Determinants of Capital Structure: Evidence from Banking Sector in Albania

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Abstract

The aim of this paper is to give a panorama on theoretical and empirical study of capital structure in Banking system in Albania, its components and the factors affecting the decision how to efficiently allocate the capital needed for the second level banks. There are many factors and determinants which affect the capital structuring within a bank. The question each manager should do and the approaches the analysts and researchers have done will be analyzed in this paper. The most important components of capital structure are its determinants and how they affect the leverage ratio. In this paper will be introduced an econometric regression analyses about second level banks in Albania. The sample is composed of some important determinants of four biggest second level banks in Albania for years 2007 - 2012. Size, profitability, growth and tangibility are used as independent variables, while leverage ratio is the dependent variable. The empirical study determines if these variables are important over the capital structure and whether the independent variables are significant over the leverage ratios of the second level banks.

Keywords: Capital structure, Leverage ratio, debt financing, equity financing, determinants of capital structure

1. Introduction

One of the foremost necessary decisions of managers within a company is to find a suitable financial instrument to finance their company and production. Capital structure is one of the most debatable and important points in financial management. It includes project finance, dividend policy, issuing of long term debts, buyouts, financing of mergers, etc. The optimal capital structure is obtained when there is a minimal cost of capital and a maximizing dividend to shareholders.

When a company is founded and starts to grow, capital is required. The sources of the capital are provided by two main sources; debt capital or equity capital. Debt capital has two advantages: First, the interest will be deducted from the tax base and thus reduce the real cost of debt; the second, the creditors provide a good return, thus during periods when the company's profits is increasing they do not share with the firm's partners.

However, there are two disadvantages of this mixed debt capital,: First, the debt ratio would increase the risk of the firm and the firm's interest burden will rise higher. Second, the profits of the company and the company faced difficult the days leading to the liquidation of the firm's interest is insufficient to meet the start of a process. As a result, the debt capital during good days pushes the partners to the corner, and during bad days would bring them a hefty bill.

Determinants of capital structure in financial institutions differ from non-financial institutions due to issues peculiar to these institutions. For banks, which constitute the largest portion of financial institutions in Albania, liabilities relating to legal capital regulations are the most important factors determining the capital structure.

In the first part of this study the factors affecting capital and capital structure will be analyzed, in the second sector the approaches of capital structure and how they are used and in the third sector the determinants of capital structure and also an empiricalanalyze how these determinants as profitability, capital adequacy, size and tangibility relate to the total debt ratio. In the empirical studies the will be used the banking sector of Albania. As in Albania operate 16 second level banks, and is one of the most developed sector we will se how these banks use to manage the debt ration.

2. Literature Review

Capital structure is one of the most discussed topics from entrepreneurs, managers and other people interested on the way the companies and firms are allocating the financial assets. Many academics and economist argued about this topic

and the relationship of the capital structure determinants and total debt ratio.

Modigliani and Miller were the main researches regarding the capital structure, their components and theories, having a high interest and popularity in finance cycle. In their publication on "Capital Structure Irrelevance Theory"(1958) were carried out many conclusions about the capital structure theories called MMI. Also in their publication in MMII (1963) included one of the absent component, the tax effect on the capital structure.

In publications of RobicheckAnd Myers (1966) they argued that the debt in corporations and companies is a a strong reason in order to avoid the bankruptcies, they force the investors to finance their promised payments on their debts.

The developments in corporate finance last 20 years have produced a plenty of ideas how capital structure matters in firm's value and firms investments decisions.

Dewaelheyns&Hulle (2009) made the difference between the capital structure in Private and Public Firms. The private firms were not financed only from internal but also from external financing, which have an important impact on decision. Although the private firms have limited access in in financing debt, they still expand their activities using the internal financing until they meet their needs using the Pecking Order Theory, Mayers (1984).

According to Song (2005) the determinants of capital structure are dependent from the nature of the debt financing. Each determinants has a different impact on short term and long term debt. İn her research concluded that size and tangibility have opposite effects in short term and long term financing debts.

Akhtar, Husnain and Mukhtar (2012) in their research paper found that the determination of capital structure do not need science but only number analysis to determine the factors used for debt, equity and financing.

3. Determinants of Capital Structure

The capital structure decisions are affected from several determinants which are the main factors that help managers take decisions on capital structuring. Main determinants of capital structure are: capital adequacy, tangibility of assets, size and profitability.

There are huge numbers of empirical studies on capital structure determinants, and almost all the studies are related to relationship of leverage ratio and determinants mentioned above. These empirical tests have measured significance of various variables using diverse methodologies and are focused on country specific, industry specific and firms to find the determinants of capital structure. Although these many researches, the analyses and studies results are almost the same.

