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Management Thesis Interim Report

Title: Impact of IPO Pricing on Investor Portfolios and Market Performance

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Executive summary

The purpose of this thesis, titled "**Impact of IPO pricing on investor portfolios and market performance**," is to examine the role of IPO pricing strategies in shaping investor outcomes and influencing market behavior within the context of the Indian equity markets. The primary objective of this research is to analyses how different pricing mechanisms and valuation approaches affect short-term listing performance (listing day returns), long-term stock returns, portfolio risks, and broader market variables such as liquidity, volatility, Grey Market Premium (GMP), and investor sentiment.

Focusing on IPOs listed on the National Stock Exchange (NSE) and Bombay Stock Exchange main board (BSE) during the period 2021-2024, this study adopts a data-driven approach to analyze the impact of IPO pricing on investor portfolios and market performance. The research aims to contribute to the academic understanding of capital market efficiency while offering practical insights for investors, issuers, and regulators regarding the effectiveness of IPO pricing.

At the interim stage, key components of the project have been completed, including the finalization of the research topic, proposal approval, and an extensive review of relevant literature. The data collection process involves, focuses on IPOs from 2021 to 2024 listed on main boards of NSE and BSE, with variables such as offer price, listing price, subscription levels, GMP, and post-listing returns divided into listing day returns and returns as of 23rd April 2025. The analysis conducted so far has provided valuable insights into the relationship between IPO pricing strategies and their impact on investor portfolio returns and market performance.

Chapter 1 – Introduction

The Initial Public Offering (IPO) stage plays a critical role in a company's transition to public ownership. However, the pricing of IPOs has long been debated in academic and investor circles. Mispricing - whether in the form of underpricing or overpricing -not only affects investor returns but can also influence broader market sentiment and performance. In the Indian context, where retail participation is significant, the effects of IPO pricing are particularly pronounced. As IPOs often serve as a critical entry point for retail and institutional investors, the strategy behind pricing decisions is instrumental in determining both immediate listing gains and long-term investment returns. Through a structured data-driven analysis, this study explores the tangible effects of IPO pricing on investor portfolios and overall market performance.

Chapter 2 – Literature Review

Initial Public Offerings (IPOs) represent a company's first sale of shares to the public and are a critical method of capital raising. The IPO pricing process determines how shares are offered to the public, typically through either a **fixed price** method or **book-building** method. According to Ritter (1991), pricing plays a pivotal role in both capital formation and market perception. The choice of pricing mechanism significantly influences investor participation, especially in emerging markets like India.

2.1 Understanding IPO pricing:

IPO Pricing - refers to the process of determining the initial offer price of a company's shares when it transitions from private to public. IPO pricing determines a company's initial share price as it goes public, ideally reflecting fair value but often resulting in mispricing. Under-pricing (e.g., OP=100, IP=130) is prevalent in India due to conservative valuations or strong demand, boosting first-day gains, while overpricing (e.g., OP=130, IP=100) may occur from overoptimistic forecasts, deterring investors. These outcomes, driven by methods like DCF and CCA, shape portfolio returns and market trends.

To summarize the price can be:

- Fairly priced (Correct as per valuations)
- Underpriced (more common, where listing price > offer price; Because Issuer company underpriced their stock relative to market demand.) For example: OP=100, IP=130
- Overpriced (listing price < offer price; Company overpriced their own stock and market demand for the stock is low.) For example: OP=130, IP=100
- Under-pricing is more common in stock market listings of IPO.

2.2 Understanding IPO pricing methods:

1. ***Discounted Cash Flow (DCF) Analysis:*** DCF Analysis estimates a company's intrinsic value by discounting projected free cash flows (FCF) to present value, a method often used in IPO pricing to set a "fair" offer price.

   FCF is calculated as EBIT * (1 - T) + Depreciation & Amortization – Changes in Net Working Capital – Capital Expenditure.

   Then discounted using the Weighted Average Cost of Capital (WACC), blending equity and debt costs.

   WACC = [E/(E+D) * Ke] + [D/(E+D) * Kd * (1-T)]

For Zomato's 2021 IPO, analysts estimated FCF based on projected growth in food delivery, discounted at ~10%, suggesting an offer price of ₹76, yet it listed at ₹116 and closed at ₹125.30—a 65% jump, hinting at conservative DCF assumptions.

2. ***Comparable Company Analysis (CCA):*** CCA values an IPO firm by applying multiples (e.g., Price-to-Earnings, P/E) from similar listed companies, offering a market-based price benchmark. Peers are selected, their average P/E calculated, and applied to the IPO's earnings.

   For Zomato, peers like Swiggy (unlisted) or global firms like DoorDash had P/E ratios ~40–50; with Zomato's projected EPS of ~₹2, CCA suggested a ₹80–100 share value, close to its ₹76 offer price, yet market demand drove it higher, showing CCA's underpricing potential. Example: Peer P/E: 45, Zomato EPS: ₹2, Value per share: ₹90.

