Economic Analysis of IPO Underpricing in Stock Market of Pakistan

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ABSTRACT

In the earlier studies on IPOs underpricing, preponderance researchers explores that underpricing is an offering factor in attracting the new investor into the market. This study empirically attempts to investigate the economic effects of influencing factor of IPO underpricing in stock market of Pakistan selecting 103 listed companies taking data for the period of 2013-2017. In the methodology of the study the multiple regression techniques are applied consists of descriptive statistics analysis, variance inflation factor test and NLS and ARMA (OLS) regression technique. The results of the study shows that the selected variables (Return on Assets [ROA], Return on Equity [ROE], Earning per Share [EPS], Net Profit Margin [NPM], SetP1 and Offer Size) are statistically significant at 1% and 5% revealing that these are the influencing factor of IPO underpricing in stock exchange of Pakistan. However, on the basis of empirical results of this study the Price-Earnings Ratio (P/E) and Price-book value (P/BV) remains insignificant and didnt consider an influencing factor of IPO underpricing in Pakistan stock market. The descriptive analysis of the study shows maturity of the selected variable and variance influencing factor indicates that the variables isn’t multi-collinear. The study concludes that impact the liquidity level of IPO underpricing in the optional market would help the financial investors in strategizing their speculation exchanging component.

Keywords: Economic Analysis, Initial Public Offering Underpricing, Pakistan Stock Market

JEL Classifications: G12, G23, G32

1. INTRODUCTION

Initial Public Offering (IPO) is characterized as the first or primary shares offers to the overall public through a stock exchange. Commonly, new established firms and companies issue and offer IPOs to general public aims rapid expansion of their capital while facing deficient in financing. The sole reason of issuing an IPO's to general public is generating of money. The generated money helps in financing to hire young and skilled labor, in progression of capital and technology, increment inventories, and assemble of basic offices. IPOs underpricing are additionally valuable for vast estimated privately owned businesses for investment on an open market organization (Alok et al., 2016). The IPO underpricing can improve the validity of a traded on an open market organization and particularly essential for them to pull in more customers. IPO underpricing yield problem has always been a hot topic of research. most of the researchers had noticed the IPO underpricing phenomenon exist. The underpricing refers to the issuance of the primary market price is less than the secondary market price, especially the first-day trading price large rise, also known as the IPO underpricing (Booth and Chua, 2015). Referring to the efficient market theory, in a perfectly efficient market, information is completely open. The stock price reflects its intrinsic value, and the price reflects the demand of the market to determine. Thus, issued new shares listed on the first day of the price should not be significantly higher than the price (Boudriga et al., 2009). However, many empirical studies at home and abroad shows that IPO underpricing is widespread in many countries is a ubiquitous phenomenon on global capital markets. This phenomenon is widespread in many countries around the world stock markets.
IPO underpricing means that the closing price if first day 1 is higher than market offer stock price. The from a financing point of view, offering the IPO’s will bring down the organization’s cost of capital. Philippe (2011) pointed that IPOs underpricing give a chance to investor to make a noteworthy position in a stock, something that would be as a rule more costly and set aside a long opportunity to perform in the secondary market. Moreover, for the individuals who are intrigued obtaining underpricing IPOs, could be an unsafe and misfortune because of the eccentric character. That clarifies why most firms demonstrate a few types of IPO underpricing markdown out of the blue they go to the market, which gives them claim to other associate contenders and investors. A few experimental studies demonstrate that speculators commonly accomplish a generally vast anomalous of IPO underpricing in short-term while they investing as IPO’s shares offers.

IPO underpricing refers to the listed company to raise funds for the first time to specific public investors by a public stock offering. After the completion of the IPO underpricing the company can apply for to the stock exchange or traded quotation system, to become a listed company. In the 1980s, the normal first-day return recorded from IPOs underpricing was 7%. The return on average of the first-day nearly 15% during 1990-1998, rapidly jumps to 65% as a result of internet and web bubble in a year of 1999-2000. After that it again decreases and returns to an average 12% during 2001-2003 (Loughran and Ritter, 2004). Markus and Thomas (2016) ascribes this wonder to either the powerlessness or the hesitance of venture brokers to reoffer the offers in which they bargain at market clearing costs. All things considered, the risk balanced rates of profit for new issues speculators purchased at the contributions were altogether more prominent than they would be in an effective market.

