Impact of Leverage on Firm Growth under High and Low Investment Opportunities

Author’s Details:

1. Zafar Iqbal-Phil Finance, University of Sargodha, Punjab, Pakistan-Email Id: zzafarms@yahoo.com
2. Irtaza Ishtiaq-MS finance, International Islamic University Islamabad-Email: irtazaishiaq@gmail.com
4. Ghulam Zia Ud Din Raza-M.Sc Business Statistics and Management, University of the Punjab Lahore Pakistan

Abstract

The effect of leverage on the growth of non-financial companies listed on the Pakistan stock exchange is examined in this report. The natural logarithm of total assets is used to calculate firm size, and earnings before interest and tax (EBIT) over total assets is used to calculate return on investment. Firm growth is calculated in two ways: first, in terms of high investment opportunities, and second, in terms of low investment opportunities. The median of Tobin's Q formulation market value of equity plus book value of total debt split by total assets is used to measure high and low investment opportunities. The appendix table shows that a high investment equals 1 and a low investment equals 0. From 2006 to 2015, panel data on 199 non-financial companies was collected. For study, a fixed effects paradigm rather than a random effect modal is used. The Hausman Specification test is used to determine which of these two versions the best is. The effect of leverage on company growth under higher and lower investment opportunities is also examined in this report. Under high investment opportunities, fixed impact modal clearly demonstrates that outcomes are important and have a negative relationship between leverage and firm growth, however control variables have the same results as mentioned above. However, under low investment opportunities, the results are different than high investment opportunities. Key words: Firm growth, Leverage, Firm size, Return on investment, High and Low Investment opportunities.

1. Introduction

Leverage is a financial technique that involves leveraging borrowed money, primarily the use of multiple financial means or borrowed capital to boost an investment's anticipated return. When something (a company, a property, or an investment) is defined as "highly leveraged," it means that it has more debt than equity. To put it another way, financial studies characterize firm leverage as the volume of debt used to fund the acquisition of necessary assets (Hampton, 2000). Leverage is a term used to describe how management communicates information about investment opportunities. There are a lot of opinions on company leverages and how they affect the firms' internal variables. The immediate study used the ratio to measure firm leverage by dividing total debt by total assets in order to investigate the relationship between firm financial leverage and firm expansion. Leverage is calculated by dividing the book value of liabilities by the book value of total assets, according to Opler and Titman (1994). The optimum level of debt that will maximize the firm's benefit and allow business entities to execute projects with a viable or optimistic increase in firm growth and net present value is an interesting and useful point for all businesses to consider. In their seminal paper, Modigliani and Miller (1958) proposed that capital structuring is unimportant or digressive. In either case, their findings suggest that primary or capital markets are ideal, business analyses are lacking, and a company's funding decisions are independent. Capital composition or structure is a widely studied subject, but due to the two factors that can influence structure choices, no general theory close to the course of action of an ideal structure has been discovered. The term "development" refers to how a company deals with sales, benefits, and resources. Various factors, in addition to firm growth and capital structure, awe the business. The factors that influence firm growth are also widely considered, resulting in a variety of recommendations for the most important firm growth decision. The majority about people think of business expansion as an increase in size. Non-organic and organic growth are two separate systems for company growth, according to Pasanen (2007). Structured or organic growth has often been referred to as growth that extends work, while non-organic growth has been referred to as growth by ownership, where business does not increase, as opposed to moving from one company to the next. He discovered that companies that grow by acquiring other companies have a larger model of corporate operation than companies that grow organically. He also saw that, for the most part, procuring companies were larger and more dynamic than

