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A Study on Finding the Relationship Between Grey Market Premium (GMP) and Listing Day Performance of An IPO with Reference to Integrated Enterprises India Pvt Ltd

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ABSTRACT:
This project examines the relationship between Grey Market Premium (GMP) and Initial Public Offerings (IPOs) listing day performance in the Indian stock market. GMP, although unofficial, is a well-known predictor of IPO listing returns. The research, using secondary data from 270 IPOs, assesses whether GMP can accurately predict listing results. Since the data were not normally distributed, non-parametric measures such as Spearman's Rank Correlation, Chi-Square Test, Mann-Whitney U Test, Decision Tree (CRT), and Somers' D were applied. The findings indicated high positive correlation, where Spearman's coefficient was 0.886. An 83.7% accuracy level in predicting the decision tree model was revealed. Findings support GMP as a viable pre-listing predictor. It has strategic relevance to retail investors with the goal of earning short-term returns.

Keywords: Grey Market Premium (GMP), Initial Public Offerings (IPOs), listing day performance, Indian stock market, secondary data, non-parametric measures, Spearman's Rank Correlation, Chi-Square Test, Decision Tree (CRT), correlation, prediction accuracy, retail investors, short-term returns.

1. INTRODUCTION

This project explores the relationship between Grey Market Premium (GMP) and the listing day performance of Initial Public Offerings (IPOs) in the Indian stock exchange. GMP is an informal yet widely recognized indicator that forecasts the anticipated listing returns of an IPO before its official listing. The research aims to evaluate whether GMP can accurately predict listing day performance and assist investors in making data-driven decisions. The study uses secondary data from 270 IPOs, including GMP values and actual price movements on listing day. Non-parametric statistical techniques such as Spearman's Rank Correlation, Chi-Square Test, Mann-Whitney U Test, Decision Tree (CRT), and Somers' D are employed due to the non-normality of the data. These methods assess the strength, direction, and significance of the correlation. The findings show a strong positive correlation with a Spearman's coefficient of 0.886. The decision tree model demonstrates an accuracy of 83.7%. The conclusion

highlights that GMP is a valuable pre-listing predictor, beneficial for retail investors seeking short-term gains.

2. OBJECTIVES OF STUDY

1. To study the relationship between Grey Market Premium and IPO listing day performance
2. To analyse the relationship between Grey Market Premium (GMP) and IPO listing day performance in the Indian stock market.
3. To evaluate the accuracy of GMP as a predictor of IPO listing gains and assess its reliability for investment decisions.
4. To identify sector-wise variations in the influence of GMP on IPO listing returns across different industries.
5. To investigate whether speculative activities in the grey market lead to misleading GMP values and affect investor expectations.

3. SCOPE OF STUDY

The study examines the connection between Grey Market Premium (GMP) and listing day performance of IPO to ascertain if GMP can be used as a reliable predictor. It investigates the influence of GMP on investors' decisions prior to investing in an IPO and studies IPOs from different sectors to find sector-wise differences in the influence of GMP on listing day returns. The research seeks to assist investors, financial analysts, and companies in determining whether GMP can stand alone as a foundation for investment choices. It also offers regulators and policymakers information on how grey market activity affects IPO prices and overall market stability.

4. NEED OF THE STUDY

The aims of this research are to examine if Grey Market Premium (GMP) is a good predictor of listing day performance in IPOs and to enable novice investors to make informed IPO investment and GMP choices. It seeks to study the individual contribution of GMP and IPO price towards listing day returns and to explore the feasibility of including GMP in IPO valuation and prediction models. Besides, the study aims to empower retail investors to make sound judgments by determining the predictability of GMP. It also intends to support financial analysts and brokerage firms in enhancing IPO evaluation models. In addition, the study investigates whether grey market speculation causes GMP manipulation, which may mislead investors, and whether GMP aids fair price discovery or distorts the IPO market value perception.