1.1. Research Significance
With respect to IPOs in Pakistan, a couple of observational studies have examined the performance of IPO underpricing in the stock exchange of Pakistan, however in most of these studies have just used the Pakistan Stock Exchange as a benchmark. Therefore, there is a need of keen empirical study that deeply analyzes the influencing factors of IPO underpricing in Pakistan stock exchange. For this purpose, this research study aims to empirically investigate the influencing factors of IPO underpricing in Pakistan stock exchange. Likewise, an expected utilization of-continues exposure index for estimating the level of the divulgence and furthermore to draw close connections of the influencing factors of IPO underpricing membership rates by non-natives and institutional speculators too. Various papers consider different components that can cause the underpricing issue of IPO’s underpricing in the different countries Stock Exchange, specifically, the proximity of investment firms among the IPO underpricing unique investors that may influence the level of underpricing. However, there is lack of empirical investigation that coordinate model of the risk corporate governance improvement process in an IPO underpricing partnership and its resulting sway on returns for IPOs underpricing stock exchange reaction in the Pakistan.

Most of the literature examining initial public offerings (IPOs) focuses on the analysis of the initial underpricing of these offerings during the first day, B.K of trading computed from the offering price to the closing price on the first trading day. That is, the IPO is defined as the 1st day closing price minus the offering price divided by the offering price (see Boyd, 2016; and Ritter and Welch, 2012, for an overview of the evidence). There are nevertheless a few studies that have analyzed the IPO underpricing dividing the initial return (offer-to-close return) into the initial return of the primary market (offer-to-open return) and the initial return of the secondary market (open-to-close return), among.

This research study aims to empirically examine different variables influencing factor of underpricing and how those elements can influence the level of IPO underpricing in Pakistan Stock Exchange. Though this study is very indispensable, still, it has satisfactory significance of IPOs to speculators. The included variables and methodology of this study enhance capable methods for surveying the viability of data and information control on underpricing of IPOs in view of the real perception of firms.

Despite the fact that progressions the helpful guidelines secure the financial investor. However, those investors who have lack of information as well low capacity to assess the information on IPO underpricing effects adversely. Keeping it in view, this study also inspects those variables which influence the underlying of IPOs underpricing. By utilizing the distributed information on the stock exchange of Pakistan, this study examines information which has relations to the arrival of IPOs underpricing, which are noteworthy in their connections. At last, in this study we builds up the underlying expectation IPO underpricing model that will also be helpful for the new investor regarding their investment decision.

In spite of the fact that IPOs underpricing has dependably been a “hot issue,” couple of analysts have tried various variables impacting underpricing of IPOs underpricing in the stock exchange of Pakistan. However, most of the earlier studies are led by utilizing the US tests, while this study will examine the significance of underpricing of IPOs in the Pakistan Stock Exchange.

1.2. Research Objectives
The main objective of this study is to examine the economic analysis of Influencing Factor on IPO Underpricing of Pakistan stock market. For that purpose different factors are to be investigated to assess their role in IPO underpricing in Pakistan stock exchange.

2. LITERATURE REVIEW
IPOs are usually underpriced because of the uncertainty. Attention to IPO research is important for a variety of reasons. Among the more notable reasons is that it can help in the form of the more critical junctures in the development of a firm. Undertaking an IPO moves the firm from the private to the public domain (Acedo, 2014; Ruiz-Cabestre et al., 2016). Research that investigates the correlates of IPO performance may assist potential investors in evaluating IPO investment opportunities. IPO performance can be measured in any number of ways. Many researchers believe that information asymmetry hypotheses can explain the underpricing IPO. Specifically, the nearness of investment firms among the
IPO unique investors, the guarantor notoriety, firm-related hazard factors, and so on, have been distinguished as components that may influence the level of IPO underpricing (Certo et al., 2003). Levis (1993) thinks about normal beginning returns for privatization IPOs to those of exclusive firms. Bell et al. (2012) investigated a coordinated model of the ex-risk corporate administration improvement process in an IPO partnership and its resulting way in securities exchange reaction in the UK. Steven (2006) explored the money related execution of IPOs in the UK as utility privatization firm versus the nonutility privatization firm.

