DOES FININCIAL LEVERAGE INFLUENCE INVESTMENT DECISIONS? EMPIRICAL EVIDENCE FROM KSE-30 INDEX OF PAKISTAN

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Abstract- Purpose: The present study investigates the impact of the financial leverage on the investment decisions of the listed companies on KSE-30 index in Pakistan. It identifies the most important factor that influence on investment decision of company and which cause the bankruptcy of Pakistani listed companies. Methodology: The study use three regression techniques namely: pooled ordinary least square, random effects and fixed effects model for analysis of 30 (financial & non-financial) companies of Pakistan. Results: The empirical findings of the study reported that the leverage has a directly influence on the investment decisions. Policy Implications: The outcomes of the study help the strategic management to make financing decisions about leverage whether to take long term debt or not.

I. INTRODUCTION

1.1 Background of the Study

Financial leverage and investment opportunities are the topic of decision among financial analysts and scholars for many years. The most dangerous effect of using leverage is that it multiplies the losses. A firm which is using leverage or borrowed money has more chances to face bankruptcy during the business downturn. In contrast when a firm is less levered it might survive in this situation. In the early days the existence of leverage in the capital structure of firm was considered as a great weakness. In order to grow and compete in the market firms need to expand continuously. In the huge global war of growth, substantial investment in capital for technology modernization, infrastructure, promotion and development of product is compulsory for a firm. Such expansions require heavy investment in both tangible and intangible assets. A firm needs to continuously invest capital in such projects that can reduce cost and increase profitability and ultimately enhance the growth of the firm. In this scenario Leverage is an important tool which helps the managers to take prudent, sound financial decision to finance such investment opportunities.

Basically we divide the firms into two categories with respect to their growth, firms having high growth and low growth. As for high growth firms are concerned these firms can avail any investment opportunity by using leverage because they have enough cash flows to mitigate the risk arises from the use of leverage for availing investment opportunity . On the contrary low growth firms face major difficulties to use leverage for availing any investment opportunity. The reason for this is that these firms have not enough resources to generate revenue that enables the firm to repay the debt along with interest. So it is very important for a firm to make a decision regarding investment to finance it via leverage or not. A firm should finance an investment with leverage if it has enough power to generate revenues for payment of debt.

The relationship of financial leverage and investment decisions is studied by several authors. These authors arrived at different and conflicting conclusions by using different approaches. As discussed by Modigliani and Miller (1958), if there is a perfect completion and efficient market which is not completely possible, the capital structuring and investment decision for a firm are unrelated. Moreover the policies adopted for investment should only be based on profitability spouting factors, net cash flow or net worth of the company. However the theorem was challenged by researchers because of imperfection in market and validity of this theorem.

Jensen (1986) found that the positive net present value of the fir is due to the internally generated enough funds, and then leverage is used as a tool to curtail over investment problem. Hence the leverage positively affect the firm's worth. But Whited (1992) showed that investment in high leveraged firms as compared to low leveraged is more sensitive to cash flow. Barclay, Marx and Jr (2003) demonstrated the direct effect of investment opportunity on debt maturity policy in a firm by showing proportional increase in growth options and usage of short term debt. Aivazian, Ge and Qiu (2005) found the negative but significant strong relationship between leverage and investment for firms having low growth opportunities instead as compare to high growth opportunity firms.

Campello (2006) argued that market gains could be increased by moderate debt taking but sales could be decreased by high debt taking. Guney, Ozkan and Ozkan (2007) due to increase in leverage firms tend to accumulate the huge cash reserves to avoid from bankruptcy risk during financial distress. Odit and Chittoo, (2008) experienced the leverage has a negative and significant relation with investment for firms having low growth but for high growth firms it were negative but not statistically significant. Firth, Lin and Wong (2008) described the negative and weaker relation between financial leverage and investment for low growth opportunity firms as compare to high growth opportunity firms. Singhania and Seth (2010) utilization of debt in large firm's capital structure is more than small firms. This research is conducted on focusing the top 30 companies registered in Karachi Stock Exchange (KSE) of Pakistan. Data of both manufacturing and non manufacturing firms for a period of (2009-2013) is used for this purpose. The main objective of this study was to examine the relationship between financial leverage and investment between Pakistan environment.