3. ***Terminal Valuation:*** Terminal Valuation captures value beyond the DCF forecast (e.g., 5–10 years), assuming perpetual growth, calculated as:
   TV = FCFn+1 / (WACC – g).
   For Paytm's 2021 IPO, analysts might have projected FCF_{2026} at ₹1,000 crore with a 3% growth rate and 10% WACC, yielding TV = ₹1,000 / (0.10 – 0.03) = ₹14,286 crore, discounted back. Its ₹2,150 offer price implied high terminal growth expectations, but a 27% listing drop to ₹1,564 suggests overestimation, overpricing the IPO.

4. ***Economic Value Added (EVA):*** EVA measures economic profit as:
   EVA = NOPAT – (Capital Employed * Cost of Capital), assessing if IPO pricing reflects value creation.
   For Paytm, if NOPAT was ₹500 crore, capital ₹10,000 crore, and cost of capital 10%, EVA = ₹500 – (₹10,000 * 0.10) = -₹500 crore, indicating negative value at its ₹2,150 price. This negative EVA aligns with its post-IPO slump, suggesting pricing did not match economic reality, denting investor trust.

2.3 Overview of IPO process in India:

IPO process in India: The IPO process in India starts with the appointment of a lead manager and preparation of the Draft Offer Prospectus, which is filed with SEBI. After

regulatory review and approval, the prospectus is finalized and the IPO is marketed to investors. The issue is opened for public bidding, and based on investor demand, the final issue price is determined. Shares are then allotted and transferred to investors' demat accounts, followed by listing on stock exchanges. Each stage—from pricing to listing—plays a critical role in influencing investor portfolios and overall market performance.

Figure 1: The process of an IPO – Overview

2.4 Impact on investor returns, market performance, and sentiments:

IPO pricing affects investors differently in the short and long term. Research by Aggarwal and Rivoli (1990) showed that while IPOs often deliver **positive listing day returns**, they

underperform in the long run. Similarly, Jain and Kini (1994) found that long-term performance tends to lag the market, raising concerns about over-optimistic valuations.

In the Indian context, studies by Narasimhan and Ramana (2017) observed significant variation in returns across sectors and pricing strategies, indicating that IPO pricing is a key determinant of portfolio outcomes.

IPO activity tends to correlate with broader **market conditions and investor sentiment**. Loughran and Ritter (2002) identified that during bullish phases, aggressive IPO pricing is more common, sometimes leading to short-term exuberance and longer-term corrections. Investor confidence can amplify the pricing effects, especially in retail-driven markets.

2.5 IPO performance in Indian markets:

India has seen a surge in IPOs post-2020, especially in tech, fintech, and startup sectors. Studies by SEBI and NSE (2022) highlight that retail participation has increased dramatically, driven by digital platforms and social media. Empirical studies by Mitra (2023) and Iyer & Sharma (2022) indicate that IPO mispricing remains common, with volatility and oversubscription often skewing investor expectations.

Between 2021 and 2024, India saw a surge in IPO activity, especially from tech-driven and consumer-facing companies like **Zomato, Nykaa, Paytm, and LIC.** This period was marked by high investor participation and a mix of significant underpricing and poor post-listing performance, reflecting a gap between market expectations and valuations.

While some IPOs yielded strong listing gains, others underperformed, highlighting inconsistency in pricing strategies. Under-pricing was often used to drive investor interest amid volatile conditions, particularly in 2023–2024, when companies adopted more cautious valuation approaches.

Despite this activity, limited academic research has examined this recent wave. A data-driven analysis focused on **IPO pricing and its broader impact in the 2021–2024 period** is essential to understand evolving market dynamics in India.

2.6 Research gaps identified:

Despite the extensive body of research on IPO underpricing and its effects, several key gaps remain, particularly in the context of the Indian capital markets. These gaps form the foundation for the current study and justify the need for further investigation.

1. ***Lack of Integration Between IPO Pricing and Portfolio-Level Analysis in the Indian Context:*** Most existing studies in India have focused on IPO underpricing in isolation, primarily analyzing first-day returns or comparing offer prices with listing prices. While these studies are useful in understanding the immediate market reaction, they often neglect the broader implications for investor portfolios. There is a scarcity of research that examines how IPO underpricing affects portfolio-level performance, risk exposure, and asset allocation decisions for both institutional and retail investors. Integrating IPO pricing dynamics with portfolio theory remains an underexplored area, particularly in the Indian market.

2. ***Limited Focus on Post-IPO Investor Behavior:*** Although short-term performance of IPOs has been widely documented, there is limited literature on investor behavior and decision-making in the post-IPO phase. Questions such as whether investors hold or exit IPO stocks, how they adjust their portfolios based on post-listing volatility, and how institutional investors rebalance after allocation are often overlooked. Understanding investor sentiment and behavioral responses after the IPO can provide a more complete picture of market dynamics, yet these aspects have received minimal attention in Indian studies.