3.1 Dependent variables

To build the analyses the leverage or debt ratio is used as dependent variable, total debt, short term debt and long term debt. Many researchers have used the book value to calculate and estimate the debt ratios and leverage of the firm and they use the three variables because it is dangerous to use only total debt, because of the inability to give an exact conclusion. The reason is the inability of examining the factors affecting the short and long debt to be identified.

3.2 Independent Variable

3.2.1 Capital Adequacy

The capital adequacyis generally the banks strength and stability as it is the measurement of capital ratio to its assets: loans and investments. So the increasing in capital increases the risk of earnings variations in the future. Therefore the most concerning problem of the managers, are the control of the firms and the concern of creditors to limit default risk. Capital structure can be positively related to long term debt and negatively related to short term debts according to hypothesis of ceteris paribus.

3.2.2 Tangibility

Greater will be the ability to issue secured debts if the firm's assets are more tangible (Booth, 2001). When a firm has a large amount of fixed assets, it can borrow with relatively lower interest rates from creditors. So a firm with greater fixed assets borrows more than a firm with low amount of fixed assets as the interest will be lower. Therefore there is a positive relatioship between the leverage ratio and the tangibility of assets.

3.2.3 Banks Size

There exists a conflict between the viewpoints about the relationship of leverage relative to banks size. One says that there is a positive relationship between the leverage and banks size. The large banks do not consider the bankruptcy costs as a variable in determining the level of leverage. Therefore larger banks have less chances of bankruptcy. The second assumption consists on the negative relationship between the leverage and banks size (Rayan and Zingles 1995), as there is aasymmetric information on large banks. This reduces the chance of undervaluation of new equity issues and thus leads to using more equity financing.

3.2.4 Profitability

There are some theoretical predictions conflicting in the relationship between leverage and profitability. According to pecking order theory, firms with high ratios of profitability, uses their own financing rather than outside sources. According to Jensen (1986) predictions, he stated that there is a positive relationship between the financial leverage and profitability if the banks control is effective.

The Trade-off theory points out that more profitable firm are less exposure to bankruptcy risk. According to this theories related study, there is a negative relationship between profitability and leverage ratios.

4. Data and Methodology

In this study the data and methodology are based on the dates of the capital structure of four second level banks operating in Albania. For theoretical studies, factors affecting this important issue of the banks are analyzed, given the positive and negative consequences of each, approaches and theories and their valuations over years and the determinants affecting the capital structure. Determinants will be analyzed based on the published data by banks using the program SPSP, giving the relationship between depend variable of leverage ratio and independent variables of capital adequacy, tangibility, size and profitability. For the empirical study and regression analysis and formula used for a regression of determinants of capital structure is:

Hypothesis:
H01: There is no significant relation between Capital Adequacy and Bank Leverage.
H02: There is no significant relation between Bank Size and Bank Leverage.
H03: There is no significant relation between Tangibility and Bank Leverage.
H04: There is no significant relation between Profitability and Bank Leverage.

5. Econometric Model

$Leverage_{i,t} = \beta 0 + \beta 1(SIZE_{i,t}) + \beta 2(PROF_{i,t}) + \beta 3(TANG_{i,t}) + \beta 4(CAPADEQ_{i,t}) + \varepsilon i$
Where:
Leverage: 1 minus Equity all over the Total Asset
Size: Natural Logarithm of Total Assets
Tangibility: Total Logarithm of Total Assets
Profitability: Profits before Interest and Tax plus Interest Expense all over Total Assets
Capital Adequacy:Bank's core capital expressed as a percentage of its risk-weighted asset

5.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						Durbin-Watson
	R Square Change	F Change	df1	df2	Sig.F.Change	R Square Change	F Change	df1	df2		Sig. F Change
1	,884(a)	,782	,733	,0089185045024	,782	16,103	4	18	,000		2,488

5.2 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B		Correlations				Collinearity Statistics	
		B	Std. Error	Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF	B	Std. Error
1	(Constant)	,354	,052		6,790	,000	,244	,464					
	Tangability	-,692	,211	-,581	-3,282	,004	-1,135	-,249	,035	-,612	-,362	,388	2,579
	Banksize	-,010	,002	-,804	-4,575	,000	-,014	-,005	-,554	-,733	-,504	,393	2,547
	Profitability	-1,182	,257	-,533	-4,602	,000	-1,722	-,643	-,691	-,735	-,507	,905	1,105
	Capital adequacy	,000	,001	-,038	-,291	,774	-,002	,002	,315	-,068	-,032	,709	1,410

5.3 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,005	4	,001	16,103	,000(a)
	Residual	,001	18	,000		
	Total	,007	22			

a Predictors: (Constant), capitaladequacy, profitability, bank size, tangibility
b Dependent Variable: leverage