Vichakorn and Kennedy (2005) studied the influencing variables on IPO return in Thai Stock Market. The primary target of the analysts was to examine connection amongst variables and starting return of IPO by various models using secondary time series data. The information for the investigation was auxiliary and introductory return of IPO was subordinate variable and the other nine factors were autonomous variable. The analysts inferred that 14-24% IPO Returns in Thailand stock exchange in given period. Notwithstanding that the elements influence the underlying return of IPOs additionally unveiled. By utilizing the distribute information that can be procured by general financial specialist, the analysts examine those information which have relations to the arrival of IPOs.

The behavior theories assume that those irrational investors may raise the price of the IPO shares higher than the true value, or that issuers are subject to behavior biases and therefore fail to put pressure on the underwriting banks to have underpricing reduced. Those investors who came into the market later may learn experience from the former investors and ignore private information to imitate former investor’s behavior (Zhan, 2013). If the investors think issue price is high, but they can affect the decision of following investors, which will make the IPO fail. Conversely, if less early investors think issue price is low and worth to purchase, it will increase the demand of the stock. This phenomenon is called “cascade effect.”

Busaba et al. (2009) examine the market volatility and the timing of IPO filings. The researchers examined that how total IPO volume reacts to changes in stock exchange unpredictability. The results found positive connection between market volatility and IPO returns particularly articulated when stock exchange return is at normal levels. The connection likewise holds at the business level, in a pooled time cross-industry. These outcomes are predictable with speculation that the capacity to find investor valuations previously choosing to offer IPO in various stock exchanges. The study also suggests that the minor impact of unpredictability on this choice is most astounding in normal stock exchanges. The study was for the period of 1984-2004.

Leila and Farshid (2014) investigated the factors affecting the Initial Public Offering (IPO) Price of the Shares in Stock Exchange of Tehran. The principle target of the researcher was to look at whether valuing the underlying offering trade in Tehran Stock Exchange is as real and to examine the elements that influence evaluating of beginning offer on stock trade. The sample size selected for the study was 115 stock trade organizations from 2006 to 2012. From the results it was concluded that that P/E variable has huge connection with value changes on initial public offering and had most astounding effect on cost of starting contributions.

Indriani and Marlia (2014) investigated the behavior of IPO underpricing for 5 years (2009-2013) in stock exchange of Indonesia. In 2012 all of the IPOs are underpriced in Indonesia, however, IPO organizations did not create most extreme subsidizing. Contrast with neighborhood nations, for example, Malaysia, Philippines, Singapore, Thailand, and Hongkong the normal introductory returns of Indonesia IPO were 25.7% (Indriani and Marlia, 2014). Besides, the quantities of underpricing from 2014 to 2016 were expanded that nearly hit 100% for a long time successively during 2014-2016 (Suherman, 2016). In the Stock Exchange of Indonesia nine ventures recorded; Service, Property, Mining, Plantation, Trade, Assembling, Financial, Tourism, and Transportation. Among those ventures, Financial and Manufacturing ventures have the biggest offer rates of IPOs in 2007-2016. Money related Industry has 18% of the aggregate IPOs, and Assembling Industry has 16%. There is a huge addition from the information acquired in the previous 5 years. It is fascinating to dissect the underpricing of IPO firms since the factors utilized as a part of past investigates demonstrate conflicting outcomes.

Kukies (2015) assessed the effects of emerging stock exchange on the IPO Process. The study centered to investigate the impact of presenting new stock trades with strict exposure runs on the number and attributes of IPOs. The study found that the quantity of IPOs increments fundamentally after the making of such markets in a cross-segment of 42 nations. Utilizing information on privately held organizations, the finding concludes that the emerging markets in Germany allow new firms from ventures with high research force to open up to the public.