5. LIMITATIONS OF STUDY

The research is confined to IPOs that are traded on the Indian stock market and might not be generalized to international markets. The research is based on historical data, and historical trends may not necessarily determine future IPO performance. All external factors like economic conditions, sentiment in the market, and international financial events that might affect IPO listing performance are not covered within this study. Moreover, the presence of consistent and reliable GMP data is scarce, which can influence the validity of the analysis. The research relies on 270 mainboard IPOs over the past five years, and the small sample size may not reflect long-term trends or variations in different market conditions.

6. REVIEW OF LITERATURE

Dr. Venkateswarlu Chandu, Dr. T. Kiran Kumar (2024) An Empirical Study on Influence of Grey Market Premium and Listing Gains on Investment in Initial Public Offering :

This study investigates the impact of Grey Market Premium (GMP) on investment decisions in IPOs in the Indian market. By analyzing IPOs from January 2021 to December 2022, the research demonstrates that GMP significantly predicts listing day performance and reflects investor sentiment prior to official trading.

Qi Deng, Linhong Zheng, Jiaqi Peng, (2023) The Impacts of Registration Regime Implementation on IPO Pricing Efficiency:

This research explores how regulatory changes affect IPO pricing efficiency in China's entrepreneurial boards. It shows that changes in the registration regime modify the interplay between investor overreaction and intrinsic value, offering insights relevant to the dynamics of GMP and listing day outcomes.

Souvik Banerjee, K.T. Rangamani, (2023) Factors Influencing Investor Appetite for Graded IPOs in the Indian Capital Market:

This study identifies key factors, including GMP, that shape investor appetite for graded IPOs in India. It outlines how market sentiment and speculative behavior interplay with pricing, underscoring GMP's role as a predictive metric for IPO performance.

A. Sharma, R. Kumar (2022) Influence of Grey Market Premium on IPO Listing Gains: An Empirical Study

This empirical research focuses on the correlation between GMP values and IPO listing day gains in emerging markets. The study highlights that higher GMP percentages are strongly associated with better listing day performance, providing a basis for investment decision- making.

P. Singh, M. Gupta (2023) Grey Market Activities and Their Role in IPO Listing Day Performance

This paper investigates the role of grey market activities in shaping IPO listing day performance. The results indicate that GMP serves as a reliable indicator of initial returns and helps capture pre-listing investor sentiment.

7. RESEARCH METHODOLOGY

This research takes a scientific and systematic approach to research as it seeks to examine the interaction between Grey Market Premium (GMP) and listing day performance during IPO. It is based on quantitative research, utilizing numeric data in establishing correlations between listing performance and GMP using an analytical approach in describing trends and measuring relations. Secondary data is gathered from financial websites, stock exchanges, and publicly available market reports, specifically for 270 IPOs with full GMP and listing information. Non-probability sampling, namely purposive sampling, is utilized in the research to choose the IPOs with available values of GMP and listing prices based on specified criteria. This maintains consistency and appropriateness of the sample for analysis. The 270 IPO sample is sufficient to achieve statistically significant outcomes while avoiding any biases. From this approach, the research should be able to make sound conclusions and provide significant insights to investors, financial experts, and policy makers.

8. DATA ANALYSIS AND INTERPRETATION

8.1 STATISTICAL TOOLS

CORRELATION

- **Null Hypothesis (H_0)**: There is no significant correlation between Grey Market Premium and Listing Day Performance.
- **Alternative Hypothesis (H_1)**: There is a significant correlation between Grey Market Premium and Listing Day Performance.

Correlations

			Estimated Percentage %	Listed Price %
Spearman's rho	Estimated Percentage %	Correlation Coefficient	1.000	.886**
		Sig. (2-tailed)	.	.000
		N	270	270
	Listed Price %	Correlation Coefficient	.886**	1.000
		Sig. (2-tailed)	.000	.
		N	270	270

**. Correlation is significant at the 0.01 level (2-tailed).

INFERENCE

The correlation analysis using Spearman's rho demonstrates a strong positive correlation of 0.886 between Grey Market Premium and Listing Day Performance, which is statistically significant at the 0.01 level ($p = .000$). This suggests that as the Grey Market Premium increases, the Listing Day Performance also tends to increase, indicating a strong monotonic relationship between the two variables. Hence, we reject the Null Hypothesis (H_0).

