months (n = 59)

Variable	Mean	Median	SD	Min	Max	Kurtosis
Net Demat Add. (Mn)	2.75	2.63	0.88	0.42	5.83	−0.21
IPO Count	5.86	5.00	3.32	1	13	−0.75
QIB Subscription (×)	66.20	44.11	63.88	3.15	303.82	4.12
HNI Subscription (×)	91.73	53.79	104.09	1.51	487.50	8.40
Retail Subscription (×)	10.66	7.82	8.37	0.80	39.40	2.15
Total Subscription (×)	49.85	36.09	39.31	2.90	225.06	5.89
Listing Gain (%)	24.31	19.55	22.49	−7.15	107.32	3.41

Note. Subscription figures are category-level averages across all mainboard IPOs active within a given month. HNI excess kurtosis of 8.40 reflects a leptokurtic, fat-tailed distribution driven by speculative outlier months.

4.3 Correlation Analysis

The correlation between net Demat additions (X_i) and listing-day gains (Y) is almost zero ($r = -0.014$, $p > 0.05$). Account growth at the level of a month does not directly indicate the performance of the IPOs within that month at listing. On the contrary, oversubscription variables such as HNI subscription are closely related to gains on listing. The matrix reveals that the HNI subscription leads ($r = 0.714$, $p < 0.01$), followed by the total subscription ($r = 0.706$, $p < 0.01$), QIB subscription ($r = 0.500$, $p < 0.01$) and retail subscription ($r = 0.386$, $p < 0.01$). The ordering is informative: the most leverage capable, most informationally sophisticated class of non-institutional investors provide the strongest pricing signal, consistent with Rock's (1986) prediction of informed demand.

Table 3. Pearson Correlation Matrix (Selected Variables, n = 59)

	Net Add	IPO Ct	QIB	HNI	Retail	Total	Gain
Net Add (X_i)	1.000	0.348**	0.205	−0.072	0.049	0.040	−0.014
IPO Count	—	1.000	0.215	−0.064	0.121	0.068	−0.131
QIB Sub	—	—	1.000	0.535**	0.550**	0.788**	0.500**
HNI Sub	—	—	—	1.000	0.616**	0.922**	0.714**
Retail Sub	—	—	—	—	1.000	0.761**	0.386**
Total Sub	—	—	—	—	—	1.000	0.706**
Listing Gain (Y)	—	—	—	—	—	—	1.000

Note. ** $p < 0.01$; * $p < 0.05$ (two-tailed). Lower triangle omitted for readability.

4.4 Regression Analysis

Seven OLS models (A-G) were estimated sequentially. Models A and B provide time-trend benchmarks. Models C and D test the pathway from demat to subscription. Models E and F are the main hypothesis tests relating listing gains to subscription. Model G directly tests the robustness of the relationship between demat and listing gains.

Table 4. Regression Results Summary: All Models

Model	Dep. Var. (Y)	Indep. Var. (X)	β	Intercept	R ²	t-stat	p-value	n
A	Cumulative Demat (Mn)	Time Index (t)	2.656	26.26	0.992	91.78	< 0.001	69
B	Net Demat Add. (Mn)	Time Index (t)	0.026	1.575	0.150	3.46	0.001	69
C	IPO Count	Net Demat Add.	1.396	2.022	0.121	2.78	0.007	59
D	Total Sub. (×)	Net Demat Add.	1.421	44.14	0.002	0.30	0.765	59
E	Listing Gain (%)	Total Sub. (×)	0.404	4.170	0.499	7.53	< 0.001	59
F	Listing Gain (%)	HNI Sub. (×)	0.154	10.157	0.510	7.70	< 0.001	59
G	Listing Gain (%)	Net Demat Add.	-0.287	24.73	0.000	-0.11	0.916	59

Note. All models estimated by Ordinary Least Squares (OLS). R² values are unadjusted. p-values for Models E and F are 4.15×10^{-10} and 2.15×10^{-10} respectively. 95% CI for Model E β : [0.297, 0.512]; Model F β : [0.114, 0.194].

Table 5. Summary of Hypothesis Testing Outcomes

Hypothesis	Statement	Test / Model	Key Statistic	Decision
H ₀₁	No significant change in Demat growth pre- vs. post-COVID	t-test	$t = -3.52, p = 0.0008$	Rejected
H ₀₂ (vol.)	Demat growth does not predict IPO count	Model C	$\beta = 1.396, p = 0.007, R^2 = 0.121$	Rejected
H ₀₂ (sub.)	Demat growth does not predict oversubscription	Model D	$\beta = 1.421, p = 0.765, R^2 = 0.002$	Retained
H ₀₃	Oversubscription does not predict listing gains	Models E & F	$R^2 \approx 0.50, p < 0.001$	Rejected

Note. Significance threshold $\alpha = 0.05$ (two-tailed) for all tests. Models E and F each independently reject H₀₃.

Model E is the primary hypothesis test. The regression of average monthly listing gain on average monthly total subscription has a slope of 0.404 (95% CI: 0.297–0.512, $t = 7.53$, $F = 56.71$, $p < 0.001$, $R^2 = 0.499$). The average listing gain increases by 0.40 percentage points for each one-times increase in the aggregate oversubscription multiple. The data suggest that a single demand-side variable explains almost 50% of the monthly variation in listing-day returns, which is a high explanatory ratio for a bivariate OLS model in financial market research. H₀₃ is rejected conclusively.

