

## **A STUDY ON PERFORMANCE MEASURE OF EQUITY STOCKS IN PRE AND POST FOLLOW ON PUBLIC OFFER.**

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**REBECCA SUSHMITHA RAO**

MBA II year  
Loyola Academy, PG and Degree College.  
Hyderabad.

**CHANDUPATLA RANJITH**

MBA II year  
Matrusri Institute of Post Graduate Studies.  
Hyderabad.

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### **ABSTRACT:**

Capital markets in India are in a nascent stage where companies and investors are having fear from primary market segment. In foreign countries Follow On Public Offers are successful then Initial Public Offerings but in India trend is reversal. Our study has been emphasized on the follow on public offer's segment where they opted to raise the capital in India and measure the performance of returns from investor's perspective. Eugene Fama performance measure has been applied on the companies which were selected based on high market capitalization and the result shows that Follow On Public Offer's market returns are stronger even after listing when they were compared with before listing period. Granger Causality test has been applied on Johansen cointegrated data and observed that secondary market benchmark in post listing period of Follow On Public Offers in India. T-test unveils that secondary market is influencing significantly of follow on public offer's return performance in spite of all difficulties of secondary market. Follow On Public Offer's performance is stable in India during the period 2005-2014. This analysis is useful to the listed companies who wanted to raise capital through Follow On Public Offer's and investors of primary market such as Retail, HNI, QIB and FII's.

**KEY WORDS: Follow On Public Offer, Initial Public Offer, Eugene Fama, Granger Causality Test, Johansen Co integrated Test.**

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### **INTRODUCTION:**

Seasoned Equity Offering (Follow on Public Offer) is an unsuccessful aspect in India compared to Initial Public Offerings. But where as Seasoned Equity offering is a successful scenario in the developed countries because of secondary market history. So our research is based on Seasoned Equity offering performance measure of over all 20 companies in India. Where as our research has chosen 10 highly capitalized market valued companies. Even though Initial Public offering has a deep impact on the economy through raising the capital but there are only very few companies who are interested in Seasoned Equity Offerings and Initial Public Offerings. Because of liquidity crunch in the market the corporate are facing problems of primary market. Because of investor's fraternity of this segment are thinking Seasoned Equity Offerings are more risk oriented offerings when compared with Initial Public Offerings.

In the past 15 yrs 2000-2014 were our research has analyzed that only 20 companies opted seasoned equity offerings to raise capital for supplementary issues. Primary market investors are having a misconception that seasoned equity offerings are a complicated market.

Our analysis has proven that Seasoned Equity Offering is a successful offering in India. This research is confined to 2years pre and 2years post based on BSE and IPO index calculation method. Based on the analysis we have taken for pre period 2years and used NSE as the bench mark in the primary market .And post period 2years Initial public offering index has been used as a bench mark so that stock will be influenced by secondary market security. So we adopted this analysis as well to see the performance measure of pricing of secondary market .So our analysis has measured the performance of seasoned equity offering in pre and post period listing and also the impact of secondary market on primary market. And also the impact of bench mark of primary & secondary market on seasoned equity offering companies performance. Most of the research has been done only on post period that is on post seasoned equity offering analysis. But were as our research has considered for pre and post period analysis to measure the performance.

So we have used many statistical tools in our research such as Eugene Fama , Granger Causality Test, Johansen Co Integrated Test and T-test. To measure the performance of seasoned equity Offerings for long term in pre and post period. To know the performance of secondary market on primary market listing and also the impact of bench mark of primary and secondary on seasoned equity offerings companies performance .So the performance measure selected companies is positive in pre and post listing period .The impact of secondary market on primary market were the result unveils that it has a negative impact on the primary market. To measure the cause and effect of nifty and ipo and it has proven that nifty is not impacting primary index in pre listing period Were as in post listing period the secondary market bench mark nifty is effecting primary market index. The test has been applied were it indicates that both primary and secondary bench mark are influencing the seasoned equity offerings return performance during the study.

So the analysis has proved that seasoned equity offerings are successful when compared to Initial Public Offerings in the primary market this analysis motivate corporate to rethink about their strategy by not considering investors sentiment but they should depend on the fundamentals of the company.

## **REVIEW OF LITERATURE:**

**Siew Hong Teoh , Ivo Welch , T.J.Wong (1997):** They have found that the offering have lower post-issue long-run abnormal stock returns and net income .They have also found the relation between discretionary current accruals and future returns is stronger and more persistent for seasoned equity issuers than for non-issuers. So it does not relate to my study as the pre and post of performance of seasoned equity offering varies with my study which has been focused on Indian FPOs.

