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Neglected Firm Effect and Stylized Equity Returns: Evidence from Pakistan

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ABSTRACT

The neglected stock effect is the phenomenon where less researched stock earns more return than that predicted by the traditional CAPM. The aim of this study is to reveal the bonding between neglected stock premium and equity returns in the stock market of Pakistan by using Fama and French (1992 & 1993) methodology. This study is unique with respect to Pakistan that checks the relationship among neglected stock premium and equity returns on a sample of 200 stocks listed the largest stock market of Pakistan KSE. It is corroborated that neglected firm effect is present in market and priced by the market. This manifests that those stocks which are neglected, less researched and got less analyst coverage earn higher return in comparison to popular stocks that got more analyst coverage. The results also revealed that two factor model has greater explanatory power in comparison to Traditional CAPM. The results of this study are in line with the findings of Arbel and Strebel (1980) and Bertin, Michayluk and Prather (2008) for the USA equity market. Lower research analyst coverage increases the uncertainty for investor that how the company will perform in the future, which ultimately increase the risk factor and so the demand of return from the investors. The decision makers must consider this anomaly while making decisions regarding financing, investing etc. This study will facilitate the investors in taking effective investment decision and for efficient resource allocation.

1. INTRODUCTION

EMH is the most appealing theory in conventional finance and was largely accepted to hold by the early 1970s. Michael Jensen reported his views about EMH as "*there is no other proposition in economics which has more solid empirical evidence supporting it*."

EM Hypothesis states that every information/news is priced in the market and there is no room for investors to earn abnormal return. EMH explains the phenomenon that future stock price is not predictable because these stock prices follow random walk pattern. The history of anomalies starts from 1970 with the inception of EMH by Fama (1970). The findings of different researchers after incorporating different factors which are priced by the market to earn abnormal profit are named as anomalies in 1978. It opened new doors for researchers and in the beginning, the anomalies were not widely accepted and were supposed as an unexpected occurrence. Anomaly literarily means an unusual or strange occurrence. Such Events that cannot be explained by EMH are called as market anomalies.

This paper usually depicts the effect of an anomaly in context of Pakistan that is neglected firm effect. Smaller firms do not get the same coverage by the analysts as the larger firms do i.e. smaller firms are of less interest for analysts as compared to those firms that are larger like blue-chip firms. Analysts have a large amount of information on which they recommend the investment

portfolio but In the case of smaller firms, sometimes there is limited information available for analysts. Thus, analysts neglect these firms simply because there is not much information for analysis. The neglected firm effect suggests that small firms that are not mostly covered by the financial analysts have a propensity to outperform the market. It is observed in different markets that most of the times smaller firms are neglected by the brokers, this may be a sign that small firms have a potential for growth, so the neglected firm effect may not correspond to an independent effect. Pakistan has been classified as an emerging market, according to IFC, world bank, emerging market economy is the economy with low to middle per capita income, in the stage of development and reform programs, their markets are in transition and not stable. Main objective of the study is to check either neglected firm, can earn higher returns than the popular firms. With context to Pakistan (Emerging market), there is no such study which explode the market anomaly of Neglected firm effect. This study will help the analysts to consider the emerging behavioral issues in asset pricing consideration. This study will help the analysts and the information users to consider these behavioral indicators while pricing any asset or to decide or recommend the investment.

2. LITERATURE REVIEW

The world of finance holds a fundamental question that how the risk of an asset should affect its projected return. This basic matter is explicated well by CAPM. Treynor (1962), Sharpe (1964), Lintner (1965a & b), and Mossin (1966) introduced the CAPM. CAPM is based on the concept that not all risks should affect the price of asset. Particularly, diversifiable risks are not risks in a real way. CAPM provides us a clear way about return affected risks. The CAPM is a primary input to our understanding of the determinants of asset prices. The Capital Asset Pricing Model says that a security or a portfolio return equals risk free rate plus risk premium. If this expected return does not beat the required return, the investment should not be considered. Conversely, in 1970s, CAPM faced criticism by different researches. Fama and MacBeth (1973) and Black, Jensen and Scholes (1972) tested the model but their results violated the CAPM theory and it was further supported by Stambaugh (1982).

After these researches, a new time of criticism over CAPM started in which it was highlighted that the market premium is not only priced by market but there are many macroeconomic, Behavioral and internal factors that are priced by the market. Ross (1976) emerged with new concept Arbitrage pricing theory that challenge the CAPM and states that the expected return of a financial asset can be modeled as a linear function of various macro-economic factors or theoretical market indices. Chen, Roll, and Ross (1986) came with a list of macroeconomic factors that are priced in equity market. Then after the emergence of APT, the discussion started that there are different factors that are priced in market. Efficient market hypothesis was a remarkable discovery by the critics, which negates CAPM's findings of only one factor that is priced by the market. Efficient market Hypothesis suggests that there is no chance for investors to earn abnormal return as all the factors are priced by the efficient market. Where, efficient markets are those in which security prices reflect all available information. Another important factor was observed in this era, which was named as Anomalies. These anomalies are the main factors analyzed in this research.

