

An Examination of the Empirical Relationship between Investment Decision and Financing Decision: The Case Study on Pakistani Banks

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Abstract

This study investigates empirically the effect of investment decision on financing decision. To obtain the objectives, the data required, ranging from 2004 through 2013 were collected from the financial statements of all the banking firms listed in Karachi Stock exchange. Investment opportunity and actual investment were used as proxies of investment decision. Profitability and firm size were used as control variables. Multiple regression models were used to estimate the variables of interest. It was concluded that investment opportunity had significant effect on financing decision; however, the effects have no particular pattern. Furthermore, actual investment had no impact on financing decision.

Keywords: Banking Sector, Investment Decision, Financing Decision, Multiple Regression Model

1.0 Introduction

The leverage irrelevant proposition has been widely discussed in finance literature. Production decision is administrated exclusively by an objective standard with no regard to subjective preferences of individual that go into their expenditure (consumption) decisions in the given complete and perfect capital market (Copeland, Weston, Shastri, & Education, 1983). This contention is consistent with Williams who has observed firstly the financial policy irrelevant proposition in 1938 (Chen, 1978). The study of (Modigliani & Miller, 1958) also support the financing irrelevant proposition. (Miller, 1977), (DeAngelo & Masulis, 1980) have also been supported the financing irrelevant proposition.

Managers are having better information than the outside investors, in the real world, which is known as asymmetry information (Brigham et al., 1999). Asymmetry information is a cause of conflicting investor preferences and harmony will not acquire even between the final shareholders in incomplete market (Taggart, 1980). Asymmetry information involves different theories which support financial decision relevance proposal, just like balancing theory (DeAngelo & Masulis, 1980b), (Gardner & Trzcinka, 1992), (Bayless & Diltz, 1994), agency theory (Jensen & Meckling, 1979), pecking order theory (Myers, 1984), (Myers & Majluf, 1984), trade off theory (Brigham et al. 1999) or signaling theory (Meggison, Megginson, & Megginson, 1997).

The mix result among the different financing decision relevancy theories is shown by the empirical evidence. A few studies support the balancing theory, like (Crutchley & Hansen, 1989), (Kale, Noe, & Ramirez, 1991), and (Gardner & Trzcinka, 1992). Few studies support the pecking order theory, including (Carleton & Silberman, 1977), (Baskin, 1989), (Barton, Hill, & Sundaram, 1989), (Bayless & Diltz, 1994), (Adedeji, 1998; Shyam-Sunder & Myers, 1999). Other studies support mixture of both two theories, such as (Jensen, Solberg, & Zorn, 1992) and (Griner & Gordon, 1995) support pecking order theory and balancing theory both.

1.1 Balancing Theory

Brigham et al. (1999) have examined the behavior of managers on the basis of business risk. They have predicted that in less risky conditions firms use more debts and in high risky conditions firms use fewer debts. Thus, in less risky conditions, there should be a positive influence of growth on financing decision, and in high risky conditions, there should be a negative influence of growth on financing decision.

1.2 Pecking Order Theory

Myers and Majluf (1984) have argued that the use of internal funds is the preference of firms. If there is a need of external funds, managers opt debt financing instead of issuance the new equity. It is supposed that profitability is constant relatively; the theory indicated that there is a positive influence of investments on the

financing decision. If firms violate any financing order, it will lead to high investment risk or financial difficulties.

1.3 Problem Statement

Analyzing the effect of investment decision on financing decision in banking sector of Pakistan is the core issue to be addressed. The center of attention of the study is whether the effect of investment decision is going to define the financing decision or not. The nature of present research gap is quite difficult to understand as the said topic is critically analyzed by various researchers in way of how the investment decision is going to define the financing decision for a business. In addition to the above problem, the said effect must be analyzed by controlling the effect of firm size and profitability.

1.4 Objectives of the Study

- Investigate whether investment decision influence financing decision.
- Attempt to control the effect of firm size and profitability on financing decision.