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organically growing market issues or firms. This confirmation can also justify the procuring organizations' larger scale of operation. Similarly, more young companies or corporations may lack the financial resources to buy businesses. The external and internal elements of an organization's development are rarely separated or separated (Hansen, 1989). Human resource management, the scale of the organisation, the composition of the organization, and so on are examples of internal factors. New variables, competition, and other prudent elements are used in the outer components. Any one of these factors has an impact on the company's potential growth in any way, but many have argued that the most significant commitment to firm growth comes from within the enterprise. Various investigations into various inward causes have typically centered on the firm's age, scale, and management. This study considers the effect of leverage on firm growth, but it is primarily concerned with the internal factors that affect firm growth. The success of an organization can be calculated in a variety of ways. Inward growth can be used as a key indicator of an organization's success. A distinction between firm growth and firm accomplishment is considered outdated by some developers because firm growth is regarded as such an important rule of organization success (Bergstrom, 2000). Since companies have a greater motivation to achieve profit as a result of their success, it increases the opportunity for investors and the company itself. If the capital structure has an impact on firm growth, it must be individually arranged with a clear target in mind to maximize the company's profit. However, since no optimal capital structuring has been found and is unlikely to be discovered, it is important to understand how it affects the firm's or organization's development and, as a result, potential profitability. Consider the effects of growth, business form, firm scale, and tax savings on the capital structure and financial leverage, according to Titman (1984). Development, defined as the yearly rate change in aggregate resources, deals, and gross profit, is regarded as a debatable factor in determining capital structure and money related use. Benefits arose as a result of an element's ethical behavior, allowing the element to invest internal resources in firm ventures and achieve financial success and growth.

2. Literature review

According to numerous former researchers, capital structure can be defined as “the mixture or variety of sources of funds a firm utilized” (preferred stock or shares, debt, and ordinary shares). The sum of debt that a firm exercise or uses to finance its assets is called leverage. When a firm have number or a lot of debt in its capital structure is said to be highly levered. A firm without indebtedness is said to be unlevered or leverage free. The seminal work on capital composition or structure was written by Modigliani and Miller in 1958. Instant the perfect and accurate proportion between the levels of equity and debt is a subject that has been widely discussed by generations of intellectuals since Modigliani and Miller's famous papers (Modigliani and Miller, 1963) publicized almost half a century ago.

This is perspective of Miller (1977) who wrote "we ought not desert or waste our constrained stressing limit on second-order and to a great extent self-amending issues like financial leverage". Then again, Myers (1977) creates a highly powerful instance on how leverage may negatively connected with firm growth. He argued about this connection that this negative relation survive due to agency conflict between bondholders and shareholders. Extraordinary levered organizations may passing on investment opportunity as increasing financing for such activities speaks to an exchange of riches from investors who make the speculation to the bondholders who basically contribute nothing. To defend investor riches, organization administration in the circumstance would forego contributing because of resultant of obligation overhang.

As showed by the examination of Hamid, Ahmad, and Zakaria (2013) investigated the component influencing the the stock yield and capital structure. In this audit, 100 non-money related affiliations have been designated for the span of 2006-2010. The exploration activity in light of the helper model to settle on stock yield and capital structure. The GMM (Generalized Method of Moments) system was taken to stretch out model to limit the issue. The scrutiny displays the consequence that benefit, development, and liquidity are the underlying determinative forces of capital structure with regard to the leverage.

Qayyum (2013) thought about the elements of the capital arranging of the bond business taking a fundamental of 20 solid association of Pakistan with a recorded assurances and figure of (2007-2009). This examination broke down the impact of the the independent variable, Tangibility, profitability, size and development rate on leverage. Which result showed that aside from the firm size, all different self-governing

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variable has the immense or fruitful state with the leverage. They develop a positive association between the debt level and growth opportunities of the corporate organizations. Khan, Jan, and Khan (2015) studied the Pakistani cement sector. They used Pooled regression model and decided that here is a contrary state of leverage and organizations size which is unfavorable for static trade off hypothesis.

Ahmad and Zaman (2013) consolidated textile region recorded on (PSE) of Pakistan and disclosed that size and profitability is essentially and unfavorably related to leverage while growth and tangibility were distinctly related to leverage. Afza and Hussain (2011) reviewed three regions (vehicle, building, cable and electrical component) recorded on (PSE) by using pooled data regression model. The outcomes of this examination in perspective of static trade off speculation and pecking order theory.

Qadri (2015) inspected non financial firms of Pakistan recorded on KSE for the span of (2004-2012). This examination showed up a noteworthy and negative unification of profitability and leverage supporting (POT) hypothesis. Besides this investigation showed up positive relationship of size and tangibility with leverage supporting exchange or trade off hypothesis. Around four hundred and ninety one recognition's were analyzed for programming associations and six hundred ten measurements for lodging bodies or firms. Two distinct models were made in that examination. The ordinary least square regression on lodging firms taken the first framework and 2nd regression framework incorporate dummy variable for comparison of the lodging organizations to software firms. The eventually outcome of the study demonstrate that software institutes or firms had so much higher opportunities for growth and net profit volatility than lodging bodies or firms.