**Don M. Autore and Tunde Kovacs (2011):** Their findings provide an insight as to why gross spreads vary widely across seasoned equity offers, as opposed to IPO. Their research also provided a new rationale as why seasoned equity issuers accept greater offer price discounting, especially to attract new investors. My analysis has gone beyond the impact that effect the seasoned equity offering ie. Shadow cost, investor's recognition with decrease in liquidity risk, gross spreads widely across seasoned equity offer and opposed to initial public offering and price discounting to investors. My analysis is based on only pre and post performance of seasoned equity offering beyond the impacts faced by the investors in seasoned equity offering.

**Vihang R Errunza and Darius P. Miller (2002):** According to their examination the foreign firms which gets listed in United States that there is a market reaction to local equity offerings which is mitigated as more capital is rose globally which is beneficial to United states only. According to my research topic where companies are only Indian listed seasoned equity offering so it does not impact the local market because all the companies are Indian based context. My research does not include foreign companies and their impact as well.

**Daniel A. Cohen, Paul Zarowin (2008):** According to their focus that real earnings management and accrual based activities is based on firms perspective. Their study is how to use real versus accrual based earning management and the tendency for the real and accrual activities around seasoned equity offering. And the comparison of economic costs in real and accrual based earnings only in firm's perspective. According to my examining my study is related to only investor's perspective on real and accrual earning on seasoned equity offering.

**Bernardo Bortolotti –William Megginson and Scott B. Scott (2008):** According to their significant result that their period is limited to a period of only 2004 and also to U.S and European countries and also only few under writers and only for larger and well known companies that tend to sell substantial amounts of secondary as well as primary secondary shares. According to my data my study relates to Investors return performance and only to India from a period of 2000 to 2014. Not focusing on under writers but to investors return performance.

**Murgulov Zoltan, Bornholt Graham (2009):** According to seasoned equity offering by new economy companies in Australia has limited to probability and timing only. And also the duration between an IPO and the first SEO is not explained by signaling or near term liquidity needs and is only partially explained by market feedback. According to my methodology the companies in India is only based on pre and post performance of the companies but not the probability and timing of seasoned equity offering.

**Jeffery Pontiff and Micheal J. Schil (2001):** This paper had found that mispricing of seasoned equity offering. And had found insider supports to the contribution found the evidence it is overpriced. This study explained on post offering period. My analysis is based on the return performance measurement. My study relates to pre and post performance period.

**Nanna Martine, Ingrid Johanne:** This study is a notion that it gives a low return due to two specific reasons

1. Over pricing valued
2. Misspecification of risk due decrease of leverage on their investments.

But my study is for pre and post performance and my study does not consider any of these factors above.

**A Shane Crowin (2003):** According to the above study it is limited to only under pricing of seasoned equity offer and even discount increasing substantially over a period of time , neither to price rounding and pricing relative to the bid quote. My study clearly is related to only performance of pre and post follow on public offer and it is only related to returns only from the period 2005 -2014. They paper presents about the stock return and the trade volume relationship. And a sample of 149 in Athens stock market. My paper is only related to only returns and only 10 samples and only in Indian stock exchange market.

**NEED:** Most of the research has been emphasized on post Follow On Public Offer impact that to no research took place in India on Follow On Public Offer's .Because number of companies opted Follow On Public Offer are very less when it is compared with Initial Public Offer's . Hence we observe a gap of research in this area and focused to measure the performance of Follow on Public Offer's in Pre and Post listing.

#### **OBJECTIVES:**

1. To measure the performance of Follow on Public Offer's for long term in pre and post period of listing.
2. To measure the impact of secondary market on primary market in pre and post of Follow on Public Offer listing.
3. To measure the impact of bench mark of primary and secondary on select Follow on Public Offer companies performance.

#### **HYPOTHESIS:**

- **Null hypothesis Ho:** secondary market bench mark does not affect primary market bench mark.
- **Null hypothesis Ho:** Secondary and primary market bench mark does not affect Follow on Public Offer's return performance.

**SCOPE:** Our analysis has been emphasized on Follow on Public Offer's which were raised from the period 2005-2014. Pre & Post performance has been measured of Follow On Public Offer's by considering 2 years from the listing date. Based on the market capitalization 10 companies were considered from the offering of Follow On Public Offer in the primary market .Nifty & Initial Public Offer data has been considered based on the stocks listing date 2 years pre & post period.

**EMPRICAL STUDY:** This study has been done based on secondary data by using descriptive statistic tool. The tools are as follows,

1. Engineers Ltd.
2. Power Grid,
3. Power Finance,
4. Shipping Corporation,
5. National Thermal Power Corporation Limited,
6. Tata Steel,
7. National Mineral Development Corporation,
8. Bharath Earth Movers Limited,
9. Rural Electrification Corporation Limited,
10. ICICI.