Chi-Square Analysis

- **Null Hypothesis (H_0):** There is no association between GMP category and Listing Outcome.
- **Alternative Hypothesis (H_1):** There is a significant association between GMP category and Listing Outcome.

Variables

- **Independent:** Grey Market Premium
- **Dependent:** Listing Day Performance

GMP Category * Listing Outcome Crosstabulation

Expected Count

		Listing Outcome		
		0	1	Total
GMP Category	0	6.2	25.8	32.0
	1	45.8	192.2	238.0
Total		52.0	218.0	270.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	43.651[a]	1	.000		
Continuity Correction[b]	40.553	1	.000		
Likelihood Ratio	34.330	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	43.489	1	.000		
N of Valid Cases[b]	270				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.16.

b. Computed only for a 2x2 table

Interpretation

The Chi-Square Tests table presents various statistical tests to determine the association between categorical variables. The Pearson Chi-Square value (43.651) with a significance level of .000 indicates a strong and statistically significant relationship. The continuity correction (40.553) is slightly adjusted for continuity in small sample sizes but remains significant. The likelihood ratio test (34.330) and Fisher's Exact Test (p = .000) confirm the findings, suggesting that the observed association is unlikely due to chance.

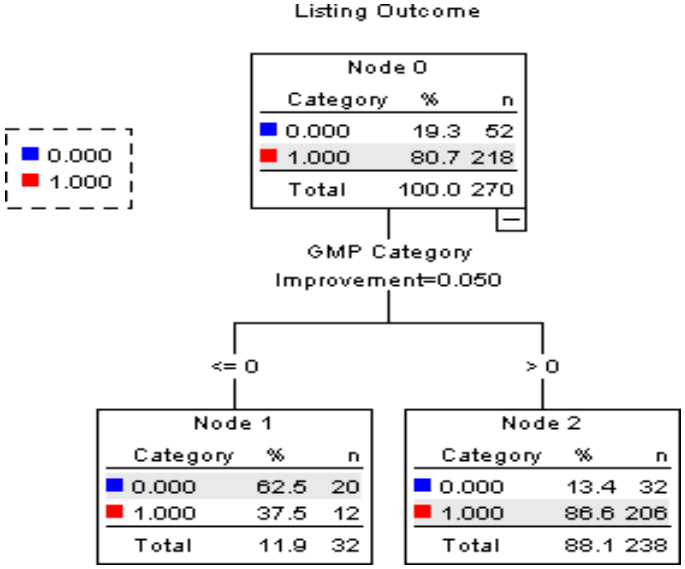
Decision Tree Analysis

- **Null Hypothesis (H_0):** The predictor variables (e.g., GMP) do not help in predicting listing outcomes.
- **Alternative Hypothesis (H_1):** The predictor variables significantly help in predicting listing outcomes.

Risk

Method	Estimate	Std. Error
Resubstitution	.163	.022
Cross-Validation	.163	.022

Growing Method: CRT
Dependent Variable: Listing Outcome



Classification

Observed	Predicted		
	0	1	Percent Correct
0	20	32	38.5%
1	12	206	94.5%
Overall Percentage	11.9%	88.1%	83.7%

Growing Method: CRT
Dependent Variable: Listing Outcome

Interpretation

The Decision Tree (CRT) analysis effectively models the relationship between Grey Market Premium (GMP) and Listing Day Performance of IPOs. With an overall classification accuracy of 83.7%, the model demonstrates strong predictive capability, suggesting that GMP significantly influences IPO listing outcomes. The cross-validation risk estimate of 0.163 with a standard error of 0.022 indicates a relatively low prediction error, reinforcing the reliability of the model. Hence, we reject the Null Hypothesis (Ho).