Their findings depicted that investment level and leverage having opposite relations and this opposing effect is basically more grounded for firms with least or low growth opportunity than those with higher growth opportunity. These consequence offer assistance to agency theory of corporate leverage, showing part for corporations with delicate growth opportunity. Distinctive examinations have recognized a beneficial outcome of leverage on firm growth (Heshmati, 2001;)

As indicated by the research of Rafiq and Atiq (2008) which coordinated the fragments of the chemical territory of Pakistan,s capital structure, the expert centered the consequence of self-sufficient variant on the dependent elements leverage, as showed by of their undertaking the tangibility variable have the profitable state or relationship with the leverage, which is as to the examination of Jensen (1976) the self-governing variable Growth is decidedly with the depended variable Leverage, Which is in misdirection with the Shah and Hijazi (2004) who reports the inauspicious state in the point of convergence of the growth and leverage, while the other profitability have comparatively opposite state with the leverage, Which trains that the affiliation in regards to engineered industry of Pakistan is utilizing either less or huge debt.

Noravesh and yazdani (2010) take an analysis at the association of leverage and investment selections of firms that are recorded in the (TSE) Tehran Stock Exchange. In this target, they utilized two different criterion of the leverage and three observational models. Their consequences indicated an opposite or negative relationship between leverage and investment. The results in like manner demonstrate that the state of investment leverage for organizations with lessor growth opportunities, is more grounded than firms with greater growth opportunities.

According to the examination of Mazhar and Nasir (2010) whose take a study at the determinants of the capital structure of the 91 government and privately owned businesses. This basic survey shows the positive relationship of Firm size and the firm development or growth with the depended variable leverage.

As exhibited by Afza et al. (2011) She reviewed the many region through the apply of a trial of twenty two affiliation. Which was include Cable and Electrical goods test was eight firms, Automobile seven firms, and the Engineering territories affiliations are 7 firms employ for example for the reasons for choosing the variable of capital structure through the resource of use of static information on the regression model.

Rashid, Awan, and Zia-ur-Rehman (2011) exhibited to pick the determinable causes of capital structure of the sugar and bound together commercial enterprises of Pakistan enrolled on Karachi stock trade. This
crusade starts that a limited portion capital structure has showed up the top of the line trademark which isn't, for the most part, exhibited bonafide in the collective scrutiny of versatile undertakings. This investigation work is containing the case of 33 relationship in the sugar section, which are recorded on the KSE for the section of 1999-2004 and separated the substance through with the practical of regression in a assembly of information examination.

The insightful picks the leverage as a dependent variable and self-governing component firm size, firm growth, profitability and tangibility of assets, for the paradigm the state of free on depended variable through the assistance of regression. The expert has begun fundamental state of firm size and profitability with leverage, and the significant nature of growth and tangibility variable took the perfect unification with leverage.

As exhibited by examination of Ume Salma Akbar (2012) who's dismembered the instance of 16 associations enrolled on (KSE) in the bit of individual care extraordinary of Pakistan of the division of (2001-2008), and evaluated the information by utilizing of the specific test or condition like pooled regression balanced with cross sectional variety. In this review, have interpreted the six elements, firm size, growth, profitability,tangibility, tax rate were destitute down as a components of the leverage. The analysis found that solitary two variable growth opportunities and firm size have a positive connection with the leverage.

Mahmoudi and Hakim (2013) in an examination utilized data of 81 companies recorded in (TSE) for the years (1384-1389), endeavored to take a state at the association between debt obligations and growth opportunities at a low level of growth. Trial consequence shows that there is an desperate opposite or negative association between growth possibilities or opportunities and the point of debt in the associations with a lower growth opportunities.