## RESEARCH METHODOLOGY:

**Eugene Fama Formula:** To know the performance returns of stock returns.

$R1 = \beta_p * (R_m - R_f)$ ,  $R2 = ((\sigma_p / \sigma_m) - \beta_p) * (R_m - R_f)$ ,  $R3 = R_p - (R_f + R1 + R2)$ , Risk Premium =  $R1 + R2$ , Excess Return = Risk premium +  $R3$ , Total Returns =  $R_f + \text{Excess Return}$ .

**T-test:** It compares the difference between two means in relation to the difference in the data .

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

**Granger Causality Test:** It analysis's the potential predictability of cause and effect of the assumptions

$$\mathbb{P}[Y(t+1) \in A | \mathcal{I}(t)] \neq \mathbb{P}[Y(t+1) \in A | \mathcal{I}_{-X}(t)]$$

Where A is an arbitrary non-empty set . The symbols  $\mathcal{I}(t)$  and  $\mathcal{I}_{-X}(t)$  denotes all the information until time t in which X is excluded. If the above assumption is accepted, we call X Granger causes Y.

**Johansen Co Integrated Test:** It is a phenomenon of components of co integrated time series process with certain linear combinations

$$\Delta X_t = \mu + \Phi D_t + \Pi X_{t-p} + \Gamma_{p-1} \Delta X_{t-p+1} + \dots + \Gamma_1 \Delta X_{t-1} + \varepsilon_t, \quad t = 1, \dots, T$$

Where  $\Gamma_i = \Pi_1 + \dots + \Pi_i - I, \quad i = 1, \dots, p-1$ .

## LIMITATIONS:

1. BSE IPO index has been considered as a primary market bench mark.
2. RBI Repo rate has been considered for risk free rate of return.

## DATA ANALYSIS:

1. To measure the performance of Follow On Public Offer's for long term in pre and post period of listing

## Pre table:

	EUGENE FAMA		
COMPANIES	Year	Nifty & Stock	Ipo & Stock
		PRE	PRE
ENGINEERS LTD	APR13-14	-0.442862685	-0.442862685
POWER GRID	DEC12-13	-1.335586236	-1.335586236
POWER FINANCE	MAY09-11	2.782141747	2.782141747
SHIPPING CORPORATION	DEC08-10	3.237957082	3.237957082
NTPC	FEB08-10	0.713519964	0.713519964
TATA STEEL	JAN09-11	6.799598751	6.799598751
NMDC	APR08-10	-9.249333338	-9.249333338
BEML	JUL05-07	4.016859842	4.016859842
RURAL ELECTRIFICATION	MAR08-10	5.416900367	3.463427161
ICICI	JUL05-07	4.62	4.619307645

**Interpretation:** The above table depicts the performance of companies which are going to raise the capital through Follow On Public Offer's. Eugene fama has been applied on the select companies which has raised capital through Follow On Public Offer .And observed that performance of companies which were measured with nifty as the bench mark superior than the companies which were measured with the primary market index .

#### Post table:

	EUGENE FAMA		
COMPANIES	Year	Nifty & Stock	Ipo & Stock
		POST	POST
ENGINEERS LTD	feb14-14	4.900149519	4.900149519
POWER GRID	DEC13-14	2.849110118	2.849110118
POWER FINANCE	MAY11-13	2.028667912	2.028667912
SHIPPING CORPORATION	DEC10-12	-2.596733427	-2.596733427
NTPC	FEB10-12	-0.32223411	-0.32223411
TATA STEEL	JAN11-13	-1.942947909	-1.942947909
NMDC	APR10-11	-2.112895095	-2.420499836
BEML	JUL07-09	1.095276029	1.095276029
RURAL ELECTRIFICATION	MAR08-10	-0.153084578	-0.153084578
ICICI	JUL07-09	0.903481395	0.903481395

**Interpretation:** This table of Eugene fama performance measure indicates that after listing both primary and secondary bench mark performance of Follow on Public Offer are slightly decreasing in the decreasing trend indicated overall. Performance measure of Eugene fama of select company's performance is positive in pre & post listing period.

