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Long Run Performance of Initial Public Offerings (IPOs) in Pakistan

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Abstract

This study is aimed to analyze long run performance of initial public offerings (IPOs) in Pakistan by taking the sample of 15 firms for the period of 2006 to 2011. We took secondary data for our research from KSE, SBP, and Brecorder. Stock returns of IPO firms are considered as dependent variables and firm size, firm age, profitability and leverage ratios are considered as explanatory variables for the long run performance of IPOs. Previous literature on IPOs indicates that IPOs underperform in the long run. Firm's size and profitability have some significant positive correlation with the IPOs long run performance. All the findings of this research paper depend upon the background of the different industry sectors, the perspective of the study and sample distribution. And the Leverage ratio and Age of the firms are negatively correlated with the long run performance of the IPOs.

Keywords: Initial Public Offering, long run performance, underpricing, profitability

1. Introduction

Decision of going public is an important event in firms life it creates various future opportunity and profound changes. The ability of raising capital in the equity market will provide the company with some financial advantages, giving access to new investments and growth opportunities. The firms will no longer be depending on a few funding resources, creating higher negotiating power and perhaps better lending terms. Overall, the liquidity of a firm becomes better after going public due to fewer financial constraints. However, the financial advantages of going public also come with some drawbacks. The new equity holders are sharing the ownership of the company with the original owners. This can lead to some principal-agent problems (Hansen, Bartholdy, & Jorgensen, 2010).

IPOs initial high returns and underpricing are common phenomena for most stock markets whether they are in developed and under developed countries. This paper is aimed to investigate the long run performance of initial public offerings in Pakistan. By taking the sample of 20 IPOs firms listing in KSE stock exchange. We took secondary data for our research from KSE, SBP, and Brecorder sites. Stock returns are taken as dependent variable and independent variables are firm age, firm size, offer size, leverage ratio and profitability ratios of IPO firms. To see the effect of these variables on IPO firm's returns we applied regression model for analysis

To explore the relationship between pre IPO factors such as offer size, firm age, offer size, leverage ratios, and profitability ratios. Firm's size and profitability have some significant positive correlation with the IPOs long run performance. All the findings of this research paper depend upon the background of the different industry sectors, the perspective of the study and sample distribution. And the Leverage ratio and Age of the firms are negatively correlated with the long run performance of the IPOs.

2. Literature Review

Various researches have been conducted on IPOs performance so far. In developed countries like USA, UK and EU countries so many researches are conducted by number of researchers. In the context of emerging economies like Pakistan, very few research works has been conducted. The aim of this paper is to cover the impact of initial public offerings in Pakistani firms' performance.

Islam et al. (2010) aimed to analyze the levels of underpricing in IPOs and its determinants in Bangladesh. For this purpose they took a sample of 191 companies listed at Chittagong Stock Exchange during 1995-2005. They found that out of 191 companies 173 were underpriced, 16 were overpriced and only 2 were fair priced. Multiple regression models were used in that study. They used underpricing as independent variable and age of the firm, size of the firm, size of the offer, timing of the offer and type of industry as independent variables. They find that the degree of underpricing in Bangladesh capital market is high as compared to the other Asian and advanced stock markets. Size of the company has positive effect on the degree of underpricing while the offer size has significant negative effect on the degree of underpricing. The type of industry significantly effects underpricing.

Zaluki et al. (2007) investigated the long run share price performance of companies in Malaysia. They used a sample of 454 Malaysian Initial Public Offerings of companies listed in Kuala Lumpur Stock Exchange during 1990-2000. The dependent variable used in that study is abnormal return that includes cumulative abnormal returns, buy-and-hold returns and wealth relatives. Two approaches were used to calculate returns Event time analysis approach and Calendar time approach including Fama French three factor model and t- test. They find that the returns depend upon the method used. They find significant over-performance when

they applied event time CARs (Cumulative Average Return) and buy-and-hold return but it was disappeared when Fama three factor models was used.

Cervellati and Della Bina (2005), aimed to verify the degree of reliability of recommendations of financial analysts on IPOs and their long run performance in the Italian stock market. They had two main objectives: the first was to verify if the underwriters has some incentives to issue recommendations as compared to non-underwriter. The second purpose was to verify the long run performance of IPOs to check the degree of accuracy of recommendations. For these purposes they used a sample of 63 IPOs during 2000 and 2001. They used returns as independent variable and independent variable is the category of analyst. Event study methodology was used. Results suggest that underwriter analysts have superior information about the firms that had gone public through a due diligence process that is why their recommendations are accurate. Further the IPOs long run performance of the companies for the firms is good that is recommended by independent analysts as compared to underwriters.