3. ***Need for Recent Data-Based Analysis, Especially Post-2020 IPO Boom:*** The Indian IPO market has witnessed a significant surge since 2020, driven by favorable market conditions, increasing retail participation, and the rise of new-age tech companies going public. Many of the landmark IPOs in this period, such as Zomato, Nykaa, Paytm, and LIC, have exhibited varied pricing behavior and post-listing performance. However, empirical analysis of this recent wave remains limited. Most studies rely on pre-2020 datasets and may not capture the evolving market structure, investor profiles, and valuation dynamics. Thus, there is a strong need for updated, data-driven research focusing on the post-2020 IPO environment.

Chapter 3 – Research Methodology

3.1 Research Design: This study adopts a quantitative and analytical research design to investigate the impact of IPO pricing on investor portfolios and stock market performance. The research is primarily descriptive in nature, as it aims to analyze historical IPO data and identify patterns and relationships among various financial indicators.

3.2 Data Collection Methods: The research relies on secondary data collected from credible financial sources including:

- National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) websites
- SEBI IPO prospectuses
- Financial databases (such as Chittorgarh ipo, Moneycontrol, Investing.com, investorgain.com)
- Published research papers, journals, and IPO reports
- The dataset includes IPOs launched in India from 2021 to 2024, with specific attention given to variables such as offer price, listing price, closing price, subscription rate, and post-listing stock performance (GMP).

3.3 Sampling Method and Sample Size: A purposive sampling technique is employed to select IPOs based on the following criteria:

- IPOs listed on NSE/BSE (main board)
- Availability of offer price, listing price, and historical stock performance data
- Companies from diverse sectors to ensure representation
- A sample of approximately 137 IPOs is selected for comprehensive analysis divided as 24 companies for the year 2024, 25 companies for the year 2023, 24 companies for the year 2022, 64 companies for the year 2021.

3.4 Variables considered: Various variables are considered which includes offer price, listing price, subscription, Grey Market Premium GMP, returns on listing day, volatility on listing day, returns till 23rd April 2025, CMP as on 23rd April, 52 weeks high/low, and issue size. A summary table of all variables used and their description is given below:

Variable	Description
Company Name	Name of the company that launched the IPO
Industry/Sector	Sector classification to assess sector-specific IPO trends
Listing Date	Actual date when the IPO was listed
Listing Year	Year of listing (used for grouping and trend analysis)
Issue Price (IP) (₹)	Price at which the IPO shares were offered to the public
Listing Price (LP) (₹)	Opening price on the day of listing
Listing Gain (%)	% Gain or loss on listing day → (LP - IP)/IP × 100
Volume on Listing Day (Millions)	Total traded volume on the first day of listing
Current Market Price (CMP) (₹)	Share price as of 22nd April 2025
Holding Returns as on 22-04 (%)	Long-term returns → (CMP - IP)/IP × 100
52-Week High (₹)	Highest price in the last 52 weeks (volatility indicator)
52-Week Low (₹)	Lowest price in the last 52 weeks
Volatility	Price fluctuation based on 52-week range or calculated SD
Grey Market Premium (GMP) (₹)	Pre-listing premium in the unofficial market (used as a proxy for sentiment)
Subscription (x-Times)	Number of times the issue was subscribed (overall or category-wise)
Issue Size (₹ in Crores)	Total size of the public offer

Table 1 shows the summary of variables used with description.

3.5 Analytical Tools and Techniques:

To interpret and analyze the data, the following tools are applied:

- Descriptive statistics: Mean, median, standard deviation
- Return calculations:
  - *Listing Day Return* = (Listing Price - Offer Price) / Offer Price
  - *Long-term Return* = (Price as of 23rd April 2025 - Offer Price) / Offer Price
- Correlation analysis: Between GMP, subscription rates, and listing gains

- Regression analysis: To evaluate impact of variables like GMP, subscription, and sector on returns
- Comparative valuation: Using IPO valuation techniques (DCF, CCA, EVA, Terminal Value) for select case studies.

3.6 Limitations:

- Secondary data dependency limits control over data accuracy.
- GMP is an informal, speculative indicator and may not always reflect true investor sentiment.
- IPO valuation methodology is not always disclosed in RHPs or filings.
- External factors such as macroeconomic events or regulatory changes are not explicitly controlled.

3.7 Ethical Considerations:

- Data used is from **publicly available and credible sources**.
- No confidential or private investor information has been accessed.
- All sources are **acknowledged and cited** as per academic standards.