This study is also including other factors which can affect the investment decision of firms. The variables are investment (independent), Financial Leverage, Liquidity, Profitability, Asset efficiency, and sales growth. The regression model is used for analysis of data and its interpretation.

1.2 Objectives of the Study

The study objective covers all the aspects explained in hypothesis. The most important research aim is to investigate the effect of financial leverage on corporate investment plans. Moreover the specific objectives of the study are as follows:

- To know either it has positive relation with investment or negative.
- To check the impact of profitability on investment of firms.
- To find out the impact of sales growth on investments of firm.

1.3 Hypotheses

H1: There is a negative relationship between company's leverage ratio and investment plans.

H2: There is positive relationship between the company's profitability and investment plans.

II. LITERATURE REVIEW

Cleray (1999) conducted a research to check the relationship between investment and financial status of firm by using regression model on data available (1987-1994) for 1317 U.S firms. The level of sensitivity related to availability of internal funds is higher for high creditworthy firms as compare to low creditworthy firms and financially constrained firm's investment decision is more sensitive to liquidity than less constrained firms are.

Barclay, Marx and Jr (2003) proved with leverage and debt maturity policy formulation to determine the level of investment opportunities on the company's debt maturity movement, connecting the company's investment opportunities, increase the company's growth opportunities, resulting in a positive impact on short-term debt and changes in investment opportunities are indirectly related to the maturity of the debt.

Aivazian, Ge and Qiu (2005) basically focus on the negative relationship of leverage and level of investment. Furthermore this relation is significient and strong for firms having low growth opportunities instead of firm having high growth opportunities, agency theries of corporate leverage is also sppourted in conclusion in perspective of canidian public companies.

Ahn, Denis and Denis (2006) discussed the diversified firms, which have multiple lines of businesses. In such firms, decision making about capital structure (Investment & Leverage) is an easy process. Higher level of leverage causes a constraint on decisions regarding investment.

Campello (2006) checked the effect of leverage on market gains and sales expanding that the market gains increase due to moderate debt taking and high debt taking case a deficit in sales but the firms having low leverage shows a significant increase in the sales in same industry due to flexible decision making about investment.

Manos, Murinde and Green (2007) differientated the independent firms and group affiliated firms working in India by elaborating the high debt ratio used in group affiliates but the difference between capital structure of both types are not because of firm's own size and findout that virtual capital markets are created by business groups of emerging markets.

Guney, Ozkan, and Ozkan (2007) focused on the markets of four different countries by using the data of 4096 companies (1996-2000) to determine the relation of financial leverage, capital structure, and investment. Arguments shows that leverage used as a substitute of cash holding but it cause an increase in chances of financial distress. Odit and Chittoo (2008) found by reviewing the previous literatures that leverage and investment is directly or indirectly related but by reviewing significant role of cooperate firms in economic growth of Mauritius the research proved that capital structure is very important for investment policies adopted by the firms. Hens and Steude (2009) observed the data of four financial markets, which are leverage, effected and found that

the market returns were significantly affected by leverage but there are many other factors that are affecting price instability. Checking the impact of Leverage on Leverage was the uniqueness of study.

Singhania and Seth (2010) published one of the most important researches in context Indian to determine the impact of financial leverage on investment opportunities by elaborating the direct relation of debt ratio with firm's revenue and inverse relation of liquidity and leverage however financial decisions shown important for firm's welfare.

Baum, Caglayan and Talavera (2010) worked on the behaviour of capital investment regarding manufacturing firms considering firm specific and market level uncertainty changes in the United States. Concluons show that the level of uncertainty id directly or indirectly linked with leverage and capital investment.

III. DATA AND RESEARCH METHODOLOGY

3.1 Data

To conduct this study secondary data is used. As the study is conducted on Pakistani firms which were listed in Karachi Stock Exchange (KSE). The official websites of Karachi Stock Exchange (KSE) and financial statements of companies were used for data collection. All the data is collected for a period of five years from 2009 to 2013. In Karachi Stock Exchange (KSE) there are almost 34 sectors in which 650 companies are registered. The sample size is consisting of total 30 companies. All the companies of which data was missing are not a part of sample.