1.5 Organization of the Study

The rest part of the study is organized as: section two is review of the literature of the existing relationship between investment decision and financing decision and development of hypothesis. Section three includes the research methodology. Section four explains the empirical results and discussions. Section five consists of conclusion and directions for the future studies.

2.0 Review of Literature and Hypothesis

Fisher separation theorem argued that managers of a company make firstly the investment decision and secondly they make financing decision, but both the decisions are independently. However, if it is supposed that asymmetry information exists, the separation cannot be held for the long period of time. To make the investment decision, the behavior of the managers cannot directly observed by the outside investors. Hence, they always try to observe the behavior of managers in other side (financing decision) to access the decision of investment.

Investment decision cannot observe directly. Myers (1977) acquaints the term investment opportunity set which means the extent to which the firm value depends on future optional expenditures by the firm. There are a number of proxies in finance literature and accounting to capture Myers' view of investment opportunity set (IOS), just like Gaver and Gaver (1993), Smith Jr and Watts (1992). There are three kinds of these proxies classified by Kallapur and Trombley (1999): investment-based proxies, price-based proxies and variance measures. They have observed that price-based proxies are better than other two proxies of investment opportunity set to be associated to realized growth as benchmark. On the basis of Fisher separation theorem, investment decision effects financing decision but it is supposed that asymmetry information exists.

Wang, Huang, and Wang (2010) have explained that as regard to the lifecycle stage of a company, there is inconsistent impact of investment decision on borrowing and borrowing on investment decision at different levels. Which means the capital market is imperfect.

Kaaro (2002) has highlighted that the level of risk is the element which cause the effect of investment decision on financing decision. He further explained that in low risky conditions companies use more funds for investment and use low funds in high risky conditions.

Abbott (2001) has indicated that there is negative correlation between the market debt-to-equity ratios and investment opportunity set movements. Whereas book debt-to-equity ratios have positive correlation with investment opportunity set movements.

Berkovitch and Narayanan (1993) have narrated that if there is no perfect competition between the financial markets then there is a relationship between the financing decision and the investment decision. If the economic conditions getting better then the percentage of equity financing will be greater with respect to the debt. If the past economics conditions are on average lesser, the portion of equity financing and portion of types of financing will be greater. And the industry projects having low existence rate are highly financed by equity.

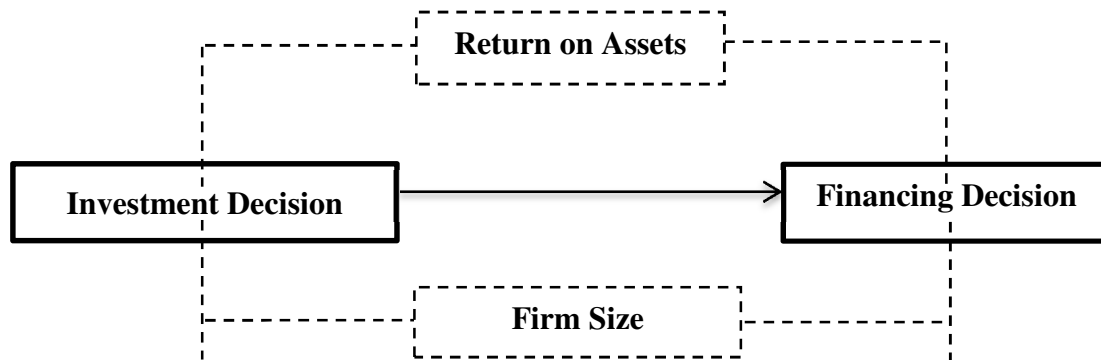
Hypothesis 1: There is an association between Investment opportunity and financing decision.

Hypothesis 2: There is a linkage between realized growth (actual investment) and financing decision.