Chapter 4 – Analysis and Key Learnings

4.1 Overview of Data Collected:

Total of 137 IPOs were listed from the year 2021 to 2024, of which 64 was listed in the year 2021. The highest listing day return was observed in **Sigachi Industries** which was of 266% return (Issue Price – 163 vs Listing Price – 597). Similarly, lowest returns on listing day were given by **Paytm (One97 Communications)**, of -27% (Issue Price – 2150 vs Listing Price – 1564.15).

Highest holding returns as on 23rd. April 2025 was observed by **Kaynes Technology India Ltd.** Which was of **918.62% going from 587 as Issue Price to 5979.30 as CMP on 23rd. April 2025.** Similarly, **lowest holding returns** was observed by **AGS Transact Technologies Ltd.** Which was of **-96% going from 175.00 as Issue Price to 7.00 as CMP on 23rd. April 2025.** The **most subscribed stock** was **Latent View Analytics (326.49 times)** followed by **Paras Defence (304.26 times)**. Whereas, the IPO with the **highest issue size** was of **Hyundai Motors India (27,870 Cr)** followed by **LIC (20,577 Cr)** and **Paytm (One97 Communications) (18,300 Cr).**

4.2 Variables Considered:

The study incorporates the following key variables to evaluate the relationship between IPO pricing methods and post-listing investor performance:

- **Holding Return (%)**: Defined as the percentage return from the offer price (IPO price) to the closing price as on 22 April 2025. This serves as the **dependent variable** for the regression analysis, reflecting long-term investor performance.
- **Listing Gain (%)**: Calculated as the difference between the listing price and the issue price. This represents initial underpricing or investor euphoria on listing day.
- **Grey Market Premium (GMP)**: Represents the unofficial premium at which IPO shares trade in the grey market before listing. Considered a **proxy for investor sentiment** and speculative expectations.
- **Subscription Rate (times)**: Indicates the number of times the IPO was subscribed. It reflects **investor demand** and market enthusiasm for the issue.
- **Issue Size (₹ Crores)**: Denotes the total capital raised by the company. Larger issues may have broader investor participation but can also experience different price discovery mechanisms.
- **Volatility (%)**: Captured using the ratio of 52-week high to low prices or standard deviation of post-listing prices. High volatility may indicate **speculative interest** or uncertainty in valuation.

These variables were selected based on prior research (e.g., Ritter, 1991; Loughran & Ritter, 2004) highlighting their predictive role in IPO underpricing, investor returns, and aftermarket performance.