Replacing total subscription by the HNI-category ratio gives a slightly better fit ($R^2 = 0.510$; $\beta = 0.154$; 95% CI: 0.114 to 0.194; $t = 7.70$; $p < 0.001$). That HNI demand explains more variance than all subscription is analytically significant: it suggests that leverage-enabled, sophisticated non-institutional capital is the category whose conviction carries the strongest pricing sig-

nal. This result is consistent with Rock's (1986) model where the level of underpricing is determined by informed demand with HNI investors between the truly informed institutional tier and the pure retail tier.

Model G directly tests if Demat account growth is an independent predictor of listing-day efficiency (RQ5). Slope was -0.287 ($p = 0.916$; $R^2 \approx 0.000$). Net account additions have no predictive signal whatsoever for listing gains. This result and the non-significant result in Model D confirms the structural conclusion: Demat growth is an upstream enabler that expands the potential pool of investors but it does not mechanically determine how that pool prices individual IPOs. The pricing signal is not account growth itself, but over-subscription.

5. Discussion

The results show a consistent pattern, but one that needs a bit of unpacking to make sense of it. The demat account growth is real, structural and statistically documented. But it doesn't impact listing-day prices directly. The main analytical challenge is to account for why the macro-level infrastructure variable is invisible in the pricing regressions whilst the micro-level behavioural variable accounts for half the variance.

The t-test result ($t = -3.522$, $p = 0.0008$) is unambiguous: the rate of new investors entering Indian capital markets after January 2021 was categorically different from the pre-pandemic baseline. But what is more analytically interesting is what this move did not do. The month-level demat addition variable has a correlation of -0.014 with listing gains and a regression coefficient not significantly different from zero (Model G, $p = 0.916$), despite the net addition of more than 17 crore new accounts to the investor base. This is not a failure of analysis, but a theoretically coherent result. The Retail Tsunami broadened the pool of potential market participants, but turning that pool into actual demand for a specific IPO needs an additional spark: attention. Barber et al. (2021) present a framework which predicts exactly this, that new retail investors will not bid on all the available IPOs. The focus of these participants' activities will primarily be on items that capture their attention via social media posts, platform alerts, and GMP activity.

The cleanest result of the analysis was the complete absence of correlation between the number of demat accounts added and the total number of oversubscribed IPOs (Model D, $p = 0.765$). This means that subscription ratios, which ultimately determine pricing when a new security is listed, are determined by the individual issue level of each IPO (not by total retail account growth in a given month). An investor who opened a demat account in April could apply for no IPOs at all or apply for fifteen; their decision would be based much more on signals in the market from GMP, quality of anchor investors and narratives in the sector, and app-curated recommendations than on the overall state of the economy. This is consistent with Barber and Odean's (2008) finding on retail equity purchases as a whole, where attention, not access, is the binding constraint.

Together, models E and F provide the empirical case that oversubscription-and particularly HNI oversubscription-is the leading proximate predictor of listing-day returns. Two theoretical frameworks are confirmed at the same time. Rock's (1986) informed-investor model suggests that HNI demand arising from participants with greater capital capacity and analytical resources than pure retail ought to have a stronger pricing signal than broad-based retail subscription. On the other hand, the model of Derrien (2005) with noise traders predicts that extreme oversubscription in retail-heavy markets generates listing premia above the fundamental value, which will then mean-revert. The outlier months-December 2020 at $487.50\times$ HNI subscription and 83.15% listing gain, and September 2020 at $272.15\times$ and 106.9%-are more consistent with noise-trader dynamics than rational underpricing compensation. Both mechanisms co-exist, and the oversubscription-to-listing-gain relationship can be partially explained by genuine informed demand with private information, and the other part by sentiment-driven amplification.

6. Conclusion

The study looked at if the post-COVID jump in digital demat accounts in India, from 41.72 million accounts in April 2020 to 216.00 million accounts in December 2025, had any impact on the pricing of mainboard IPOs. There are four key findings. First, there is the clear post-COVID structural break in retail investor entry (138.8% difference, significant at $p = 0.0008$). Second, growth in demat impacts activity in the IPO market at the margin but is not significantly related to aggregate oversubscription ($p = 0.765$). Third, oversubscription—and especially HNI oversubscription—is the single most powerful proximate predictor of listing day returns identified in the study ($R^2 \approx 0.50$, $p < 0.001$). Fourth, the growth of Demat account has no direct predictive power over the listing efficiency (Model G: $p = 0.916$, $R^2 \approx 0.000$).

Three limitations bound the inference. The monthly aggregation, necessitated by Demat data frequency, masks within-month IPO heterogeneity that a transaction-level panel could exploit. Grey Market Premium—widely treated as a proximate listing-gain predictor—is excluded due to the absence of a verifiable historical series. Macroeconomic confounders (NIFTY 50 returns, RBI policy rate, India VIX) are addressed qualitatively but not modelled explicitly. Future research could profitably extend this work through IPO-level fixed-effects estimation, GMP integration, long-run return analysis testing the Derrien (2005) noise-trader prediction, and cross-market replication in Indonesia, Vietnam, Nigeria and Kenya.

From a policy perspective, the findings support three regulatory directions: tighter margining of HNI IPO applications to dampen leverage-driven subscription amplification; reform of the price-discovery process to reduce systematic underpricing; and enhanced financial literacy programmes targeted at the Post-COVID Cohort, particularly first-time investors from Tier-2 and Tier-3 cities whose application heuristics remain under-researched.

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