2.1 Research Gap

On the basis of Fisher separation theorem, investment decision effects financing decision but it is supposed that asymmetry information exists. Kallapur and Trombley (1999) have investigated that actual investment or realized growth and future growth both to observe the investment decisions that affect the financing decision. But in above studies, it is not cleared that what is the relationship between investment decision and financing decision. This study will attempt to observe the association between the said variables.

2.2 Theoretical Framework.



In the above theoretical framework, the investment decision (independent variable) affects the financing decision (dependent variable), and the return on assets and firm size are the control variables.

3.0 Data and Research Methodology

The data from 2004 through 2010 is used in this study. To calculate the growth of total assets and sales growth, the data of period 2003 is also used. The data consists of annual financial reports of all banking firms of Pakistan which are listed in Karachi Stock Exchange. Panel data regression model is used to analyze the impact of investment decision on financing decision.

3.1 Variables Description

The variables used in this study are generally measured by following the past studies.

Three types of variables are used, discussed below:

3.1.1 Dependent Variable

Financing decision (financial leverage) is to be considered as dependent variable measured in terms of total debt to total assets ratio. It is computed as:

$$\text{Financial Leverage (FL)} = \text{Total Debt} / \text{Total Assets} \quad (\text{Osuji, Odita, 2012})$$

3.1.2 Independent Variables

The independent variable is investment decision.

3.1.2.1 Investment Decision

Investment decision includes two variables which are actual investment and investment opportunity.

Actual Investment: Actual investment is measured as total assets growth and sales growth of banks over a period of time. The formula of growth is as under:

$$\text{Total Assets Growth (TAG)} = (\text{TA}_t - \text{TA}_{t-1}) / \text{TA}_{t-1} \quad (\text{Kaaro, 2002})$$

$$\text{Sales Growth (SG)} = (\text{S}_t - \text{S}_{t-1}) / \text{S}_{t-1} \quad (\text{Kaaro, 2002})$$

Investment Opportunity: Investment opportunity is measured by two variables of earnings per share to stock price (EPSSP) and capital intensiveness.

$$\text{EPSSP} = \text{Earnings per share} / \text{Stock price} \quad (\text{Kaaro, 2002})$$

$$\text{Capital Intensiveness (CI)} = \text{Total equity} / \text{Sales} \quad (\text{Kaaro, 2002})$$

3.1.3 Control Variables

The control variables of the study are following:

Firm Size (FS): It is the size of bank and measured as logarithm of total assets (Osuji, Odita, 2012) at the end of year. Firm size may influence the financing decision of banks.

Return on Assets (ROA): Return on assets is measured in terms of profit after tax to total assets ratio at the end of financial year. It shows the ability of banks to create profits by utilizing its assets.

$$\text{ROA} = \text{Profit after tax} / \text{Total Assets} \quad (\text{Osuji, Odita, 2012})$$

3.2 Econometric Modeling

In order to test the hypothesis the study uses multiple regression models on the sample data of firms and following model is developed:

$$\text{FL}_{it} = \beta_0 + \beta_1 \text{TAG}_{it} + \beta_2 \text{SG}_{it} + \beta_3 \text{EPSSP}_{it} + \beta_4 \text{CI}_{it} + \beta_5 \text{FS}_{it} + \beta_6 \text{ROA}_{it} + e_{it} \dots (1)$$

Where; Financial leverage (FL) is the dependent variables of the present study of banking firms over period of time t, and β_1, \dots, β_6 are the intercept terms for the selected set of independent variables. Total assets growth (TAG), sales growth (SG), earnings per share to stock price (EPSSP) and capital intensiveness (CI) are the independent variables, and firm size (FS) and return on assets (ROE) are the controlling variables in the above model.

4.0 Empirical Results

The study has explained the outcomes of panel data regression analysis to analyze the impact of investment decision on financing decision of banking firms in this section.