Neglected firm effect was measured in different countries and researchers found a strong effect in different stock markets. Different researches also explained the relation of size effect and neglected firm effect. Following review was made regarding this anomaly. As market anomalies contradict with efficient market hypothesis. To check either there is neglected firm effect in Istanbul stock exchange, Akkoc , Kayali and Ulukoy (2009) used monthly return data covering ten years between January 1st, 1999 and December 31st, 2008 , 10% of the total traded stocks in each year are taken for the data. The data set is divided into three categories namely neglected, normal and popular. But contradicting to theory neglected firm monthly abnormal return was found to be -1% which clearly states that there is no neglected firm effect in Istanbul stock exchange. Lee, Sharma and Cai (2010) suggests that the stocks that are not recommended by analysts tend to outperform the stocks that the analysts recommend. The higher returns earned by investors of dumped stocks is recompense for greater search cost and the higher risk linked with these stocks. Analysts chase the

firms with favorable operating performance. If the non-recommended stocks are divided into dumped and neglected stocks, the higher returns associated with neglected stocks disappears after adjusting for the effect of liquidity but dumped stocks repeatedly outperform recommended stocks and it cannot be attributed to liquidity. The higher return can be due to search cost associated or it can also be because analysts overweight the recent unfavorable performance of these stocks. In addition, an interesting fact is that analysts do not recommend selling these stocks rather drop these from their coverage. Most of researchers agree that higher returns are the compensation of bankruptcy risk and information risk associated with uncovered stocks.

Bjerring, Lakonishok, and Vermaelen (1983) states that investors who follow the recommended stocks earn higher returns even after allowing for transaction cost. They divided data set into "recommended", "speculative "and "representative" list. Recommended stocks being those suggested by the analyst while speculative stocks are riskier stocks and are only included to complete data set. Representative stocks are those for those analysts recommend that investors who have these should hold them and not sell and others should not buy them.

The logic for the fact that recommended stocks outperform the others may be because brokerage firms specialize in certain segments of market over the passage of time. These results support the assumption that some analysts because of information passing to their customers make market efficient. But the fact must be given due attention that market prices adjust to new information only if the investor have enough influence to adjust them accordingly otherwise in case of individual investor who is risk averse the time is not mature to trade until all arbitrage profits are vanished out. Efficient market does not mean the availability of data because even if the data is available publically but the investor lack the skills to analyze and interpret it the information content would not be clear, so for information access, investors need a large history.

Womack (1996) argued that analyst tend to possess the abilities like market timings and stock picking. Large brokerage firms tend to follow popular and large capitalization stocks for their recommendations. Analysts are well aware of the fact there can be substantial cost and risk associated with circulating sell recommendation to investment community. For example, sell recommendation can harm the present and potential relation with the investment bankers. Also top management of the firms may be reluctant to issue information if given unfavorable coverage. Another risk associated is that sell recommendations are less frequent that's why more visible, so incorrect sell recommendations can be more costly than incorrect buy recommendation even both made concurrently. Both buy and sell recommendations have substantial impact on stock prices even till months. There must be a return to compensate the

Another study revealed that Analyst initiation is an important information event.(Demiroglu and Ryngaert 2010) examined the stock price impact of 549 analyst coverage initiations during 1997-2005 for firms that had been ignored by the analysts for at least one year and found an increase of 4.86% in stock prices of neglected stocks at the initiation announcement. The announcement returns have a positive correlation with the analyst's decision of investment or their strength of recommendation. The observed returns were higher than the expected or normal returns. Another research explained the factor of information in neglected firm effect. Under this study, uncovered or neglected firms that are not suggested by financial analysts, individual investors and investment agencies experience lack of information, which shows the violation of Efficient, market Hypothesis (Arbel & Strebel, 1983).

H1: Neglected premium is significantly priced in market.

H2: Neglected stocks earn significantly more return than popular stocks.

3. METHODOLOGY

In this study we have used monthly closing prices of all stocks listed at KSE beside with other stocks, for the period June 2006 to July 2012, these satisfies the following criteria;

- This sample consist of data from non-financial sector because financial sector includes mutual funds etc. and they invest in some other companies to earn returns

- For the purpose of popular stock, those companies are selected in which trading was consistent throughout the year i.e. trading took place in them almost every day of the year.
- Those companies are termed as neglected stocks, in which trading was not frequent and their volume varies between 500 & 4000.
- The data of daily prices and turnover is obtained from business recorder and Karachi stock exchange, as both are considered reliable source of information.
- Those companies were excluded of which trading data was missing for the whole period i.e. data was not available for one year etc.