As indicated by the investigation work of Faiza, Saleem, Mehmood, and Irfan, (2013) thy are successful to decide the crucial cause of the speculation approach of the oil and gas section Organization data of the term (2006-2011) selected on KSE. For the purpose of the objective information various models have been related with a definitive goal of evaluating the relationship of the Leverage and self-governing components (Sales Growth, Tangibility of Assets, Profitability, Firm Size).

The advantages don't show the bonafide picture of the association execution, accordingly the progress unrivaled search for the accreditation as safety of the without question due on the established resources high level of the intangible assets, so for the firm it is inconvenience in acquiring the entire arrangement commitment for the reason that the unimportant assets couldn't be collateralized. Along these lines, because of these reasons, growth have the negative relationship with the leverage.

As Expressed by Akhtar and Masood (2013) in their examination about the capital structure determining factor of a chemical division of Pakistan. The master took 34 chemical organizations of Pakistan enlisted on KSE for their examination. Thy takes dependent variable leverage and the five independent factors are growth, Profitability, Financial Cost, Tangibility and Size. Study declared that the cash related price and cost and profitability are favorable with leverage, however the other showing tangibility have the adversarial relationship with leverage. Barros, Forte, and Nakamura (2013) investigated the capital structuring of Brazilian organizations and establish that efficiency or profitability is significant and unfavorably related to capital structure. Moreover growth is earnestly and significantly related to leverage. Further, size is insistently related and age is unfavorably related to the leverage. Huang (2006) disclosed an alternate state between leverage and , profitability, non debt tax shield, managerial shareholdings, and growth possibilities and opportunities.

In (2014) Masnoon and Saeed investigate vehicle segment of Pakistan the span of time is (2008-2012). This investigation established that leverage has inverse association with liquidity and profitability, though with leverage has a affirmative or positive linkage with winning status. Wang and Ahmed Sheik (2011) analyzed firms taped on KSE for the span of (2003-2007) found the benefit, liquidity, profit instability, and substantial quality are contrarily affiliated to leverage, while firm size is definitely connected to leverage.
Non-obligation impose shields and improvement don’t appear to be fundamentally identified with leverage. Saberi and Asadipour (2016) has investigated the Relationship between Financial Growth and Strength with Leverage Ratios of Companies Listed in Tehran Stock Exchange. In this study, the independent variable was sales growth, profit growth, and financial strength. The leverage ratio was the dependent variable. And also evaluate the company’s financial leverage by used to four various rations. Altman bankruptcy model has been measured financial strength. Data related to 102 companies listed in Tehran Stock Exchange for the period 2002-2011 have been used as a sample to test the hypotheses and observe the effect of independent variables and leverage ratio. To analysis the data, descriptive and inferential statistics used. The outcome of the study was a significant level between growth and leverage ratio.

3. Data and Research Methodology
This section attending the data and methodological analysis utilized in this study. First, the the time span selected for research is 2006-2015 is investigate in the view point of non-financial firms to detail the economical state of this time. Further, data is enclosed and represented and finally the methodological analysis utilized in this document is conferred.

3.1. Data and Sources.
This study foreground the different sources and performing of data collection. Secondary data is utilized to justify the state or relation between leverage and firm growth of non-financial firms. For this intention data is collected from the annual reports of 199 non-financial firms enrolled in the Pakistan Stock Exchange for the historic period of 2006 to 2015.

3.3.1. Firm growth.
To compute the growth measure the firms must have data on total assets of the firm, (fixed assets, current assets) for each year. Tobin’s Q is best utilized to measuring the firms growth and the examiner must have truthful and absolute information on market value of equity for this variable. To shape this investigation as essential as could be normal the situation being what it is the data include simply non-financial firms. There are a couple of goodness to using immense or large firms.

Regardless, if a negative state between firm leverage or debt and firm growth exists, it could suspect that it will be weak for greater firm that has been staying for longer age and in this way viably utilize public or national securities market. If such state survive it is much substantial to show it with an example of bigger instead of small firms. Second a reflection between leverage or debt of the business firm and firm growth has mighty implications for total money related improvement if it can be showed up with far reaching firms. Third the data utilized as a piece of this examination is less complex to acquire from large firms and this cut down the probability of data avoidance. This is unaltering with theories of Jensen (1976) and Myers (1977) credits artifact to the prospect that associations with raised measures of opportunities for growth can be looked for after to have reduced levels of utilization or leverage. Fama and French (2002) titled these two potential results as the eccentric and fundamental variations of (POT) independently. After a wide study of historic studies it is perceive that researcher utilized different standard of growth, such as total expenditure to total sales measurement further yearly percentage change in total assets Titman and Wessels (1988) market to book value of equity.