Miller (2000), In New Orleans, tried to find out that why the firms with short operating history, low sales, low prestige underwriter, low institutional ownership, high volatility, high underpricing at the time of issuance and specific industry underperform. To explain this, he used Divergence of opinion theory in which he used returns as dependent variable and size of the firm, initial return, uncertainty, volatility, firm age and industry and underwriter reputation as independent variables. He finds that the greater divergence of opinion causes the higher stock prices resulting lower rate of return. That is why the IPOs give lower returns.

Hansen et al. (2010) investigated initial underpricing and long run performance of IPOs in Scandinavia by taking 704 firms as sample for the period of 1997-2006 by using the returns on asset as dependent variables and independent variables are profitability, solvency and efficiency. Methodologies used are regression analysis, ordinary least square model and binary models. Results shows weak positive initial return of 3.7 percent it concludes that Scandinavian firms are not underpriced up to the extend as compared to the previous researches.

Ritter (1991) many studies have discussed about the two problems in the pricing of IPOs of common stock (1) The short run underpricing phenomena, and (2) the “hot issue” market phenomena. This research study is aimed to document a new phenomenon: in the long run IPOs are appear to be overpriced. By taking the sample of 1,526 U.S firms during the period of 1975-84. Dependent variable is long run performance of IPOs and independent variables are time and industry dependence. Methodology used is (1) cumulative adjusted returns (CAR), and (2) three year buy and hold returns for both the IPOs and a set of matching firms. A policy to invest in IPOs at the end of first day of trading and holding for 3 years would have left the investor with 83 cent relative to each dollar from investing in the American and New York stock exchanges.

Khurshed et al. (1999) aimed to investigate the long run performance of IPOs is the function of pre IPOs factors such as managerial decision and firm's performance before going public. Using the sample of 240 IPOs of UK firms during the period of 1991 to 1995, share price of the firm as dependent variable and independent variables are duration, profloat and age of the firm. According to expectation this study found positive relationship between the size of the firm and its performance. The better long run performance related to the large size of the firm this result is stronger for small firms as compared to larger firms.

Komenkul et al. (2012) carried out an analysis of long run performance of 227 IPOs of Thai stock exchange for the period of 2001 to 2012. They used three measures cumulative abnormal returns (CAR), buy-and-hold abnormal returns (BHAR) and wealth relative (WR)

for identifying IPOs long run performance. Results obtained from equally-weighted event time CARs and BHARs found that IPOs in Thailand underperform in the long run after listing. Also found that larger firms perform worse in long run as compared to medium and small sized firms.

Drobetz et al. (2005) their purpose of study is to investigate underpricing and long run performance of Swiss initial public offerings for the period of 1983 to 2000 using the sample of 120 new issues for short run analysis and they exclude 11 firms in long run analysis due to lack of reliable secondary market data reducing sample up to 109. They took returns as dependent variable and computed buy-and-hold abnormal returns, skewness-adjusted wealth ratios, and cumulative abnormal returns as independent. They used different distinct economic implications and statistical properties basic results remained same for all different performance measured applied. They indicated significant long run underperformance for Swiss IPOs after four years of secondary market trading.

Boissin and Sentis (2010) this research paper is tend to examine long run performance of French IPOs during the period of 1991 to 2005 by taking 270 IPOs as sample by taking long run performance or returns as dependent variable and Ex-ante IPO-specific variables (venture capital, shares offered and underwriters) as independent variables. They used two methodologies calendar-time approach and event-time approach. Results they found shows that orphan IPOs abnormal long run performance is much severe as compared to non-orphan IPOs for one to three years. Results indicated that financial recommendations are important to issuing firm but market does not incorporate the value of this coverage. Further results showed that non orphan firms outperform from high coverage. Investors give more attention to non-orphan IPOs this shows that analyst recommendations are significantly related to IPOs long run performance of IPOs.

Frederkslust and Geest in Amsterdam try to find out the initial returns and long run performance of initial public offerings. They took 106 firms in which 38 private equity-backed IPOs and 68 non-private equity backed IPOs in the period 1985-1996. The dependent variable is either short term or long term return. The independent variables are Age, leadmanger, PEO and sales growth. The methodology used in this paper is CAR (cumulative abnormal return). Non private equity backed firms are highly underpricing as compared to private equity backed firms. Initial public offerings through fired offering price indicated more underpricing as compared to flexible methods of offerings. And if we talk about older initial public offerings they indicated low underpricing.