4.1 Descriptive Statistics

The year-by-year (before and after financial crisis) descriptive statistics outcomes of annual data from 2004 to 2013 said that the mean value of financial leverage in 2004 is 0.1299 but it decreased in 2005. In 2006 and 2007 the mean value of financial leverage is increased. In 2008 and 2009, there is diminishing growth in financial leverage, it is slightly increased in 2010 and 2011 (11.95 and 14.36), but in 2012 and 2013, there is dramatically diminishing growth. There is one possible explanation with the results. Many banking firms have been lost of their profits during the period of global financial crisis. Global financial crisis showed their effect in the middle of 2007-2008, stock markets have fallen in all over the world and larger institutions have crashed. On the other side, the global financial crisis influence the livelihood of everyone connected in the world. In 2009 the banking firms start the recovery of their profits. The internal funding reduced due to the lost of profits. Pecking order theory (Myers and Majluf 1984) gives preference of external debt over financing new equity.

The mean value of TAG and SG is 0.3884 and 0.4804 respectively in 2004. The mean values of TAG and SG are increased in 2005 and decreased in 2006 and the value of TAG and SG increased in 2007, in 2009 and 2010, both the variables are decreased, but increased in 2011. In 2008 and 2012, the mean value of TAG increased but the mean value of SG decreased. In 2013 mean values of both variables are decreased. The variation of TAG and SG is greater. These variables represent the realized growth.

EPSSP's mean value as proxy of investment opportunity is positive in 2004 through 2007, but it is negative in 2008 through 2010. It is also positive in 2011 and 2012 and again negative in 2013. The results report that because of economic crisis, the firms suffer losses, in 2011, the firms start the recovery of the losses and increase the performance. Another possibility of explanation can be based on compensation theory. This theory explains that if there is existence of upper and lower bonus plan, the managers of firms might prefer to opt take a bad in period of 2004 to 2009 to get high bonus in the period of 2010 to 2013 (Healy, 1985). The mean value of CI, which is also a proxy of investment opportunity, is higher in 2006 (2.8661) and lower in 2013 (1.0274). The value of capital intensive is higher in 2004 (2.4556), 2006 (2.8661) and 2007 (2.1199), which means in these periods the banking firms are more capital intensive. The variations in CI are relatively low.

The mean value of ROA is negative in the periods of 2008 through 2010. Because of global financial crisis many banking firms suffer loss. In the period of 2010, many banking firms start recovery, improve the performance and increase the ROA. This means that in the period of financial crisis the performance of firms affect badly. The maximum mean size of banking firms is in 2013 (8.4825) and the minimum in 2006 (7.8536). There is increasing growth in the size of banking firms from 2006 to 2013. The FS is slightly decreased in the period of 2006.

4.2 Regression Analysis

Table 1 reports the year-by-year (before and after financial crisis) regression analysis results of total debts to total assets. TAG is found to be negatively significant in the period of 2012 (Coef.= -0.1691, t= -2.1193) and 2013 (Coef.= -0.1567, t= -2.6519) at the significance level of 0.05. SG has significant positive impact on FL only in the period of 2011 (Coef.= 0.1241, t= 1.8996) at 0.10 significance level. EPSSP as a proxy of investment opportunity is significant positive in 2011 (Coef.= 0.6232, t= 3.0426) and 2012 (Coef.= 0.3589, t= 2.6943) only. These periods represent economic normal (less uncertainty conditions) indicating that there are more investment opportunities. CI has significant positive impact on FL in all the years (both in high and less risky conditions) at the level of significance of 0.01. Results show that in less uncertainty conditions the banking firms are more capital intensive as the values of t statistics are higher in the period of economic normal. The FS has inconsistent impact on FL. FS is mostly significant in economic normal but insignificant in the period of economic crisis (high uncertainty conditions). ROA has significant impact on FL in the period of 2004 through 2007, 2010 and 2011. The variation in coefficient of determination (R^2) is relatively low.