2024 IPOs (count = 24)														
Company Name	Industry/Sector	Listing Date	IP (₹)	LP (₹)	Listing Gain	Volumn on listing day	CMP (as on 22-04)	Holding Returns as on 22-04	52 Week High	52 Week Low	Volatility	GMP	Subscription ('x-Times')	Issue Size (In Cr.)
Hyundai Motor India	Automotive	22-Oct-24	₹ 1,960.00	₹ 1,820.00	-7%	28.62M	₹ 1,692.70	-14%	₹ 1,970.00	₹ 1,541.70	22%	₹ 62.00	2.37	₹ 27,870.00
Swiggy	Food Delivery / Tech	13-Nov-24	₹ 390.00	₹ 456.00	17%	112.96M	₹ 340.00	-13%	₹ 617.30	₹ 306.95	80%	₹ -	3.59	₹ 11,327.43
NTPC Green Energy	Renewable Energy	27-Nov-24	₹ 108.00	₹ 123.00	14%	300.96M	₹ 108.25	0%	₹ 155.35	₹ 84.55	66%	₹ 1.00	2.55	₹ 10,000.00
Waaree Energies	Solar Energy Equipment	28-Oct-24	₹ 1,503.00	₹ 2,338.00	56%	21.54M	₹ 2,605.00	73%	₹ 3,743.00	₹ 1,503.00	149%	₹ 1,295.00	79.44	₹ 4,321.44
ACME Solar	Renewable Energy	13-Nov-24	₹ 289.00	₹ 253.00	-12%	22.94M	₹ 214.20	-26%	₹ 292.40	₹ 167.75	43%	₹ -4.00	2.89	₹ 2,900.00
Sai Life Sciences	Pharmaceuticals	18-Dec-24	₹ 549.00	₹ 764.00	39%	46.66M	₹ 725.25	32%	₹ 808.80	₹ 636.10	31%	₹ 72.00	10.27	₹ 3,042.62
Enviro Infra	Environmental Infrastructure	29-Nov-24	₹ 148.00	₹ 207.00	40%	55.41M	₹ 222.50	50%	₹ 391.60	₹ 182.00	142%	₹ 205.00	89.9	₹ 650.43
Niva Bupa Health Insurance	Health Insurance	14-Nov-24	₹ 74.00	₹ 74.00	0%	38.86M	₹ 78.50	6%	₹ 109.34	₹ 68.54	55%	₹ 1.00	1.9	₹ 2,200.00
Afcons Infrastructure	Infrastructure & Construction	04-Nov-24	₹ 463.00	₹ 474.00	2%	16.83M	₹ 449.20	-3%	₹ 570.00	₹ 398.00	37%	₹ 15.00	2.77	₹ 5,430.00
Godavari Biorefineries	Chemicals / Biofuels	30-Oct-24	₹ 352.00	₹ 343.00	-3%	8.04M	₹ 173.00	-51%	₹ 408.60	₹ 145.00	75%	₹ 5.00	1.87	₹ 554.75
Deepak Builders and Engineers	Construction	28-Oct-24	₹ 203.00	₹ 162.00	-20%	7.64M	₹ 150.00	-26%	₹ 214.00	₹ 129.05	42%	₹ 32.00	41.54	₹ 260.04
Garuda Construction	Infrastructure	15-Oct-24	₹ 95.00	₹ 106.00	12%	46.09M	₹ 114.00	20%	₹ 153.70	₹ 77.05	81%	₹ -	7.55	₹ 264.10
KRN Heat Exchanger	Industrial Equipment	03-Oct-24	₹ 220.00	₹ 479.00	118%	5.75M	₹ 821.00	273%	₹ 1,012.00	₹ 402.10	277%	₹ 235.00	213.41	₹ 341.95
Manba Finance	Financial Services	30-Sep-24	₹ 120.00	₹ 152.00	27%	2.34M	₹ 137.25	14%	₹ 199.80	₹ 119.00	67%	₹ 33.00	224	₹ 150.84
Arkade Developers	Real Estate	24-Sep-24	₹ 128.00	₹ 166.00	30%	10.94M	₹ 175.75	37%	₹ 187.40	₹ 128.15	46%	₹ 63.00	113.49	₹ 410.00
Bajaj Housing Finance	Financial Services	16-Sep-24	₹ 70.00	₹ 70.00	0%	246.75M	₹ 132.40	89%	₹ 188.50	₹ 103.10	122%	₹ 72.00	67.43	₹ 6,560.00
Western Carriers (India)	Logistics	23-Sep-24	₹ 172.00	₹ 323.00	88%	5.71M	₹ 80.45	-53%	₹ 167.84	₹ 65.10	60%	₹ 16.00	31.69	₹ 492.88
P N Gadgil Jewellers	Jewellery	17-Sep-24	₹ 480.00	₹ 830.00	73%	2.79M	₹ 548.00	14%	₹ 835.00	₹ 473.80	75%	₹ 303.50	59.41	₹ 1,100.00
Kross Limited	Manufacturing	16-Sep-24	₹ 240.00	₹ 245.00	2%	5.71M	₹ 245.00	2%	₹ 270.00	₹ 150.06	50%	₹ 24.50	17.66	₹ 500.00
Tolins Tyres	Automotive Components	16-Sep-24	₹ 226.00	₹ 230.00	2%	518.85K	₹ 130.50	-42%	₹ 259.20	₹ 107.72	67%	₹ 30.00	25.03	₹ 230.00
Shree Tirupati Balajee Agro	Agriculture	12-Sep-24	₹ 83.00	₹ 99.22	20%	1.83M	₹ 47.20	-43%	₹ 99.22	₹ 38.55	73%	₹ 27.00	124.74	₹ 169.65
Gala Precision Engineering	Engineering	09-Sep-24	₹ 529.00	₹ 721.10	36%	569.06K	₹ 924.00	75%	₹ 1,480.00	₹ 682.00	151%	₹ 245.00	201.41	₹ 167.93
Baazar Style Retail	Retail	06-Sep-24	₹ 389.00	₹ 389.00	0%	370.35K	₹ 337.25	-13%	₹ 427.65	₹ 181.30	63%	₹ 33.00	40.63	₹ 834.68
ECOS (India) Mobility & Hospitality	Mobility & Hospitality	04-Sep-24	₹ 334.00	₹ 390.00	17%	11.30M	₹ 201.64	-40%	₹ 593.70	₹ 165.00	128%	₹ 126.00	64.18	₹ 601.20

Figure 2: shows the list of IPOs listed in the year 2024

4.3 Analytical Tools Used:

Regression Analysis: Multiple linear regression was employed using Microsoft Excel's Data Analysis ToolPak to evaluate the relationship between IPO-specific variables (GMP, subscription rate, volatility, and issue size) and holding returns. This helped determine the statistical significance and explanatory power of each factor in influencing investor gains.

SUMMARY OUTPUT	X variable: Listing Gain ; Y variable: Holding Return							
Regression Statistics								
Multiple R	0.601832397							
R Square	0.362202235							
Adjusted R Square	0.333211427							
Standard Error	0.555286157							
Observations	24							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	3.852339086	3.852339086	12.49369251	0.001862554			
Residual	22	6.783539762	0.308342716					
Total	23	10.63587885						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.130069723	0.138510739	-0.939058761	0.357897107	-0.417323414	0.157183968	-0.417323414	0.157183968
X Variable 1	1.231778673	0.348487555	3.534641779	0.001862554	0.509059717	1.954497628	0.509059717	1.954497628

Figure 3: shows regression analysis done taking X variable as Listing Gain and Y variable as Holding Return.