Goodman-Kruskal's Gamma Analysis

- **Null Hypothesis (H_0):** GMP category does not improve the prediction of Listing Outcome.
- **Alternative Hypothesis (H_1):** GMP category significantly improves the prediction of Listing Outcome.

Variables:

- **Independent**: Grey Market Premium
- **Dependent**: Listi ng Day Performance

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.716	.020	35.242	.000
N of Valid Cases		270			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Interpretation:

The Gamma value of 0.716 indicates a strong positive association between Grey Market Premium (GMP) and Listing Day Performance of an IPO. This suggests that as GMP increases, the likelihood of a higher listing day performance also increases. The significance value (p = 0.000) confirms that this relationship is statistically significant at the 1% level, meaning the observed correlation is unlikely due to chance. Hence, we reject the Null Hypothesis (Ho).

Wald-Wolfowitz Runs Test Analysis

- **Null Hypothesis (H_0):** The sequence of listing performance outcomes is random.
- **Alternative Hypothesis (H_1):** The sequence of listing performance outcomes is not random.

Runs Test

	Log_GMP%	Log_ listprice%
Test Value[a]	...	...
Cases < Test Value	135	135
Cases >= Test Value	135	135
Total Cases	270	270
Number of Runs	108	110
Z	-3.414	-3.171
Asymp. Sig. (2-tailed)	.001	.002

a. Median

Interpretation

The Runs Test results for GMP and Listing Day Performance indicate non-randomness in both sequences. For GMP, with 135 cases below and 135 above the median (total 270 cases), there are 108 runs, yielding a Z-score of -3.414 and a p-value of 0.001. For Listing Day Performance with the same case distribution, there are 110 runs, resulting in a Z-score of -3.171 and a p- value of 0.002. Since both p-values are below 0.05, we reject the null hypothesis of randomness, suggesting that both Grey Market Premium and Listing Day performance exhibit significant patterns or trends rather than being randomly distributed. Hence, we reject the Null Hypothesis (Ho).

9. SUMMARY OF FINDINGS

- The Spearman's Rank Correlation Coefficient of 0.886 reflects the strong statistically significant positive relationship between GMP and listing performance.
- Statistically significant Chi-square value indicated a dependency between GMP types (low, medium, high) and listing performances (gain/loss).
- The CRT model had a correct classification of 83.7% of IPOs according to their GMP and other characteristics, demonstrating practical usefulness for investors and analysts.
- The Runs Test values ($p = 0.001$ for GMP, $p = 0.002$ for Listing Day Performance) suggest non-randomness in both sets. This verifies strong patterns in the data, and the Null Hypothesis is rejected.
- A Gamma value of 0.716 shows there is a very strong positive and statistically significant relationship ($p = 0.000$) between GMP and listing day performance on IPO. This implies higher GMPs will lead to improved listing gains, and the Null Hypothesis is to be rejected.

10. SUGGESTIONS

- GMP trends can be used as a useful IPO performance measure by investors but also taking into account the fundamentals and market conditions.
- Regulators and companies such as SEBI can use GMP insights to maximize IPO timing, pricing, and provide more transparency.
- GMP-based research platforms and financial literacy programs should teach small investors and incorporate GMP-based analysis.
- Brokers and analysts are able to construct AI/ML models that include GMP in order to forecast IPO results and determine risk.

- Reliable GMP reporting, transparent disclaimers, and scholarly research on GMP behavior across industries can support market trustworthiness.

11. CONCLUSION

This study concludes that Grey Market Premium (GMP) is significantly positively related to IPO listing day performance in the Indian stock market and can be a helpful short-term indicator for retail investors. For 270 IPOs, it was observed that GMP is in line with investor sentiment and future demand and is 83.7% accurate for prediction. Although GMP is from an unofficial market, it tracks behavioral drivers on listing results. Nonetheless, because of the speculative or manipulation potential, GMP should be employed with caution and in conjunction with broader market analysis.

12. REFERENCES

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