2. To measure the impact of secondary market on primary market in pre and post of Follow On Public Offer listing

## PRE

### TABLE:

Data Trend:	None	None	Linear	Linear	Quadratic	AIC	SC
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept		
No. of CEs	No Trend	No Trend	No Trend	Trend	Trend		
Log Likelihood by Rank (rows) and Model (columns)							
0	-1166.153	-1166.153	-1166.138	-1166.138	-1166.004	29.72540	29.96535
1	-1147.691	-1147.639	-1147.632	-1147.621	-1147.491	29.35926	29.71917
2	-1147.548	-1142.955	-1142.955	-1142.887	-1142.887	29.45692	29.93681

## POST

### TABLE:

Data Trend:	None	None	Linear	Linear	Quadratic	AIC	SC
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept		
No. of CEs	No Trend	No Trend	No Trend	Trend	Trend		
Log Likelihood by Rank (rows) and Model (columns)							
0	-1048.706	-1048.706	-1048.697	-1048.697	-1046.952	27.80805	28.05339
1	-1027.355	-1027.185	-1027.177	-1026.98	-1025.361	27.35146	27.71947
2	-1027.139	-1024.658	-1024.658	-1023.773	-1023.773	27.45104	27.94172

**Interpretation:** Johansen co integration analysis has been applied between secondary and primary bench marks on Follow On Public Offer's pre & post listing data. The result unveils that log likely hood rank values were observed in decreasing trend in both linear & quadratic model along with the alpha level. Hence the data is stated to be co integrated between the select variables in pre & post period.

## Pre

Null Hypothesis:	Obs	F-Statistic	Prob.
NIFTY does not Granger Cause IPOINDEX	83	0.36109	0.6981

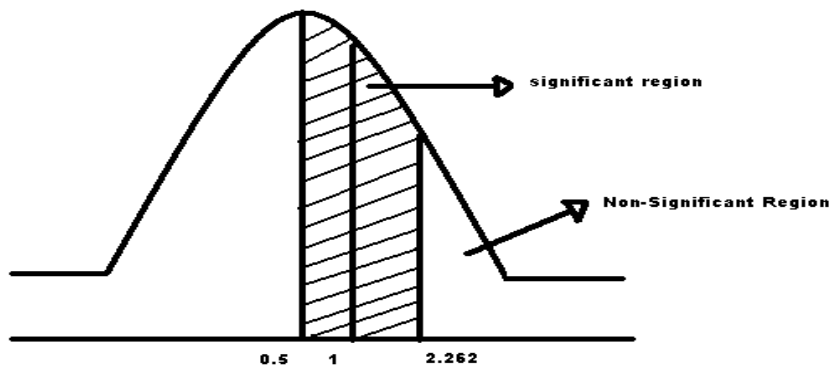
**Interpretation:** The Granger test has been applied to measure the cause & effect between nifty & Initial Public Offer index. In pre & post listing period of Follow Public Offer period. The null hypothesis is accepted in pre listing of Follow On Public Offer period and reject the alternative hypothesis as the probability value is  $0.69 > 0.5$  which indicates that nifty is impacting the primary market index during the pre listing period.

## Post

Null Hypothesis:	Obs	F-Statistic	Prob.
NIFTY does not Granger Cause IPOINDEX	80	0.88256	0.4181

**Interpretation:** In post listing period of Follow on Public Offer Granger Causality test null hypothesis is accepted and reject the alternative hypothesis as the probability value is  $0.41 < 0.5$  which indicates the secondary market bench mark nifty is not impacting the primary market index in post listing period of Follow on Public Offer.

3. To measure the impact of bench mark of primary and secondary on select Follow on Public Offer companies performance.



**Interpretation:** T test has been applied to measure the impact of bench marks of nifty & Initial Public Offer index on Follow On Public Offer's return's performance ranks .The table value of T test is greater than the calculated value which indicates that both the primary & secondary bench marks are influencing the Follow On Public Offer's return's performance during the study period.

#### **FINDINGS:**

1. Follow On Public Offer 's performance before and after listing period is in a positive mode which indicates that Follow On Public Offer's are successful in given returns even after secondary market impact is there on primary market.
2. Secondary market bench mark is causing the primary market bench mark during the analysis period i.e. pre and post Follow On Public Offer listing in secondary.
3. Secondary markets bench mark impact has been observed on Follow on Public Offer's returns performance during the analysis period.

#### **CONCLUSION:**

We consider the analysis on A Study of Follow On Public Offer's pre and post period from listing date .We had considered 10 companies from listing of Follow On Public Offer offering based on market capitalization .Bench mark were considered nifty for secondary, Initial Public Offer index for primary market segment .Eugene fama performance measure tool has been applied for 2 years in pre listing period and 2 years in post listing period based on the listing date of Follow On Public Offer offering.

This analysis had proven that Follow On Public offer's performance in the secondary market after listing is not deteriorating .Secondary market bench mark is having the



influence on primary market bench mark .Hence further study is recommended in this area by considering various economic factors which may influence the Follow On Public Offer's so that actual performance can be measured.

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