Pande and Vaidyanathan (2015) investigated of Initial Public Offerings on the stock exchange of India. The primary goal was to examine the valuing of IPOs in the Indian stock exchange. The researchers focused to clarify the main day under estimating regarding the request of IPO demands and issues as well the expenses spend by firms on the IPO marketing. The investigator specialists additionally endeavored to consider any developing examples in Indian IPO advertise with reference to the past examinations and looks to discover the post IPO returns for 1 month in the Indian stock exchange. The results presumed that the request created for an issue of IPO and the posting delay decidedly affect the principal day under estimating while the impact of cash spent on the showcasing of the IPO is unimportant. The analysts likewise inferred that the post IPO execution in 1 month after the posting for the organizations under examination is negative.

3. METHODOLOGICAL FRAMEWORK AND RESEARCH TOOLS OF THE STUDY

Estimating the aftermarket liquidity of the IPO underpricing as well as the influencing factor of IPO underpricing in Pakistan stock exchange, this research study utilizes four volume-based measures of IPO underpricing that are; (UIPO); (i) trading volume of IPO underpricing that is also used by (Demir et al., 2004; and Zhang

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and Yu, 2016) in their studies, (ii) turnover of shares (Chordia et al., 2001; Easley et al., 2002; and Li et al., 2005; used in their studies) (iii) Underpricing (Amihud, 2002 used in his study). To measure aftermarket liquidity of IPO underpricing, this study varies marginally from the standard recipes as it midpoints the estimations of IPO underpricing measures over the time of 60 exchanging days after the main first day offer for the public:

\[
UIPO = \frac{1}{60} \sum_{t=1}^{60} UIPO
\]  
(3.1)

\[
DUIPO = \frac{1}{60} \sum_{t=1}^{60} Pof \times UIPO
\]  
(3.2)

\[
UIPO = \frac{1}{60} \sum_{t=1}^{60} \left| \frac{R}{DUIPO} \right|
\]  
(3.3)

In equation 3.3, “UIPO” denotes underpricing of IPO traded; “R” shows returns on IPO, “Pof” offer price of IPO in Pakistan stock exchange.

The fundamental informative variable in this study is underpricing of IPO. Underpricing happens when the Initial public offerings (IPO) are offered at a value lower than the cost when the new issues are traded on a stock exchange at 1st time. At the point when IPOs are first exchanged on the stock trade, ordinarily the cost increments, now and again to a level higher than 100% of the offer cost. To a specific degree, this value climb indicates that the underpricing IPOs are exceptionally requested and subsequently it recommends that the offer cost has been set lower than it worth. A higher offer cost will obviously produce more prominent continues to the issuers and investors esteem. From the investors perspective, the underpricing enables them to secure the underpricing IPOs at a competitive value, offer them at a higher market price for earning of sound returns. Therefore, this study uses two measures of underpricing for IPO, firstly “Opening Underpricing (UOIPO)”, (in the past studies of Yong and Isa, 2003; and Rahim and Yong, 2010 also used) and, secondly “Closing Underpricing UCIPO” that has been employed by (Zheng and Li, 2008) in his study. The numerical portrayals of these measures are as per the following:

\[
UOIPO = \frac{(Pop - Pof)}{Pof}
\]  
(3.4a)

\[
UCIPO = \frac{(Pcp - Pof)}{Pof}
\]  
(3.4b)

From the empirical evidence of the liquidity theory it was found that underpricing is significantly associated with IPO (Pham et al., 2003; Li et al., 2005; and Zheng and Li, 2008). To test this statistical hypothesis this study using cross-sectional regression econometric model to empirically examine the relationship of IPO underpricing in case of Pakistan stock market.

\[
UIPO = \beta_0 + \beta_1 (P/E) + \beta_2 (P/BV) + \beta_3 (ROA) + \beta_4 (ROE) + \beta_5 (EPS) + \beta_6 (NPM) + \beta_7 (set p1) + \beta_8 (Offer Size) + \mu
\]  
(3.5)


\[
\text{Profit(loss) before interest and revenue tax} \times 100 \\
\text{Total assets in (average)}
\]