3.4.1. Leverage
This study in order to analyze the relation between leverage and firm growth, hence it is essential to intelligibly move the selection of leverage explanation used. This study defined the leverage as the ratio of the recorded or book valuation of total debt (long term plus short term) over the book worth or value of total assets (Fixed plus variable). This definition or formulation precede the one utilized in Lang et al. (1996). The clear cut explanation to utilization of book rate or value measuring preferably market value criterion is to prevent the incorporating excessively modern modification in the corporation equity prices which indicate market’s anticipation of firm or organization growth. Reasoning backward market measurement of leverage on market anticipation of growth that is mirrored by equity value of the firm that would necessarily produced a negative state. Such workout furnish very tiny understanding the nature between leverage and growth. In opposition taking book measurement of leverage extenuate such trouble as stated value of

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leverage is lessor effected by the market change. To assure the selection of leverage explanation is clean, Lang et al. (1996) attempted different other elective estimations for leverage and found all practically identical negative association with improvement or growth measures with a unique instance of market measurement of the leverage.

\[ \text{Leverage} = \frac{\text{Debt}}{\text{total assets}} \]

3.5.1. Size
Size of the firm may determine its performance larger firms may have more capacity and capability (Rama Swammy, 2001; Frank and Goyal, 2003;). Therefore this examination activity control the divergence in the operating environment of the firms by admit the size variable in theoretical model. The natural log of the total assets is taken for the calculation of the controlled variable size and admitted in the model to control for consequences of firm size on dependent variable. Huynh et al. (2008) considered the piece of budgetary factors in organizations growth. They understand that growth of the firm increment with the assets of the organization.

Log of Total Assets.

3.5.2. Return on investment.
Return on Investment (ROI) is the goodness to an investor resulting from an investment of any assets. An investment's profit means the high return on investment comparison favorably to its cost. As a execution or performance activity or measure return on investment is utilized to assess the goodness of an investment or to compare the ratio of respective different investments. In strictly economic terms, it is one way of associate profits to capital invested. Return on investment is the ratio of annual operating profit or (EBIT) earnings before interest and taxes to overall assets of a business organization during a time period a year. It measure efficiency of the business in utilization its assets to make operating profit. Return on investment indicates the amount of rupee attained on each penny of assets. Hence higher value of return on investment display that business is more profitable.

\[ \text{Return On Investment} = \frac{\text{Ebit}}{\text{Total Assets}} \]

3.6. Theoretical framework

3.7. Research Model
The association between leverage and growth of the firm is tested by the following regression models:
General Model
Firm growth\(_{it}\) = \(\beta_0 + \beta_1 LEV_{it} + \beta_2 ROI_{it} + \beta_3 SIZE_{it} + \epsilon_{it}\).

Model under high investment opportunity.
Firm growth\(_{it}\) = \(\beta_0 + \beta_1 LEV_{it}*HIO + \beta_2 ROI_{it} + \beta_3 SIZE_{it} + \epsilon_{it}\).

Model under low investment opportunity.
Firm growth\(_{it}\) = \(\beta_0 + \beta_1 LEV_{it}*LIO + \beta_2 ROI_{it} + \beta_3 SIZE_{it} + \epsilon_{it}\).

Where;

- Firm growth\(_{it}\) is dependant variable which is computed with the help of total assets.
- Leverage is independent variable of interest, measuring the degree of indebtedness.
- Return on investment is the control variable of this study which is computed earnings before interest and tax divided by total assets of the firm.
- Firm size is also control variable of interest, which is computed by taking the natural log (logarithm) of total assets for firm I in year t.
- High investment opportunity calculated with Tobin Q formula by.
- Low investment opportunity calculated with Tobin Q formula.
- \(\beta_0, \beta_1, \ldots, \beta_3\) are parameters to be estimated.
- \(\epsilon_{it}\) is an idiosyncratic disturbance term.