Table 1: Regression Analysis of Total Debt to Total Assets (t-value in Parenthesis)

Variable	Years									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Constant	-0.1338			0.8270	-	-	-		0.1035*	
	(-0.6593)	0.0387	0.3505	***	0.0458	**	***	-0.2767	**	-0.0231
TAG	-0.0712			-	-	-			0.1691*	0.1567*
	(-1.4404)	0.0116	0.0642	0.0757	0.0061	0.1783	0.0115	0.0137	*	*
SG	0.0346			-	-	-			-0.0450	0.1480
	(0.6300)	0.0309	0.0039	0.1466	0.0518	0.2551	0.0879	0.1241*	-0.0450	0.1480
EPSSP	-0.6300			-	-	-		0.6232*	0.3589*	
	(-0.3289)	0.0595	0.0994	0.0638	0.1006	0.3547	0.3230	**	*	-0.0631
CI	0.2990*	0.4192	0.4371	0.4627	0.7709	1.0561	0.7410	0.8055*	1.0993*	1.0538*
	(6.9591)	(3.005)	(3.319)	(3.969)	(9.541)	(9.766)	(13.23)	(12.576)	(30.589)	(22.916)
FS	0.0909			0.2322		0.2270	0.2326		0.0997*	
	(0.9094)	0.0056	0.1062	**	0.0202	*	***	0.0735	**	0.0295
ROA	1.0557*	1.1238	0.9469	0.9606	-	-	0.6737	0.2863*	0.0602	-0.1033
	(18.015)	(7.082)	(9.610)	(11.58)	0.5862	0.3020	5.6981	(-3.0790)	(0.8759)	(-1.1065)
R ² Adjusted R ²	0.9970	0.9677	0.9561	0.9636	0.9712	0.9538	0.9799	0.9880	0.9959	0.9880
	185.376	26.654	29.048	35.265	48.749	29.804	70.542	118.531	349.750	118.911
F	7***	6***	8***	2***	6***	9***	0***	7***	7***	2***

Note: *Significant at 0.1; **Significant at 0.05; ***Significant at 0.01

Notes: TAG is total assets growth; SG is sales growth; EPSSP is earning per share to stock price; CI is capital intensiveness; FS is firm size; ROA is return on assets

4.3 A COMBINED ANALYSIS FROM 2004-2013

The tables mentioned below explains the Descriptive Statistics, Pearson Correlation and Regression Outcomes for the selected set of variables in order to define the Financial Leverage of all banking firms of Pakistan listed in Karachi Stock Exchange from the period of 2004 through 2013.

4.3.1 Descriptive Statistics

Table 2 exhibits the descriptive statistics of all banking firms of Karachi Stock Exchange with 230 observations of ten years pooled data set from 2004 through 2013. The mean value of

Table 2: Descriptive Statistics

Variables	N	Range	Mean	Std. Deviation	Maximum	Minimum
FL	230	1.095648	0.125057	0.161623	1.062864	-0.032783
TAG	230	13.76560	0.315615	1.033097	12.81580	-0.949797
SG	230	5.925688	0.346223	0.611677	5.020118	-0.905569
EPSSP	230	3.176678	0.020088	0.310813	1.021505	-2.155172
CI	230	24.45779	1.689222	2.523320	24.07072	-0.387072
FS	230	2.783869	8.145791	0.590289	9.234333	6.450464
ROA	230	0.293932	0.006912	0.032860	0.211421	-0.082511