### 3.1.5. Return on equity (ROE)

Return of shareholder is a ratio by analyzing to measure the return on owner’s equity of shareholder that demonstrating in administration to make more efficient return on the other shareholders. The formula of stock value calculation

\[
\text{Net profit(loss)} \times 100 \\
\text{Total shareholders of each company in (average)}
\]

### 3.1.6. Earnings per share (EPS)

Value of earnings per share can be calculated by deducting dividend that is paid on preferred stocks out of the net income and dividing the resultant value with the number of outstanding shares. Reason for its being selected that earning per share (EPS) is reflected as assign of determining the ability of the firms to earn profit. The EPS is used as a control variable in this study. Huang and Cheng (2009) were also used earnings per share as a control variable in their study. The EPS is calculated as

\[
\frac{\text{Net Profit available for equity shareholder}}{\text{No of Equity Shares}} \times 100
\]

### 4. ANALYSIS, RESULTS AND DISCUSSIONS

#### 4.1. Co-conditions Tests

##### 4.1.1. Statistics of data used in study

In order to find out the sample analysis of the variables data of listed IPO underpricing companies in stock exchange of Pakistan for the period of 2013-2017, the descriptive statistics test is regressed on all the variables selecting common sample. The values of mean, maximum, minimum and standard deviation of Price-Earnings Ratio (P/E), Price/Book value (P/BV), Return on Assets (ROA), ROE, NPM, EPS, stock index of trading (IPO) in the first day (day1) (Set p1) and Offer Size are given in Table 2.

The results of descriptive statistics indicates that the initial returns of IPO Underpricing is positive as the mean, minimum and maximum values of IPO underpricing is positive, and the mean value is equals to 6.438% reveals an annual increase of

| Table 1: Variables and phenomenon description |
|---------------------------------------------|
| **Variables**                              | **Phenomenon** | **Description** |
| Initial Public Offering                     | IPO Underpricing | Underpricing occurs in the finance world when a company prices its shares too low in an initial public offering |
| Price-Earnings Ratio                        | P/E             | To compare the ratio between on market price of common stock per net profits per common stock that company has earned in the latest period 12 months. |
| Price/Book Value Ratio                      | P/BV            | The ratio between market price of common stock per book value of 1 common stock as the latest financial statement of the company that providing common stock and showing stock price to calculate that how much of book value. |
| Earnings per share                          | ROA             | Net Profit available for equity shareholders/No of Equity Shares. |
| Return on Asset                             | ROE             | The return from asset is a ratio that, indicating efficiencies of company by asset-taking to invest with the company to make more returns, which the whole assets were evaluated by profits of implementations |
| Return on Equity                            | NPM             | Net profit rate is an indicator to test the liquidity of company after both of revenues and expenditures were considered and included (bank loan interest, operating cost and revenue tax). |
| Net Profit Margin                           | SetP1           | The stock index of trading (IPO) in the first day (day1). |
| Stock index of the first trading (day1)     | Offer Size      | The whole values of IPO that trade out to general public |

### 3.1.7. Net profit margin (NPM)

Net profit rate is an indicator to test the liquidity of company after both of revenues and expenditures were considered and included (bank loan interest, operating cost and revenue tax). The formula of stock value calculation

\[
\frac{\text{Net profit} \times \text{Net lost}}{\text{Total revenues}} \times 100
\]
Table 3: Statistics tested correlation IPO underpricing