Metric	Value	Interpretation
R Square	**0.362202235**	**36.2% of the variance in Holding Return is explained by Listing Gain.**
Significance F	**0.001862554**	**Model is statistically significant overall (p < 0.05).**
X Variable coefficient	**1.231778673**	**For every 1% Listing Gain, Holding Return increases by approx. 1.23%.**
X Variable P-Value	**0.001862554**	**Highly significant predictor of Holding Return.**

Table 2 shows values of regression analysis done taking X variable as Listing Gain and Y variable as Holding Return

IPOs that had higher listing gains tend to also give higher long-term (holding) returns. The relationship is positive and statistically significant.

However, the model only explains —36% of the variation — meaning other factors also matter (like GMP, issue size, sentiment, etc.)

SUMMARY OUTPUT	X Variable as: Volatility, GMP, Subscription, Issue size ; Y variable as: Holding Returns							
Regression Statistics								
Multiple R	0.828858997							
R Square	0.687007237							
Adjusted R Square	0.621114024							
Standard Error	0.418578617							
Observations	24							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	4	7.306925742	1.826731436	10.42606975	0.000121387			
Residual	19	3.328953106	0.175208058					
Total	23	10.63587885						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.770005788	0.180253563	-4.271792339	0.000412029	-1.14728083	-0.392730745	-1.14728083	-0.392730745
X Variable 1	0.899145705	0.220279932	4.081832141	0.000635574	0.438094509	1.360196901	0.438094509	1.360196901
X Variable 2	-1.76194E-05	0.000369197	-0.047723556	0.962434637	-0.000790357	0.000755118	-0.000790357	0.000755118
X Variable 3	0.001846329	0.00166449	1.109246415	0.281167083	-0.001637488	0.005330147	-0.001637488	0.005330147
X Variable 4	1.88926E-05	1.53417E-05	1.23145787	0.233176976	-1.32179E-05	5.10031E-05	-1.32179E-05	5.10031E-05

Figure 4: shows regression analysis output by taking X Variable as Volatility, GMP, Subscription, Issue size and Y variable as Holding Returns.

Metric	Value	Interpretation
R Square	**0.828859**	**68.7% of the variation in Holding Returns**
Significance F	**0.000121**	**The model is statistically significant overall (p < 0.05).**

Table 3 Shows values of regression analysis output by taking X Variable as Volatility, GMP, Subscription, Issue size and Y variable as Holding Returns.

Higher GMP — Higher holding returns. Strong positive & significant relationship. Higher volatility — Slightly higher holding returns.

The regression shows that Grey Market Premium (GMP) and Volatility are statistically significant predictors of long-term IPO returns. GMP has a strong positive effect, indicating investor sentiment is a key driver. Subscription levels and issue size, however, were not significant predictors in this model.

Scatter Plot with Trendline: For each independent variable, a scatter plot was plotted against holding returns. Trendlines and R^2 values were added to visually interpret the strength and direction of each relationship.

4.4 Findings from Regression and Scatter Plot Analysis:

Volatility ($R^2 \approx 0.65$): A strong positive correlation was observed between stock volatility and holding returns. This suggests that higher post-listing price fluctuations are associated with greater potential returns, potentially due to speculative trading or valuation uncertainty.

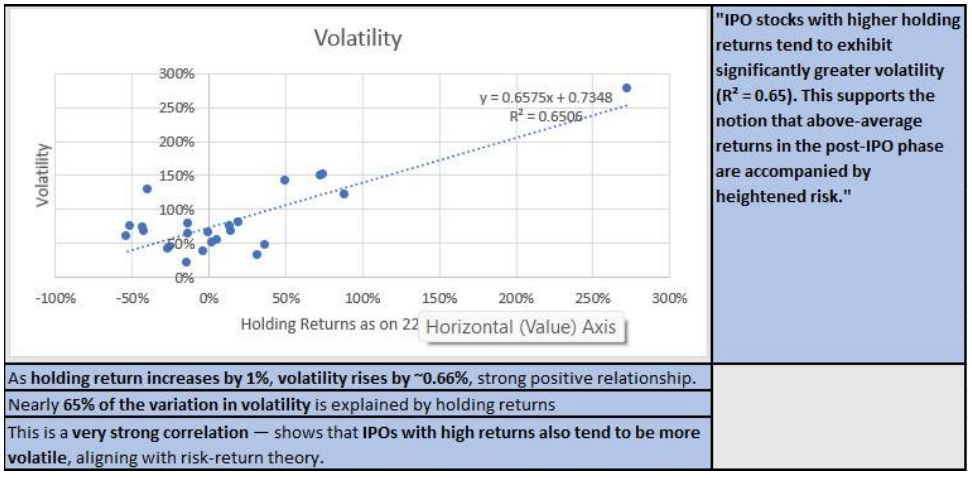
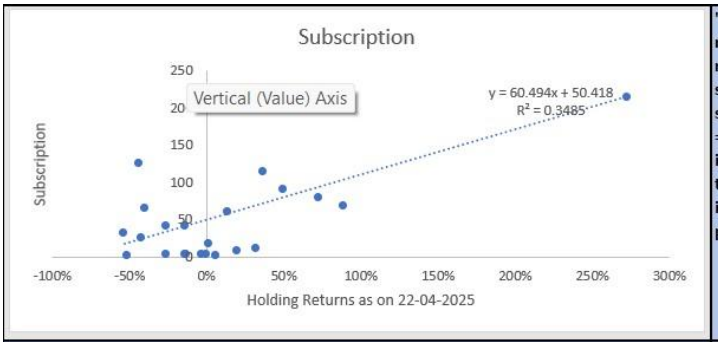