Espenlaub et al. (2000) investigates the long run returns of IPOs using the sample of 588 UK firms for the period of 1985 to 92 previous study has indicated long run underperformance of IPOs in market index this research paper is aimed to recheck these findings by using different alternative methods including calendar time approach. I used long run performance as dependent variable and benchmarks (different alternative methods) as independent variables. This research study shows significant statistical and economical long run underperformance of IPOs in this sample regardless of the benchmark applied. While the level of underperformance is lied on the benchmark applied. As CAAR estimations consist of CAPM and SD model results are close to each other approximately, HG showed lowest and FF model showed highest results of underperformance. Sample of this research paper shows underperformance for the first 36 months which is significantly worse than the previous researches. Therefore the underperformance for next 2 years becomes slow for all benchmarks. They find the consistent results with the finding of previous researches as previous studies have showed long run underperformance of IPOs.

Jaskiewicz et al. (2005) determined the long run performance of German and Spanish initial public offerings. The number of sample firms is 554 for the period of 1990-2000. The

dependent variable is long run return and its independent variables are Business age, Black holder control, Small firm effect. The methodology used by them is regression line and F-PEC. They find that IPO's significantly underperform different market benchmarks and family business IPO's underperform as compared to non-family business but not significantly. The family influence has a positive impact on the long run performance of IPO's.

Sahoo and Rajib (2010) aimed to evaluate the price performance of IPOs for 36 months including the listing day, in India by taking the 92 firms as sample during the period of 2002 to 2006. Methodology used is benchmark-adjusted buy and hold returns (BHAR) and wealth relative (WR). Dependent variable is benchmark-adjusted and buy-and-hold (BHAR) and independent variables are under price (UP) under price is initial day return which are calculated by using market-adjusted abnormal return (MAAR), offer size (OS), post-issue promoter holdings (PIPH), Leverage ratio (LEV), Ex-ante uncertainty (Ex-ante), Times subscribed (SUB), Age of IPO firm (AGE), Price-to-book (P/BV), IPO activity. This research study concludes that IPOs are underpriced at the initial and the initial high returns are because of high expectations of investors. Results of both methods (WRs) and (BHARs) indicates significant underperformance to the market benchmark up to 12 months from the date of issuance and then after that over perform from 24 to 36 months to the market benchmark.

Dr. Halil Kyamaz was to determine the international evidence of IPOs in Turkey. They try to find out the short and long run performance of IPOs. They took 138 firms as sample for the period 1995-1998.The dependent variable is Returns and the independent variables are Size, Age, Market, Rate, Standard deviation. The dummy variables are privatization, Method, Self-IPO. To judge the long run performance of IPOs they use regression line and t-test. They find that the initial underpricing continuously remain in the long run. Returns are influence by size of issuer and self-issuance. Standard deviation, privatization, Self-IPO has positive impact on the long run performance and they are highly significant. Size variable is weakly significant and it has a negative relationship with firm size and firm performance. It is also concluded that smaller firm's performance is good as compared to large firms.

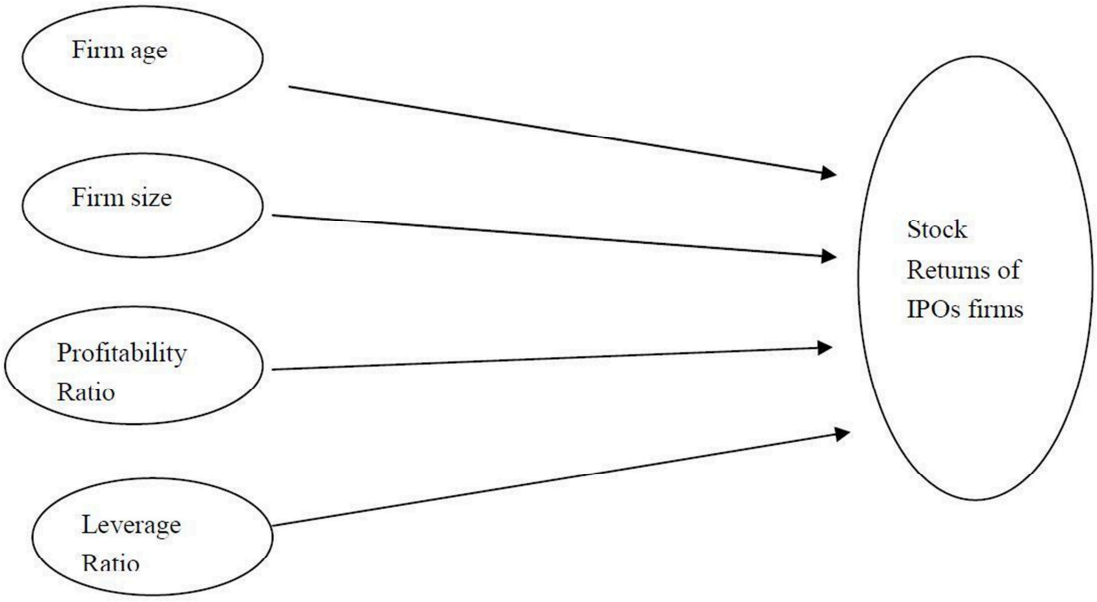

Figure 1. Research model

3. Methodology

3.1 Variables Determining

This study established the returns of the firms as dependent variables, selected size of the firms and several control variables as explanatory variables, and established the model of multiple linear regressions.