| Variables | P/E | P/BV | ROA | ROE | NPE | EPS | SP1 | Size |
|-----------|-----|------|-----|-----|-----|-----|-----|------|
| IPO       | 1   |      |     |     |     |     |     |      |
| P/E       | -0.0932 | 1    |     |     |     |     |     |      |
| P/BV      | 0.0248 | 0.2314 | 1   |     |     |     |     |      |
| ROA       | 0.8342* | -0.2286 | 0.3875 | 1   |     |     |     |      |
| ROE       | 0.7396* | -0.2409 | 0.4361 | 0.8660* | 1   |     |     |      |
| NPM       | 0.658** | -0.4352 | 0.2857 | 0.5714** | 0.582** | 1   |     |      |
| EPS       | 0.7684* | -0.2349 | 0.618** | 0.1531 | 0.1092 | 0.0756 | 1   |      |
| Set p1    | 0.7928* | 0.1386 | 0.3031 | 0.573** | 0.4670 | 0.3573* | 0.543** | 1 |
| Size      | -0.583** | -0.0668 | -0.753* | -0.2249 | -0.683** | -0.1274 | 0.1683 | 0.1352 | 1 |

(*) shows strong and (**) shows weak correlation

Table 4: Statistics on variance inflation of IPO underpricing

| Variables | Fluctuations | VIF Values |
|-----------|--------------|------------|
| P         | 0.003328     | 1.153184   |
| PB        | 0.015304     | 1.378753   |
| RA        | 0.024213     | 3.707586   |
| RE        | 0.010340     | 3.310125   |
| NPM       | 0.023630     | 3.510506   |
| PI        | 0.010140     | 3.342907   |
| EPS       | 1.501786     | 1.832153   |
| SIZE      | 0.321636     | 2.237819   |
| C         | 131.0078     | NA         |

The results of correlation test integrated in Table 4 shows that there isn’t any correlation of P/E and P/BV with IPO underpricing. The results also indicates that there is strong positive correlation of ROA, ROE, EPS and Set p1 exits with IPO underpricing, however weak negative correlation exits between offer size and IPO underpricing in case of Pakistan stock exchange.

4.1.2. Statistics tested correlation IPO underpricing

Correlation test shows the fluctuation between dependent and independent variables. The range value of correlation test varies from -1 to +1. If the correlation values are zero or near to zero that means that there isn’t any correlation exists between the two variables. If the correlation value is above ±0.7 that indicates strong correlation, and if the value is below from ±0.7 and above ±0.5 shows weak correlation. The correlation test result of this study is given in Table 3.

The results of correlation test integrated in Table 4 shows that there isn’t any correlation of P/E and P/BV with IPO underpricing. The results also indicates that there is strong positive correlation of ROA, ROE, EPS and Set p1 exits with IPO underpricing, however weak negative correlation exits between offer size and IPO underpricing in case of Pakistan stock exchange.

4.1.3. Statistics on variance inflation (VIF) of IPO underpricing

Before going to regression analysis of the study VIF test is applied to detect the severity of Multi-co linearity in the selected variables. The range value of VIF is from 1 to 10. If the VIF values increase from 5 that indicates the chances of Multi-co linearity and as its value becomes near to 10 it shows severity of Multi-co linearity. The results of VIF test given in Table 4 shows that the variables isn’t effected by Multi-co linearity as none of the variable values is more than 5.

4.2. Regression Analysis of the Study

This research aims to empirically investigate the influencing factor on IPO underpricing using the data of IPO by 103 stocks from industrial companies for the 2013-2017. For that purpose, IPO underpricing is selected as dependent variable, while the independent variables are Price-Earnings Ratio (P/E), Price/Book Value (P/BV), ROA, ROE, NPM and EPS, Stock Index of Trading in Day1 (SetP1), (Offer Size). The NLS and ARMA (OLS) regression technique is applied to regress the variables to analyze the influencing factor on IPO underpricing using (E-Views 9). The results is integrated in Table 5 and explains one by one below the Table 5.

The result shows that price earnings ratio doesn’t significantly affect the IPO underpricing in Thailand stock exchange and thus accepting null hypothesis (P/E isn’t influencing factor of IPO Underpricing) of the first hypothesis of this study and rejecting alternative hypothesis. The basic reason for the insignificant value of P/E and rejecting of alternative hypothesis is that based on efficient market theory, price movements are independent. The relationship and belief of the price research and analysis of information mostly disclosed to the public. Even if the information is confidential or known only in the limited price is happening, it is a promising price or equilibrium price. In the efficient market, the equilibrium price is the true value price.