3.2 Problem Identification

Investment decision and financial leverage are co related. This relationship can be positive or negative. In this study the same problem has been discussed by keeping focus on top 30 companies listed in Karachi Stock Exchange (KSE) of Pakistan and the importance of this relationship for the progress of firms listed in stock exchange.

3.3 Identification of Variables

Research has been conducted by using six variables.

3.3.1 Dependent Variable: Investment

Investment is a comprehensive term and has different meanings in finance and economics. Generally in finance it refers to put your money into something with some expectation of gains. More precisely, investment is a commitment to one or more assets which will be held for some future time period with some expectation of gains. The future is always uncertain, and anything related to future involves some risk. For investment point of view, risk means that the actual gains from the investment will be different from expected outcomes.

3.3.2 Independent Variables

3.3.2 a. Financial Leverage

Use of financial leverage measures in this study is the ratio of the book value of the carrying value of long-term debt to total assets. This procedure will not reflect the recent changes in the market valuation of the company. The same measures used by Odit & Chittoo, (2008) in their study.

Debt ratio = Long Term Debt / Total Assets

3.3.2 b. Liquidity

This ratio shows the ability of its short-term assets (cash, inventory, receivables) to pay its short-term debt. As the current ratio will be higher the firm will be more capable to pay its obligations. If the ratio will be below 1 then it indicates that the firm is unable to pay off its liabilities, and company's financial condition is bad but it will not bankrupt. Companies who have difficulty getting paid for their receivables or have long inventory turnover can run into liquidity problems because they are unable to reduce their obligations. Since the company's different in every industry, it is always useful to compare companies in the same industry. The same measure of liquidity is used by Odit & Chittoo, (2008) in thier studies.

Current Ratio = Current Assets / Current Liabilities

3.3.2 c. Net Fixed Assets

Net Fixed Assets are as land, buildings, equipment which have more than one year life and acquired to carry on the business of a company. In financial records the Assets (Fixed) are usually expressed as total asset minus depreciation.

Net Fixed Asset = Total assets – Current Assets

3.3.2 d. Profitability

The profit margin is commonly used for internal comparison. It is an indicator of the pricing strategies of the company and how well you control the cost. The differences in competitive strategy and product mix caused profit margin for the differences between the different companies.

The profit margin, net margin, net profit margin or net profit all refer to a measure of efficiency. Calculated by finding the net profit as a percentage of revenue.

Net profit margin = Net profit after taxes / Total Fixed Assets

3.3.2 e. Sales Growth

Sales growth shows the performance of a firm with respect to previous year performance. The increase in sales over a specific period of time is measured by

Sales Growth = Net sales/Total fixed Assets

The same formulas are used by Odit and Chittoo (2008) for measuring sales growth over the years.

Table 3.1. Variables and their measurement

Sr no.	Variables	Measurement
1	Investment (dependent)	Balance sheet figure in millions
2	Financial Leverage	Long term Debt / Total Assets
3	Liquidity	Current Assets / Current Liabilities
4	Asset Efficiency	Net Fixed Assets
5	Profitability	Net profit after taxes / Total fixed Assets×100
6	Sales Growth	Net Sales / Net Fixed Assets

IV. EMPIRICAL RESULTS & DISCUSSION

4.1 Descriptive Statistics

Descriptive statistics concern the dependent variable and the independent variables of companies listed in the Karachi Stock Exchange (KSE) in Table 4.1.1. The table below lists the summary statistics used in the model variables. The following table shows the KSE listed 30 companies best placed in the results of the sample period 2009-2013.

Table 4.1.1 Descriptive Statistics

	CF	LEV	LIQ	PFT	Q	Sales
Mean	6.303054	0.371381	1.696216	0.361382	716.9647	7.061644
Median	0.410656	0.130000	1.125000	0.243752	290.9986	1.000000
Maximum	127.9809	11.69000	11.69000	2.844856	6017.015	125.0000
Minimum	-0.075320	0.00001	0.100000	-2.945401	.562626	-1.000000
Std.dev	22.35336	1.285930	1.581484	0.546451	1103.228	18.75917
Skewness	4.073144	6.846714	3.311589	-0.330914	2.473363	4.206716
Kurtosis	19.12982	52.90607	16.84296	14.34452	9.704377	21.49246
Jarque-bera	1877.565	16291.93	1452.212	796.3399	428.0824	2510.937

The mean value of CF, PFT, Sales, LEV and LIQ shows the average circulation of cash, growth in sales and profitability and use of debt (long term & short term) in the capital structure of the sample firm's data. Standard Deviation shows the deviation of values from its mean value its shows the skewness either it is positively skewed or negatively skewed the values in the table are positive values so the skewness curve will be on right sided.