Table 1 above shows the result from the data analyzed for this study. As can be seen in the table above, the model estimated give almost a perfect result as compared to the various theories as well as empirical literatures reviewed on the determinants of capital structure among banks generally. The estimated model above has an R2 and Adjusted R2 88.4% and 78.2% respectively as its coefficient of variation. This indicates that majority of the variations or changes in the capital structure of the understudied bank in Albania a largely determined by the dependent variables selected for this study. This is further supported by the F-Statistic which is given at 16 and significant at 1% level of significance from the F-Statistic Prob. This shows that the coefficients of the variables in our model are statistically different from zero. The Durbin-Watson Statistic estimated at 2.48 indicates that there is no trace of serial correlation in the error terms of our model which may render it a spurious regression. Still on table 1 above, it can be observed that all the determinants of Bank Leverage in our model are statistically significant at 1%.
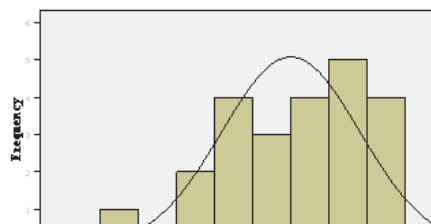

Normal P-P Plot of Regression Standardized

Dependent Variable: leverage
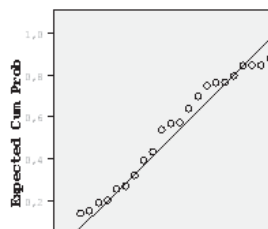
Histogram

Dependent Variable: leverage

6. Conclusions

In this paper provides a general overview of capital structure and how the firms finance their operations by debt financing or equity financing. It includes the factors affecting the capital structure and their importance; the main questions each manager should do while taking the risk of operating, factors affecting the decisions about the financing, approaches which gave a theoretical and empirical result over the years about the changes on the overview of the capital structuring.

The sector of determinants of capital structure gives the reasoning opinion that the determinants of capital

structure factors are the best mix of numbers to choose the financing by debt or equity. The main determinants mentioned above are the highestinfluential factors to determine the leverage of the banks.

As a result of this research findings, it is found that the main determinant factors which contribute to the bank leverage level of the Banking industry in Albania between the years 2008 to 2013 are mainly capital adequacy, tangibility, bank size and profitability with all of these factors conforming to sign expectations based on previous empirical and theoretical findings

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Data Used for Analysis from Bigest 4 Banks in Albania

	Bank	Leverage	Tangibility	Bank size	Profitability	Capital adequacy
2013	BKT	**0.080338774**	0.010442884	21.70749265	0.044420408	14.60
2012	BKT	**0.078852816**	0.012051776	21.57226823	0.044623746	14.30
2011	BKT	**0.074095210**	0.010040634	21.34636004	0.048577518	12.90
2010	BKT	**0.078960492**	0.010962428	21.13066344	0.051640809	13.10
2009	BKT	**0.070647545**	0.014455882	21.01596653	0.045491293	13.20
2008	BKT	**0.072208094**	0.016103872	20.87279694	0.059186266	17.80
2013	RZB	**0.102636000**	0.006426511	19.48733936	0.034087864	22.54
2012	RZB	**0.097417133**	0.006230662	19.58044653	0.043631422	15.84
2011	RZB	**0.091308514**	0.005600409	19.59271169	0.048102008	15.15
2010	RZB	**0.099479379**	0.005632659	19.44307286	0.047344155	17.11
2009	RZB	**0.096766015**	0.006506015	19.34970115	0.054365020	17.94
2008	RZB	**0.078073649**	0.007802002	19.35122644	0.057768696	16.43
2013	ISP	**0.129271740**	0.010445929	18.75169373	0.031138013	21
2012	ISP	**0.130123049**	0.010900733	18.68252245	0.031822686	16.17
2011	ISP	**0.112831812**	0.011864900	18.67558223	0.044615501	15.56
2010	ISP	**0.105382517**	0.013735235	18.60825525	0.045482065	15.38
2009	ISP	**0.096087599**	0.016286120	18.55507842	0.045861808	16.17
2008	ISP	**0.084276699**	0.018930870	18.48951266	0.053277613	17.23
2012	PRO	**0.110806082**	0.039505291	17.50388511	0.033204811	12
2011	PRO	**0.109501005**	0.042265664	17.50064739	0.038939112	14.1
2010	PRO	**0.101020652**	0.043174848	17.51952741	0.044720621	15.4
2009	PRO	**0.073782111**	0.045435432	17.53471042	0.042483651	16.2
2008	PRO	**0.093852782**	0.049154793	17.22119940	0.053451385	15.6

Source: Annual Reports from selected Banks for years 2008-2013