The second hypothesis of the second variable of the study that is investigated to examine their significance in IPO underpricing is Price/Book. The regression results of the variable data given in Table 4 shows that the probability value of P/B doesn’t shows their influence in IPO underpricing accepting null hypothesis. The reason of accepting null hypothesis on the basis of the results given in Table 4 is that mostly the companies with high risk capital increase especially, in the form of selling shares. Private Placement is usually a company with a high price/book value (P/BV). Because of the P/BV High is the premiums investor gives the company’s senior executives a special case. It also increases the chance that the company will issue shares at a good price. But if the company has a Price per Share ratio close to the book value per share companies are more likely to choose right issues or sell shares to their existing shareholders.

The variable that affect to IPO Underpricing is ROA. The results shows that the variable ROA is significant at 5% having positive co-efficient value showing momentous effect on IPO underpricing in Thai stock exchange demonstrating that 1% increase in the return on assist may bring an increase of approximately 0.33%. From the findings of the results for ROA the alternative
hypothesis is accepted that “ROA is an influencing factor of IPO Underpricing”. The results of this study is consistent with the past studies of (Filatotchev and Bishop, 2002; Vichakorn and Kennedy, 2005; Khananrurak, 2011).

The results given in Table 4 shows that the variable ROE is also an influencing factor of IPO underpricing in Thailand stock exchange as it is significant at 1%. The positive coefficient value of ROE indicates encouraging effect of 0.14% in IPO if the value of ROE changes by 1% in the same direction and thus rejecting the null hypothesis and accepting the hypothesis of that “ROE is an influencing factor of IPO Underpricing”. Acedo (2014) and Ruiz-Cabestre (2014) also found influencing role of ROE.

The other variable that has been regressed by this study to examine its effect in IPO underpricing is NPM. The empirical results given in Table 4 revealing that NPM is an influencing factor of IPO in Thai stock exchange (acceptance of alternative hypothesis) as it is significant at 5% having positive co-efficient value demonstrates that 1% increase in NPM will bring an increase of about 0.05%.

The set of P1 effect has a reliability degree by 95% confidence value in the same direction as it is significant at 1% having positive co-efficient value, which means if P1 changes by 1% it might affects to IPO Underpricing by 0.12 respectively and thus setP1 is an influencing factor of IPO Underpricing. The results of set P1 is consistent with the studies of (Nutchara and Kanrayany, 2009; and Boyd, 2016) rejecting the null hypothesis.

The Earnings per Share (EPS) effect has a reliability degree by 95% accepting the alternative hypothesis that “EPS is an influencing factor of IPO Underpricing” and rejecting the null hypothesis. The results shows that if Earnings per Share (EPS) changes 1% it might affects to IPO Underpricing by 0.10% in the same direction. This optimistic effect of EPS proves that it is an influencing factor of IPO in Thai stock exchange. The past studies of (Bhullar and Bhatnagar, 2014; and Boudriga et al., 2009) concludes that company cannot limit all of processes, the objectives aim to support those of investors by co-investments and stock providers that have sold IPO in a low prices to encourage the retail potential investors, this policies shall lead to overly demand and causing to appear the Under Price. The Offer Size The whole values of IPO that trade to appear the influencing factor of IPO Underpricing so it appear as an influencing factor on IPO Underpricing in stock exchange of Pakistan. Likewise, ROE also caused to appear the influencing factor on IPO Underpricing, and it is consistent with the results of (Nutchara and Kanrayany, 2009). Earnings per Share appear the influencing factor on IPO Underpricing, and it relates to the work (Bhullar and Bhatnagar, 2014; and Boudriga et al., 2009) concludes that company cannot limit all of processes, the objectives aim to support those of investors by co-investments and stock providers that have sold IPO in a low prices to encourage the retail potential investors, this policies shall lead to overly demand and causing to appear the Under Price. The Offer Size The whole values of IPO that trade out to general public as the result of this variable effect to IPO Underpricing and turned as influencing factor on IPO Underpricing.