3.8.1 Hausman test statistic
H = 40.3015 with p-value = prob(chi-square(3) > 40.3015) = 9.19698e-009 (A low p-value counts against the null hypothesis that the random effects model is consistent, in favor of the fixed effects model.) For the purpose of choice between random and fixed-effects model utilized to the Hausman test. These results proved the following hypotheses: H0 = random effects and H1 = fixed effects. According to the results (Table 4.1), H0 is rejected (p < 0.0001), means that the fixed effects description or specification is to be preferable. The goodness of fixed effects panel data model is that it controls for time-constant, firm-particular identifiable that effect firm growth, but are not captured by firm-level control variables.

3.9 Panel data Estimation
In this study figure out the association between leverage and firm growth. I have check this by practicing panel data. It provides a broad range of observation through which i can estimates dimensions in a better way. Panel data has estimated through OLS regression model, polled regression model (random effect and fixed effect model).

3.10 Fixed Effect Model
The polled regression is identical as fixed effect’ model but it allows the constant to differ according to the individuals. It is likewise named least square dummy variable expert, by cause of “it utilize dummy variables for enchanting different invariant in to account” (Gujrati, 2006). This idea is rational because of sample consists of various sets of non-financial firms of KSE 100 index.

4. Empirical Results And Discussion
This phase or chapter presents the determination of the study. This chapter admit the descriptive statistics, correlation analysis, fixed effect model for firm growth, fixed effect Model for firm growth under high investment opportunity, fixed effect Model for firm growth under low investment opportunity. The firm growth is modeled against leverage, firm size and return on investment as the determinants.

4.1 Descriptive Statistics
Descriptive statistics permits the researcher to describe numerous parts of information with a fewer indices. In this research the descriptive statistical analysis of the variables are utilized. The major purpose of the descriptive statistics are to present the quantitative facts and figures in a meaningful and manageable ways. In a study may have a packet of activities or measures. Descriptive statistics helps to simplify sizable sum of data in reasonable way.
Table 4.1 Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>-0.00633212</td>
<td>0.0320485</td>
<td>-34.5519</td>
<td>1.0000</td>
<td>0.946649</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.212005</td>
<td>0.136900</td>
<td>0.000257</td>
<td>0.973251</td>
<td>0.461232</td>
</tr>
<tr>
<td>Size</td>
<td>14.5476</td>
<td>14.5083</td>
<td>0.000920</td>
<td>20.1163</td>
<td>2.08783</td>
</tr>
<tr>
<td>ROI</td>
<td>0.0595124</td>
<td>0.0474637</td>
<td>-3.17373</td>
<td>7.67498</td>
<td>0.240610</td>
</tr>
</tbody>
</table>

Table 4.1 descriptive statistics tells the characteristic or features of the variables of selected manufacturing firms of Pakistan. In this table the number of observations, average value, and measure of dispersion (standard deviation), largest and lowest value of each variable of sample is provided. Growth is the dependant variable of this study using 199 observations Table 4.1 descriptive statistics tells us the average growth is -0.00633212 and measure of dispersion or standard deviation is 0.946649. The largest value in the panel is 1.00000 while the lowest value is -34.5519. Leverage is the first independent variable of this work and it also has 199 observations in the panel. The average value of the leverage is 0.212005 and the measure of dispersion or standard deviation is 0.461232. The largest value in the panel is 0.973251 while the lowest value is 0.000257. Size is the second variable of this thesis which is calculated by taking the natural logarithm of total assets it also has 199 observations in the panel. The average value of the firm size is 14.5476 and the measure of dispersion or standard deviation is 2.08783. The largest value in the panel is 20.1163 while the lowest value is 0.000920. The last variable of the general modal of the study is return on investment which measured by dividing earnings before interest and tax over total assets with same observation in the panel. The average value of the return in investment is 0.0595124 and the measure of dispersion or standard deviation is 0.240610. The largest value in the panel is 7.67498 while the lowest value is -3.17373.