3.1. Portfolio Formation

Two hundred companies are selected every year on the basis of analyst recommendation and monthly turnover. All stocks are sorted in ascending order from popular to neglected. Median is found for every year to divide the data in most popular and most neglected stocks.

Following is the model of our study;

$R_i - R_f = \beta_1 MKT_t + \beta_2 NMP_t + \varepsilon_{it}$

Where,

R_i = Return of portfolio 'i'

MKT= market premium ($R_{mt} - R_{ft}$)

NMP= neglected stock premium

ε_{it} = error term

$Rm = \ln (I_t / I_{t-1})$

Rm= market return for month 't'.

It =closing value for month 't' of KSE- 100 Index

It-1= closing value for month't-1'of KSE- 100 Index

Rft = risk free rate

Monthly data from July 2006 to June 2012 is used for portfolio formations. All data have been captured from KSE website, B. Recorder and balance sheets analysis report published by SBP. Monthly T-bill Rate is used as a proxy for risk free rate.

4. RESULTS

Table 1 shows the descriptive stats of the variables. The data depicts that during the research period neglected stocks outperform than popular stocks as the mean of NMP is more than that of market. The standard deviation shows the risk factor, stats depict that NMP is more volatile than market for the said period and is negatively skewed.

Table 1. Descriptive Statistics:

	NMP	MKT
Mean	0.013	0.004
Median	0.005	0.001
Maximum	0.040	0.171
Minimum	-0.05	-0.46
Std. Dev.	0.018	0.09
Skewness	-0.287	-2.36
Kurtosis	3.175	12.22

Table 2. Regression analysis of two factor model

dependent variable	Intercept	MKT	NMP	Adj. R^2	F-Stat	F-sig	VIF
All	-0.002	0.425		0.59	118.25	0	
t-stat	-1.31	10.416					
p-value	0.195	0					
All	-0.005	0.492	0.408	0.7	64.56	0	3.33
t-stat	-1.238	8.962	2.993				
p-value	0.22	0	0.004				
Neg	-0.005	0.464		0.63	68.96	0	
t-stat	-1.149	8.304					
p-value	0.255	0					
Neg	-0.004	0.5	0.014	0.77	72.5	0	4.35
t-stat	-1.128	11.02	6.231				
p-value	0.263	0	0				
Pop	-0.004	0.503		0.5	126.33	0	
t-stat	-1.107	11.239					
p-value	0.272	0					
Pop	-0.003	0.408	-0.087	0.71	62.71	0	3.45
t-stat	-1.108	11.02	-0.565				
p-value	0.263	0	0.574				

Table 2 reports the detail analysis, the probability of Neglected minus Popular (NMP) is significantly positive for all stock portfolios which corroborates that neglected stock premium is priced in equity markets. Results further reveals that neglected firms, which means that the those firms who failed to gauge the coverage from brokers earn 1.04% more than those which are actively covered by brokers and institutional investors.. The reason is that, in Pakistan market, the risk factor is high. Those firms that are neglected means that do not get analysts' coverage due to shortage of information. So, the return must be greater than those firms that are popular among analysts.

Table 3. Explanatory power (Adj R^2)

	2006 - 2012	
Dependent Variable	CAPM	Two factor Model
A	0.59	0.7
N	0.63	0.77
P	0.5	0.71

Where A= All stock portfolio(All)
N= Neglected stocks portfolio(Neg)
P = Popular stocks portfolio(Pop)

Table 3 depicts that the traditional asset pricing model CAPM has low explanatory power than the 2-factor model. As table shows the results, for the overall stocks sample the explanatory power of 2-Factor model is almost 10% more than that of traditional asset pricing model (CAPM). CAPM is valid in Pakistani equity markets for all periods but its explanatory power is less than two factor model at 5% significance level as it is evident that explanatory power of 2-F ranges from 70%-77% as compared with CAMP which ranges 50%-63% . It is obvious that adding neglected firm effect do increase the explanatory power of the model. Vector inflationary factor shows that there is no problem of multicollinearity between the said independent variables as the value of VIF is under tolerable limit.

5. CONCLUSION

CAMP is the only asset pricing model which got much importance in the pricing of stocks but soon it was criticized and arbitrage pricing theory was presented in 1976 followed by Anomalies in 1978. Main emphasis of our study is to check the effect of neglected stocks in Pakistani equity market. As traditional asset pricing model (CAPM) priced the risk premium only, results reveal that CAPM is significant for Pakistan equity market but as we added one more factor in traditional pricing model, we get more robust results. We concluded that neglected premium is significantly priced in market. It is not only market risk premium on the basis of which one can get abnormal return but also there is a firm effect present in Pakistan stock market. This study will help the investors for efficient resource allocation and to get abnormal gains.

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