financial leverage (FL) is 0.1250 with the maximum value of 1.0628 and minimum value of -0.0327 showing that banking firm rely less on debt financing than on equity. The profitability of banking firms measured by ROA has mean values of 0.0069. The average size (FS) of banking firms is 8.1457 with a maximum value of 9.2343 and minimum value of 6.4504. Average value of firm size (FS) is 8.1457 which is the greater mean value as compared to all other variables having maximum value of 9.2343 and minimum value of 6.4504. As for earning per share to stock price (EPSSP) and capital intensiveness (CI) of banks concern, the mean value of CI is 1.6892 (std. dev. = 2.5233) ranges from -0.3870 to 24.0707, showing that banking firms are more capital intensive as the standard deviation and maximum value of CI is higher than all other variables and the mean value of EPSSP is 0.0200. The maximum value of EPSSP is 1.0215, showing investment opportunities and minimum value is -2.1551, showing investment risk. The mean value of total assets growth (TAG) and sales growth (SG) is 0.3156 and 0.3462 respectively. The standard deviation values are low and the variations in these values are also low, it indicates that the sample firms have same characteristics. Because of the reasonable level in the values of standard deviation, it can be concluded from the above results of descriptive statistics that there is no higher fluctuations in the values of selected set of variables.

4.3.2 Pearson Correlation Analysis

It is quite important to observe the level of correlation between the dependent and independent variables, the multicollinearity problem, in order to move for further analysis. The Pearson's correlation test has been conducted to observe the interaction level between the selected set of variables. If there is existence of correlation the regression analysis results are not acceptable because of interdependency of selected set of variables.

Table 3 displays the Pearson Correlation Analysis of all variables over ten years period ranging from 2004 through 2013. It can be seen that CI (0.3930) and ROA (0.3587) have significant positive relationship with FL and the FS (-0.4500) has significant negative association with FL at the significance level of 0.01. From the Table 3, it can be concluded that there is no high degree of correlation between the selected set of variables. Only the value in between ROA and EPSSP has greater association which is 0.4553, significant at the level of 0.01. This indicates that multicollinearity does not affect the results.

Table 3: Pearson's Correlation Matrix

	FL	TAG	SG	EPSSP	CI	FS	ROA
FL	1.0000						
TAG	-0.0171	1.0000					
SG	0.0927	0.2407**	1.0000				
EPSSP	-0.0229	0.0118	-0.0132	1.0000			
CI	0.3930**	0.0334	0.1562*	0.0332	1.0000		
FS	-0.4500**	-0.0118	-0.2559**	0.1865**	-0.4385**	1.0000	
ROA	0.3587**	-0.0252	0.0057	0.4553**	-0.0770	-0.0696	1.0000

Note: *Correlation is significant at the 0.05 level and **Correlation is significant at the 0.01 level.

4.3.3 Regression Analysis

In order to move for further analysis, the study has considered the major assumptions which are very important in panel data analysis. Table 4 highlights the regression results of whole period of time, 2004-2013.

Table 41: Regression Results

Dependent Variable: Financial Leverage (FL)			
Variables	Coefficient	t-statistics	p-value
(Constant)	0.575299	3.768812	0.000211***
TAG	-0.015036	-0.280124	0.779646
SG	-0.027459	-0.473767	0.636136
EPSSP	-0.161715	-1.976521	0.049345*
CI	0.321783	5.124365	0.000001***
FS	-0.211868	-2.897760	0.004138***
ROA	0.473427	7.422158	0.000000***
R²	0.408636		
Adjusted R²	0.384444		
F-statistics	16.89123***		

Note: *Significant at 0.10; **Significant at 0.05; ***Significant at 0.01

Table 4 narrates in regression model that capital intensiveness (CI) has significant positive relationship with financing decision determined by FL (Coef.= 0.3217, t= 5.1243) at the significance level of 0.01, showing that the banking firms are more capital intensive. There is a negative interaction between the EPSSP (Coef.= -0.1617, t= -1.9765,) and FL at 0.10 level of significance. The negative value of EPSSP indicates investment risk. The effect of firm size (FS) on financial leverage (FL) is significant negative (Coef.= -0.2118, t= -2.8977) at the significance level of 0.01. Moreover, a direct correlation between the FL and the profitability of firm measured by ROA (Coef.= 0.4734, t= 7.4221) is found at 0.01 level of significance. As for TAG and SG concern, both these variables have negative but insignificant effect on the FL of banking firms as showing (Coef.= -0.0150, t= -0.2801) and (Coef.= -0.0274, t= -0.4737) respectively.