4.2 Hausman Test Results

Table 2 shows the results for the entire sample of econometrics. It shows the pooled estimate random effects Estimates and fixed effects estimates. Standard errors are shown in italics. Here we apply Hausman 1978 test to check which model is appropriate for this research. For this purpose we devolve 2 theories H_o and H_1.

H_o: H.T. (PV) > 0.05 then accept random effect model.

H_1: H.T (PV) <0.05 then accept fixed effect model.

By applying test on whole data we find that the probability value (P.V) is grater then 0.05 so that's why we accept random effect model and we fail to accept H_1.

Table 4.1: Regression Results: Dependent Variable (Net Investment)

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	6.555792	2.029757	3.229840	0.0016
CF	-0.011713	0.058452	-0.200392	0.8416
LEV	-0.026445	0.936407	-0.028241	0.9775
LIQ	-0.204724	0.590462	-0.346719	0.7295
PFT	3.479015	0.978916	3.553948	0.0006
Q	-0.001460	0.000997	-1.464358	0.1460
SALES	-0.089907	0.042863	-2.097575	0.0383

The regression results of Random Effect model shows that the leverage is negative but insignificant to net investment same as cash flow, liquidity and Tobin Q and profitability is positively significant to net investment although sales also have significant correlation but it is negatively correlated to net investment.

4.3 Correlation Analysis

Correlation is statistical measured data which holds together two or more variables that indicate fluctuations. Positive correlation shows a direct relation between two variables that the increase in one variable will cause a decrease in the second variable but negative correlation indicates the extent

to which one variable increases the other decreases. We use different percentages 1%, 5% & 10% to check that either the relationship between two variables is significant or insignificant. If the probability value (P.V) will be less than 0.01, 0.05 or 0.1 then it will be significant but if the probability value of correlation will be grater then 0.1 then it will be insignificant.

Table 4.2 Correlation among Independent Variables

	CF	LEV	LIQ	PFT	Q	SALES
CF	1.000000					
LEV	-0.077786	1.000000				
LIQ	0.017639	0.488808	1.000000			
PFT	0.119992	-0.120252	0.174263	1.000000		
Q	-0.020395	0.010048	0.479962	0.036534	1.000000	
SALES	0.636093	-0.078168	-0.051838	0.399374	-0.152058	1.000000

Table above indicates that cash flow and leverage have a negative and significant correlation at 10% similarly cash flow and liquidity is significant and positively correlated at 5% but the cash flow and profitability have a positive and insignificant correlation at 10%. Cash flow and Tobin Q is significant and negatively correlated at 5% but sales and cash flow is insignificant but positively correlated. By using 10% we can observe that correlation between leverage and liquidity is positive and leverage and profitability is negative but both are insignificant. On other hand correlation of leverage with Tobin Q is positive and significant at 5% but correlation between leverage and sales is significant at 10% but is negatively correlated. Significant and negative correlation between liquidity and sales at 10% but insignificant and positive relation among liquidity & profitability as well as liquidity and Tobin Q. Furthermore profitability & Tobin Q is positively significant at 5% but correlation of Tobin q with sales is negative and with profitability it is positive but both are insignificant.

CONCLUSION

The study was conducted on the Pakistani firms to check that does financial leverage influence investment decisions for this purpose we take a sample of top 30 companies registered in Karachi Stock Exchange (KSE) and collected the data for 5 years (2009-2013). To check that which model is best for our research to apply we use Hausman 1978 test and it shows that random effect model is best for our research. The regression results indicates that leverage is negatively correlated to net investment it means that as the leverage ratio will increase it will cause a decrease in net investment. And profitability is positively correlated to investment as the profitability will increase the investment in the firm will also increase. The results sport the hypothesis devolved H1. H2 and by this we find out that the high leverage is not good for the company's health because as the leverage ratio will be higher the more company will bear financial cost and sometimes it cause bankruptcy.

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