4.2 Correlation Analysis
Table 4.2 Pearson’s correlation coefficient matrix.

5% critical value (two-tailed) = 0.0439 for n = 1990

<table>
<thead>
<tr>
<th></th>
<th>Growth</th>
<th>LEVERAGE</th>
<th>Size</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>-0.3901</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.1039</td>
<td>-0.1685</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>ROI</td>
<td>-0.0717</td>
<td>-0.0636</td>
<td>0.0737</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Table 4.2 Pearson’s correlation coefficient matrix tells us that the growth which is the dependant variable of this thesis shows the negative correlation with first and third independent variable leverage and return on investment but positively correlated with second independent variable size. Leverage is negatively correlated with other two independent variables but on other hand size is positively correlated or connected with return on investment. So in short we can say with the help of (Table 4.2) Pearson’s correlation coefficient matrix the firm growth may increase when size of the firm increase. It may also look at anyplace that as the size broaden the organization desire more or further growth (increased in fixed assets percentage) but on other hand debts and return on investment may affect the firm growth.

4.3 Fixed effect Model for firm growth

<table>
<thead>
<tr>
<th>variables</th>
<th>Coefficient</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>const</td>
<td>-3.11353</td>
<td>-5.1739</td>
<td>&lt;0.0001 **</td>
</tr>
</tbody>
</table>

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LEVERAGE -0.80117 -14.3606 <0.00001 **
Size 0.240309 5.9670 <0.00001 **
ROI -0.376439 -4.2250 0.00003 **
R-squared 0.162960 Adjusted R-squared 0.161692
F-statistic 128.5572 Prob. (F-statistic) 0.000000

Note: Firm growth is dependent variable

Table 4.3 displays that there is a significant and negative relation between firm leverage and firm growth. Similarly firm growth and return on investment negativity and significantly related. The values of size are significant and positively related with firm growth. R-Square shows that growth is 16% effected by independent variables and remaining by dependent variable The Probability value of F-Statistic is 0.00000 which indicates jointly about the variation of firm growth. The overall modal is purely significant. From control variables again only size has positive and significant relationship with firm growth of non-financial firms in this model. Dittmar (2002) calculated growth as the ratio of expenditure over sales with the statement that developing or growing firms should have higher expenditures to grow. The consequence indicated a negative state between firm leverage and growth. In (1996) Lang, Ofek and Stulz utilised a pooling regression to approximate the investment status. They differentiate between the outcome of leverage on growth in the organizations core business concern from that in its non-core business concern.

4.4 Fixed effect Model for firm growth under high investment opportunity.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>t-ratio</th>
<th>p-value</th>
<th>pP</th>
</tr>
</thead>
<tbody>
<tr>
<td>const</td>
<td>-4.9843</td>
<td>-7.8583</td>
<td>&lt;0</td>
<td>0.00001 **</td>
</tr>
<tr>
<td>Lev_Hio</td>
<td>-0.0530451</td>
<td>-3.6476</td>
<td>0.0027</td>
<td>0.0001 **</td>
</tr>
<tr>
<td>Size</td>
<td>0.345971</td>
<td>8.0197</td>
<td>&lt;0</td>
<td>0.00001 **</td>
</tr>
<tr>
<td>ROI</td>
<td>-0.35043</td>
<td>-3.7362</td>
<td>0.0019</td>
<td>0.0001 **</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.253425</td>
<td>Adjusted R-squared</td>
<td>0.169262</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>3.011136</td>
<td>Prob. (F-statistic)</td>
<td>0.000000</td>
<td></td>
</tr>
</tbody>
</table>

Note: Firm growth is dependent variable

Table 4.4 shows that the overall model is significant under high investment opportunities. Result indicates that the Similar situation like table 4.3. The leverage under high investment opportunity is significantly but negativity relation with firm growth. Accordant to pecking order theorem, the first option for the firms to utilize internally created funds which might not be adequate or comfortable for a developing firm. And then second or next choice is debt funding for the expanding firms which means that a growing organization that will have a higher leverage (Drobletz and Fix 2003). Barclay et. al. Titman and Wessels (1988), Rajan and Zingales (1995) and Shah and Hijazi (2005) insight a inverse relation between firm leverage and firm growth. Return on investment also having same results like negative but significant relation with firm
growth. Firm size indicate favorable or positive and significant relation with firm growth. R-Square shows that growth is 25% affected by independent variable. The Probability value of F-Statistic is 0.000000 which indicates jointly about the variation of firm value. From control variables again only size has positive and significant relationship with performance of manufacturing firms in this model.