Figure 5: Shows a graph of volatility

Subscription Rate ($R^2 \approx 0.35$): A moderately strong relationship was found, indicating that highly subscribed IPOs tend to yield better returns. This supports the hypothesis that oversubscription reflects investor confidence and favorable demand-supply dynamics.



"There appears to be a moderately strong positive relationship between IPO subscription levels and subsequent holding returns (R^2 = 0.35). This suggests that investor demand at the time of the IPO can be a significant indicator of aftermarket performance."

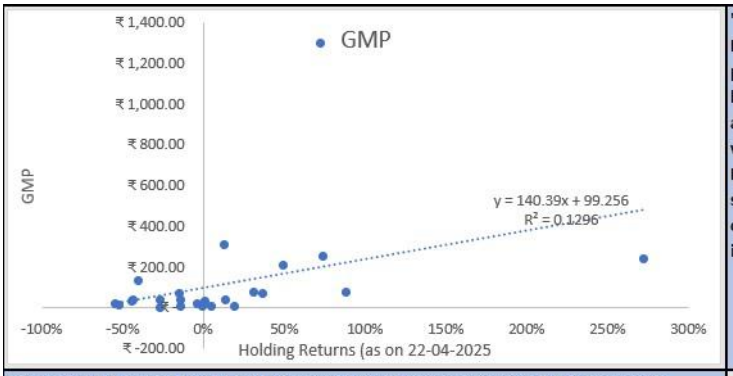
For every **1x increase in subscription**, the holding return increases by **~60.49%** on average.

Even if the IPO had **0x subscription**, the **return is still expected to be ~50.42%**, which might **reflect baseline hype or other investor sentiment.**

~35% of the variation in holding returns is explained by subscription levels alone.

Figure 6: Shows a graph of subscription rate

GMP (R^2 ≈ 0.13): A weak but positive correlation, implying that pre-listing investor sentiment may provide some indication of future price performance, though not a strong predictor on its own.



"While the Grey Market Premium (GMP) shows a positive relationship with holding returns, it explains only a small portion of return variation on its own (R^2 = 0.13). However, it remains statistically significant when combined with other variables in a multivariate regression."

For every **1% increase in GMP**, the holding return increases by **~140.39%**, on average.

The intercept (99.256) is the estimated return when GMP = 0%

Only **~13%** of the variance in holding returns is explained by GMP **alone.**

Figure 7: Shows a graph of GMP

Issue Size (R^2 ≈ 0.006): The relationship between issue size and holding returns is negligible. This indicates that large issue sizes do not necessarily lead to better or worse returns and may not significantly influence investor performance.