4.4 Discussion

There is a negative effect of total assets growth on banks financing decision in economic normal (2012, 2013), and there is no effect of total assets growth in the period of 2004 through 2011, it can be concluded that there is no impact of total assets growth on financing decision in high uncertainty conditions. The result does not confirm the balancing theory. Other proxy of actual investment, sales growth has inconsistent effect on financing decision. In general, the impact of realized growth on financing decision is less consistent. While in 2011, sales growth has statistically significant positive effect on financing decision.

Earnings per share to stock price positively influence financing decision in the less uncertainty conditions (2011 and 2012). The results suggest that in less risky conditions, banking firms use higher debt to finance their growth of future. In high risky conditions, banking firms use lesser debt to finance their growth of future. The outcomes are same with the balancing theory. Another proxy of investment opportunity, capital intensiveness (total equity to sales) positively influences financing decision in high and less risky conditions.

While considering the regression results of whole period from 2004 through 2013. From the Table 4, it can be seen that there is an inverse association between actual investment measured in terms of earning per share to stock price (EPSSP) and financing decision. The outcomes are consistent with Fisher separation theorem and Berkovitch and Narayanan (1993). But the outcomes are not consistent with Myers and Majluf (1984) and Galeotti and Dieci (2000). The results are also inconsistent with Smirlock and Marshall (1983). Other investment opportunity, capital intensiveness measured in terms of total equity to sales has direct interaction with financing decision. The results are consistent with Myers and Majluf (1984) and Galeotti and Dieci (2000). Moreover, controlling variable firm size has significant negative linkage with financing decision and return on assets has positive relationship with financing decision.

5.0 Conclusion

This study investigates empirically the impact of investment decision on financing decision. To obtain the objectives, the data required, ranging from 2004 through 2013 is collected from the financial statements of all the banking firms listed in Karachi Stock exchange. Two proxies i.e. investment opportunity and actual investment are used for investment decision. Regression analysis is used to estimate the coefficients of interest.

Findings of research does not support the balancing theory which suggest that there should be a positive effect of growth in less risky conditions and negative effect in high risky conditions on financing decision. But there is a negative effect of total assets growth on banks financing decision in economic normal (less uncertainty conditions) and no impact of total assets growth on financing decision is found in high uncertainty conditions. The impact of investment decision on firms financing decision depends on the risk level. The empirical evidence shows that firms use more debt in less risky conditions to finance their investment and use less debt in high risky

conditions to finance their investment. The present research shows that investment opportunity (future growth) influences financing decision more powerfully than actual investment (realized growth). Research results also show that with the help of pecking order and balancing theory, the impact of investment decision on financing decision can be explained.

While considering the regression results of whole period from 2004 through 2013. Research findings show that there is an inverse association between actual investment (EPSSP) and financing decision. Other investment opportunity, capital intensiveness has direct interaction with financing decision. The association between size and financing decision is negative and between return on assets and financing decision is positive.

5.1 Policy Implications

The findings of this empirical study are beneficial for bankers and academic researchers. Results are also beneficial for internal and external investors while taking decision of investment in respective capital market. The research might be helpful for the managers of commercial banks in order to concentrate on the factors actually determine the financing policy of banks; it will make them able to take more strategic approach to add value in the organization.

5.2 Limitations and Future Directions

- i. This paper only focuses on the investment decision as determinant of financing decision. Further studies can examine the interdependency among the financial decisions. By developing the simultaneous equation model, further studies can develop the model.
- ii. This study uses only year-by-year data. Hence the future researcher can use the average values of data in order to avoid the discretionary accrual effect, which can be made by the firm's managers.
- iii. The present research does not use the risk variable, such as beta, variance or standard deviation of return, or any other method in order to measure the risk explicitly. Further studies can include this variable as controlling variable.

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