The ROA is a ratio indicating efficiencies of company by asset-taking to invest with the company to make more returns, which the whole assets were evaluated by profits of implementations. As the result of this variable have significant positive effect on IPO Underpricing so it appear as an influencing factor on IPO Underpricing in stock exchange of Pakistan. Likewise, ROE also appear the influencing factor of IPO Underpricing and the objectives aim to support those of investors by co-investments and stock providers have sold (IPO) in a low prices to encourage the retail potential investors. NPM as the result of this variable also significantly affect IPO Underpricing and prove itself as influencing factor on IPO Underpricing.

### Table 5: Statistics from formulating OLS regression of IPO underpricing

| Variables   | Co-efficient | Std. Error | t-Statistic | Prob. value |
|-------------|--------------|------------|-------------|-------------|
| Log(P/E)    | -0.003620    | 0.008927   | -0.405460   | 0.6861      |
| Log(P/B)    | 0.040221     | 0.126881   | 3.999882    | 0.0000      |
| Log(ROA)    | 0.330641     | 0.153721   | 2.150922    | 0.0342      |
| Log(ROE)    | 0.145236     | 0.042192   | 3.442281    | 0.0000      |
| Log(NPM)    | 0.053507     | 0.025353   | 2.110444    | 0.0376      |
| Log(P1)     | 0.120322     | 0.036495   | 3.999882    | 0.0000      |
| Log(EPS)    | 0.108057     | 0.028309   | 3.817053    | 0.0000      |
| Log(SIZE)   | -0.293017    | 0.072471   | -4.043195   | 0.0000      |
| C           | 45.78211     | 11.44586   | 3.999882    | 0.0000      |
| R-squared   | 0.744884     | 0.710486   |             |             |
| Adjusted R-squared |      |           |             |             |

From results of the Table 4 it could also be demonstrated from statistics that the model is goodness of fit as approximately all of the variables are significant, Durbin-Watson didn’t shows any sever chances of auto-correlation and the prob(F-stat) value indicates high significance of the overall model. The past studies of (Leone et al., 2007; and Kukies, 2015) have consistent findings with this current study.

### 5. CONCLUSION

This study empirically examine some factor to investigate that these are the influencing factor of IPO underpricing in stock exchange of Pakistan for 103 listed companies for the period of 2013-2017. The results indicate that Stock Index of Trading in Day1 (SetP1) has a correlation in the same direction with IPO underpricing, Stock Index of Trading in Day1 (SetP1) has caused to appear the influencing factor on IPO Underpricing, and it is consistent with the results of (Nutchara and Kanrayany, 2009). Earnings per Share appear the influencing factor on IPO Underpricing, and it relates to the work (Bhullar and Bhatnagar, 2014; and Boudriga et al., 2009) concludes that company cannot limit all of processes, the objectives aim to support those of investors by co-investments and stock providers that have sold IPO in a low prices to encourage the retail potential investors, this policies shall lead to overly demand and causing to appear the Under Price. The Offer Size The whole values of IPO that trade out to general public as the result of this variable effect to IPO Underpricing and turned as influencing factor on IPO Underpricing.

The last hypothesis of the study that is investigated that either offer size (Size) is an influencing factor of IPO underpricing. The results integrated in Table 4 indicates that offer size significantly affect the IPO underpricing and thus accepting null hypothesis as its probability of estimator is significant at 1% but having negative sign of co-efficient value. If there is 1% change occurs in the variable offer size it will change the IPO at 0.29% in the appositive direction.
The results of this study also shows that Price-Earnings Ratio (P/E) variable didn’t significantly effect to IPO Underpricing to compare the ratio between market price of the stocks in short terms, therefore (P/E) isn’t appear the influencing factor on IPO Underpricing. Price/Book Value (P/BV) is to compare the ratio between market price of common stock per book value as the latest financial statement of the company that providing common stock and showing stock price to calculate. This variable also hasn’t significant effect to IPO Underpricing to compare the ratio of market price of the stocks in short terms and doesn’t appear the influencing factor on IPO Underpricing.

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