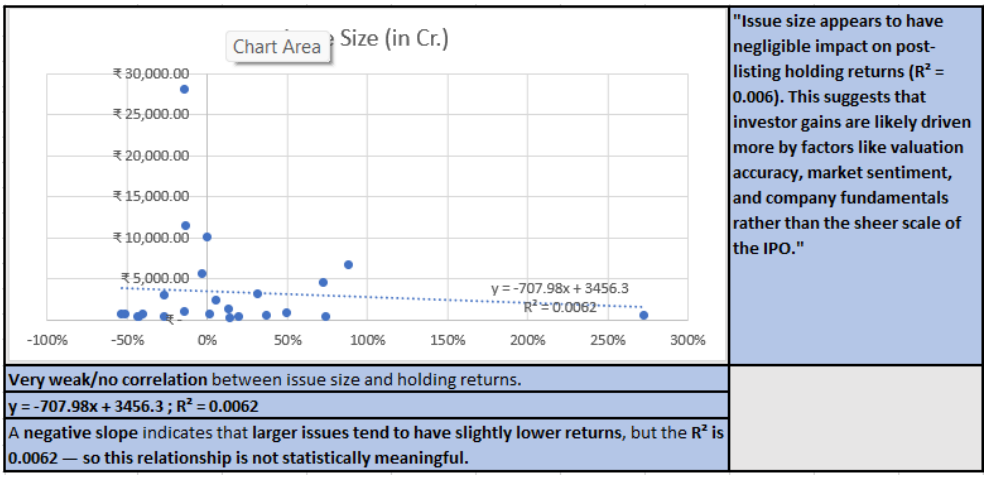


Figure 5: Shows a graph of Issue size in Cores

4.5 Key Learnings from the Analysis:

1. IPO Pricing Accuracy Matters: Under-pricing often leads to better listing and holding returns, while overpricing can hurt investor confidence, as seen in Paytm's case.
2. Investor Sentiment (GMP) is Predictive: IPOs with higher GMPs generally deliver stronger returns, indicating strong pre-listing optimism.
3. Volatility is a Double-Edged Sword: High volatility is associated with higher returns, but it also implies higher risk. Investors must balance this trade-off.
4. Subscription ≠ Success: While oversubscription indicates demand, it does not always translate to sustained long-term gains.
5. Issue Size is Not a Strong Factor: Market dynamics around smaller and larger IPOs may differ, but issue size alone does not significantly affect returns.

Chapter 5 – Conclusion

This research work interim report "Impact of IPO Pricing on Investor Portfolios and Market Performance" is based on 2024 listed IPOs. The aims were to examine the influence of IPO pricing mechanisms on listing returns, long-term returns, investor sentiment, and market volatility by employing valuation methods and regression analysis.

According to Objective 2.1 – Analysis of IPO Pricing Mechanisms, the research applied valuation methods like DCF, CCA, and EVA in chosen IPOs. Examples such as Hyundai Motor India and Swiggy show different pricing strategies. Hyundai, priced, gave a 14% listing return but had a -14% holding return. Swiggy, maybe overpriced, had a -13% return, proving that excessively aggressive pricing will most likely ruin value.

In line with Objective 2.2 – Evaluating Impact on Investor Portfolios, regression analysis proved there was a positive relationship between listing gains and holding returns. IPOs like KRN Heat Exchanger and Gala Precision yielded good GMPs and holding returns, while ACME Solar and ECOS India, with their high participation in the market, suffered long-term losses. This confirms that mispricing of IPOs, that is, overpricing, can lead to high capital loss for investors.

In the context of Objective 2.3 – Understanding Market Reaction, GMP was a better indicator of post-listing performance than the level of subscriptions. For instance, KRN Heat Exchanger (GMP ₹235) and Gala Precision (GMP ₹140) gave 273% and 147% returns, respectively. Western Carriers on a 30× subscription gave -4%, which means high demand does not always lead to long-term performance. High post-listing volatility, as in ECOS India (128%), points to speculative trading that can mislead long-term investors.

Briefly, preliminary findings based on 2024 IPOs affirm that IPO pricing strategies—measured by sound valuation and market sentiment measures—are measurable and direct drivers of investor returns. The final report will extend this analysis to 2021-2023 IPOs to provide a fuller picture of pricing-performance relationships for various time horizons and industries.

Chapter 6 – References

IPO Central – 2024 IPO Listings - Offers detailed information on IPOs including offer price, listing price, issue size, and performance analysis: https://ipocentral.in/ipo-2024/

Chittorgarh – Mainboard IPO Dashboard: Tracks IPO details including grey market premiums, subscription levels, and listing gains. https://www.chittorgarh.com/ipo/ipo_dashboard.asp

InvestorGain – Current Mainboard IPOs 2024: Contains updated information on all current and past IPOs, along with grey market premium data and subscription statistics.: https://www.investorgain.com/report/current-ipo/394/ipo/?year=2024

Performance of IPO Returns in Indian Financial Market: https://www.pbr.co.in/2024/2024_month/February/10.pdf

Assessing the Performance of Initial Public Offerings (IPOs) in Indian Stock Market: https://www.ijfmr.com/papers/2024/5/28783.pdf

IPO Initial Returns and Volatility: A Study in an Emerging Market: https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID2655037_code1332876.pdf?abstractid=2655037&mirid=1

Investor Perception Towards Initial Public Offerings and Its Impact on IPO Under-pricing in India: https://xime.org/uploads/manuscripts/ARTICLE%207%20INVESTOR%20PERCEPTION11140317709038398 72.pdf

Souhail Nafid 332051 Supervisor: Dr. L.A.P. Swinkels March 4, 2014 *An Historical Analysis of IPO Underpricing in India:* https://thesis.eur.nl/pub/16062/Nafid-S.-332051-.pdf

Dr.N.Subrahmanyam, *A Study On Relationship Between Pricing And Performance Of IPOs: Evidence From The Indian Stock Market:* https://www.iosrjournals.org/iosr-jbm/papers/Vol26-issue10/Ser-9/H2610094854.pdf