4.5 Fixed effect Model for firm growth under low investment opportunity.

<table>
<thead>
<tr>
<th>variables</th>
<th>Coefficient</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>const</td>
<td>-5.72167</td>
<td>-9.5251</td>
<td>&lt;0.00001 ***</td>
</tr>
<tr>
<td>Lev_LQ</td>
<td>0.234412</td>
<td>0.9645</td>
<td>0.33492</td>
</tr>
<tr>
<td>Size</td>
<td>0.392169</td>
<td>9.5044</td>
<td>&lt;0.00001 ***</td>
</tr>
<tr>
<td>ROI</td>
<td>-0.33886</td>
<td>-3.6023</td>
<td>0.00032 ***</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.167508</td>
<td>Adjusted R-squared</td>
<td>0.073660</td>
</tr>
<tr>
<td>F-statistic</td>
<td>1.858803</td>
<td>Prob. (F-statistic)</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Note: Firm growth is dependent variable

Table. 4.5 shows the overall modal is significant under low investment opportunities. Result indicates that leverage is positively but insignificantly related with firm growth under low investment opportunities. This study results affirms the results of the early examination focussed on firms that are working in developed states. (Honjo and Harada, 2006; Huynh and Petrunia, 2010). Size having significantly positive relation with firm growth but on other hand return on investment has negative but significant affiliation with firm growth. R-Square shows that growth is 16% effected by independent variables and remaining affected by all other dependent and controlled variables. The Probability value of F-Statistic is 0.000000 that is shows jointly about the variation of firm value. From control variables again only size has positive and significant relationship with performance of manufacturing firms in this model.

4.6 Conclusions and Discussion

There is an underlying position in interpreting effects prevailed in this research display a negative state or relation between firm leverage and firm growth. Firms are independent for the purpose of choosing their capital structure or leverage and if the higher proportion of leverage prevent firms from taking advantage on growth chances, one would evaluate corporations with beneficial growth alternatives to have down level of leverage. The present study look into the impact of leverage on firm growth under high and low investment opportunity of Pakistani listed non-financial firms as one of the emergent economies. Based on a sample of large cross-section of Pakistani firms and utilizing three accounting-based measures (LEV, SIZE, ROI), the results tells us that leverage is negatively impact the firm growth. Controlled variables firm size and return on investment having also great impact on firm growth return on investment have significant but negative relation with firm growth which means that highly leveraged firms create more return on investment then lower leveraged firms. Firm size have supportive relation with dependent variable which means that bigger firms grow up faster than smaller firms. On other hand the study examine the consequence of leverage on firm growth under high as well as under low investment opportunities. Fixed effect model clearly demonstrate that the inverse state between leverage and firm growth under high investment opportunities. This result described that lower leveraged firms may have high investment opportunities because lower level of debt can create high proportion of dividend and high proportion of dividend can attract more investors for investment. Under low investment opportunities results are different then high investment opportunities. Under low investment opportunities leverage is positively connected to the firm growth in this situation firm can utilize the debt rather than internal fund. Control variables results are in same stream. Through the descriptive analysis this study find that leverage decision is an important determinant of the firms growth.

4.2. Limitations
For the purpose of accounting, each variables utilized in this examination to measure the firm growth and the firm particular causal factor are based on the year end balances. In order to represent the improved evidence this document could not get the monthly end figures in perusing the effect of firm growth. In addition, due to the trouble in collecting data small and medium organization are also leave out in this research. The results are only limited to the manufacturing zone or sector of the Pakistan. The major limitation of the work is the availability of the data for the all manufacturing firms of the Pakistan. Lot of the firms are excludes from the sample as data for the selected period from 2006 to 2015 is not available.

5.2. Future Directions

Extend the research work to consider medium and small size institution and privately owned institutions. Further research study should clarify the determinants of the firms that are operating in Pakistan, such as dividend, tangibility and business related risk, etc., and compare the outcome with those existing in developed state. Variables may also be changed or increased to calculate more honest outcomes. Take long time period data then this study to conduct more efficient and reliable results.

References