3.1.1 Firm Size (SIZE)

Firm size variables used are commonly in IPOs studies. One is the total assets of the firm prior to going public added to check the effect of firm size on IPOs long run performance.

3.1.2 The level of debt (Leverage Ratio)

The level of debt, also called leverage ratio, which equals to total liabilities divided by total assets to measure. Most of the previous studies show that: lower the leverage ratio indicates the enterprise's better performance.

3.1.3 Operating History (AGE)

The operating history of firm prior to going public is also used as indicator of IPOs performance. Since older firms have more public information available than younger firms, the older firms IPOs are expected to perform better compared to younger firms.

3.1.4 Profitability (Ratio)

In this study profitability of the firms is also considered as an explanatory variable for IPOs performance. Profitability is been calculated as firm net profit divided by total assets.

Table 1. Variables entered/removed

Model	Variables Entered	Variables Removed	Method
1	age, Lev, Size, Profitability	Offer size	Enter

a. All requested variables entered.

b. Dependent Variable: Returns

3.2 Model Construction

In this study paper the asset scale (Size), the debt level (Lev), profitability and age has been introduced in order to avoid further disadvantage to evaluate the long-run performance of IPOs.

The model can be constructed as:

$$R = \alpha + \beta_1 PRO + \beta_2 SIZE + \beta_3 LEV + \beta 4AGE + €$$

3.3 Sample Selection and Data Sources

We investigate the performance of initial public offerings on the Karachi Stock Exchange using a sample of 15 private equity-backed and non-private equity-backed IPOs during the period 2006-2011. Several criteria are used to select our sample firms. IPOs of investment funds are excluded from the sample because their unique characteristics make them incomparable with other IPOs. A sample of 64 market introductions remained used to calculate the long-run return.

In this paper, the related financial data is derived from KSE, SBP and Recorder sites and the

database of EVIEWS, and SPSS 18.0 software was used to analysis and test for the model.

3.4 Research Hypothesis

H_0: There is no significant long run performance of IPOs in Pakistan

H_1: There is significant long run performance of IPOs in Pakistan

3.5 Empirical Results

The influence of different variables on the level of the initial return is investigated by means of linear regression. The following explanatory variables are included in the regression models. It is presumed that initial public offerings with a high average initial return are very much wanted by investors and will show a better aftermarket performance. The initial return is therefore expected to have a positive effect on the aftermarket performance of IPOs.

3.6 Regression Analysis

With index return as the dependent variable, size as an independent variable, and the scale of assets and liabilities level as control variables, the multiple regression equation is established. The results of the analysis are given in table.

Table 2. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	542.488	1323.483		.410	.691
	Size	2.766E-6	.000	.026	.041	.968
	Profitability	46683.447	33892.349	.890	1.377	.198
	Lev	-655.588	503.416	-.216	-1.302	.222
	Age	-3.359	44.517	-.010	-.075	.941

a. Dependent Variable: Returns

According to the above regression data and statistical test data, it can get the relationship between enterprise's free cash flow and financial performance as follow regression equation:

$$R= 542.488 + 2.766E\text{-}SIZE +46683.447 \text{ Profitability} – 655.588 \text{ LEV} – 3.359AGE + €$$

Table 3. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.904[a]	.817	.743	2601.473	.817	11.128	4	10	.001	0.965

a. Predictors: (Constant), age, Lev, Size, Profitability

b. Dependent Variable: Returns

As the Durbin-Watson for such model is very poor so this model is considered to be not so good although the R Square for this is quite impressive (0.817).

4. Discussion

Empirical results show that the firm's size and profitability have some significant positive correlation with the IPOs long run performance. All the findings of this research paper depend upon the background of the different industry sectors, the perspective of the study and sample distribution.

5. Conclusion

By employing the previously used explanatory variables, cross-sectional variations in long-run returns are reported in Table. Cumulative market adjusted returns are used as dependent variable. The Adjusted R square s for this regression is 0.817 which is very good and all F-values are not statistically significant at 5%. The results of first regression indicate that only Size and Profitability variables has positive and significant correlation with the long run performance of the IPOs in Pakistan, showing that Leverage ratio and Age of the firms are negatively correlated with the long run performance of the IPOs

The different research papers have shown different findings about the long run performance of IPOs in other countries. Majority of them have shown negative correlation of IPOs in the long run but on the other hand it has comparatively positive long run performance.

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