Project Dissertation Report on

The impact of capital structure on market value & Profitability of the Indian banks

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2K18/MBA/058

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CERTIFICATE

This is to certify that the major research project on the topic "**The impact of capital structure on market value & Profitability of the Indian banks**" is a bona fide work carried out by Nand Kishore chopra under my supervision & guidance as part of fulfillment of requirement for Major Research Project (MGT 44) for awarding the degree of MBA (Master of Business Administration), at Delhi School of Management, Delhi Technological University.

This work has been duly completed and has not been submitted anywhere else for the award of any degree or diploma. The project report prepared is within the limitation of allowed similarity index (plagiarism).

Prof. Girish Chandra Maheshwari

ACKNOWLEDGEMENT

The project "**The impact of capital structure on market value & Profitability of the Indian banks**" aims at understanding the current market scenario of Indian Banking Industry.

So, with due respect, I acknowledge all those who have provided constant guidance, support and encouragement that have helped me to successfully complete the project.

I wish to be grateful to my supervisor, mentor and guide prof. G.C. Maheshwari for giving me this opportunity to work on the above-mentioned topic that has proven to be of great significance in today's industry scenario and to our work that I will be pursuing after my completion of Master's degree in Business Administration.

I also pay sincere gratitude to DSM, DTU Delhi faculties and staff members for their constant help and cooperation throughout the academic explorations.

Place: New Delhi

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EXECUTIVE SUMMARY

One of the main objectives of a firm management is to maximise the wealth of the owners or shareholders of the firm. Shareholder wealth in turn is defined as the current price of the firm's outstanding ordinary shares. This objective could be achieved by taking rational financing decisions regarding optimal capital structure which would minimise its cost of capital. The capital structure of a firm is the mix of debt including preference stock and equity; this is referred to as the firms' long term financing mix.

The paper seeks to study the impact of capital structure on profitability of public sector banks in India listed on national stock exchange.

Regression Analysis has been used for establishing relationship between CAR, Return on Assets & P/B RATIO.

The CAR is found to have positive impact on the market value of the firm as the investors tend to give more value or multiple to a bank having quality capital and less risk when compared to a bank having more risky capital structure.

The CAR was found to have positive impact on the profitability of the banks in the Indian banking sector. The positive impact on the profitability can be discussed on the basis of the fact that the maintenance of quality capital in the balance sheet restricts the flow of loans to highly risky ventures.

Also, the profitability also depends on the various other factors like-

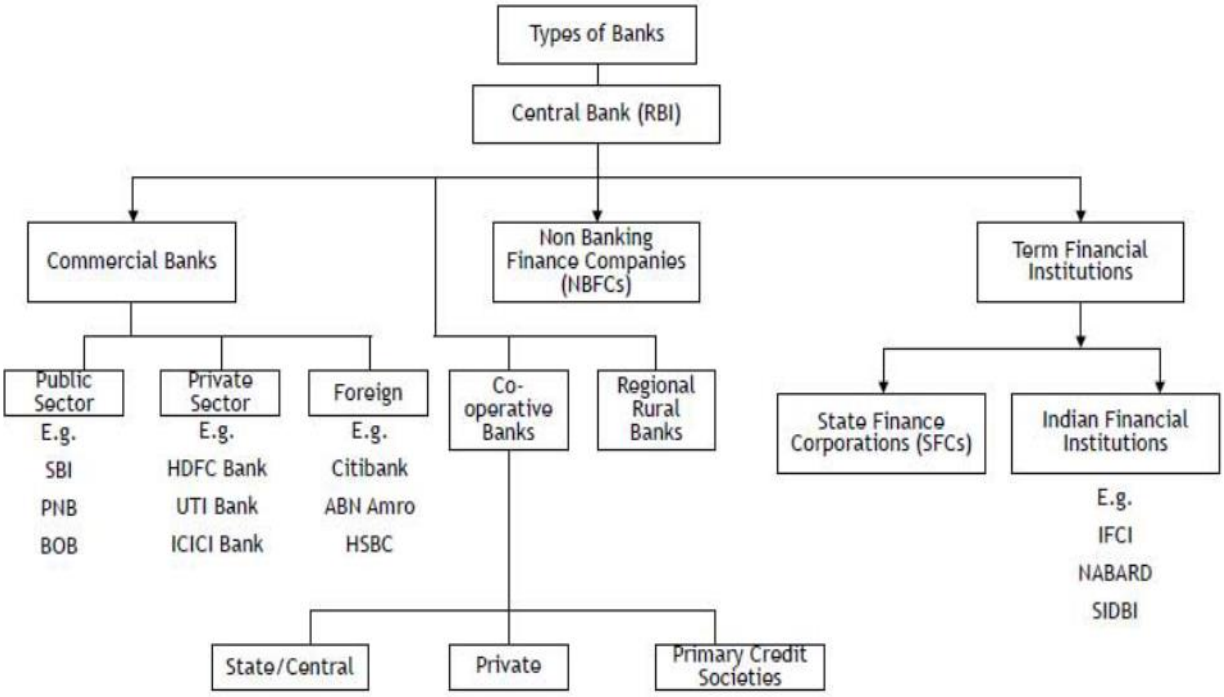
1. Good management
2. Area of operation etc.

CONTENTS

1. INTRODUCTION

Industry profile

Banking system plays an important role in development of a country as well as upliftment of the poor from poverty. It comprises of financial institutions that function in the country. It includes central bank as well as every financial institution in the country that functions and provides financial facilities to any sector like agriculture, industries, trade, housing etc.

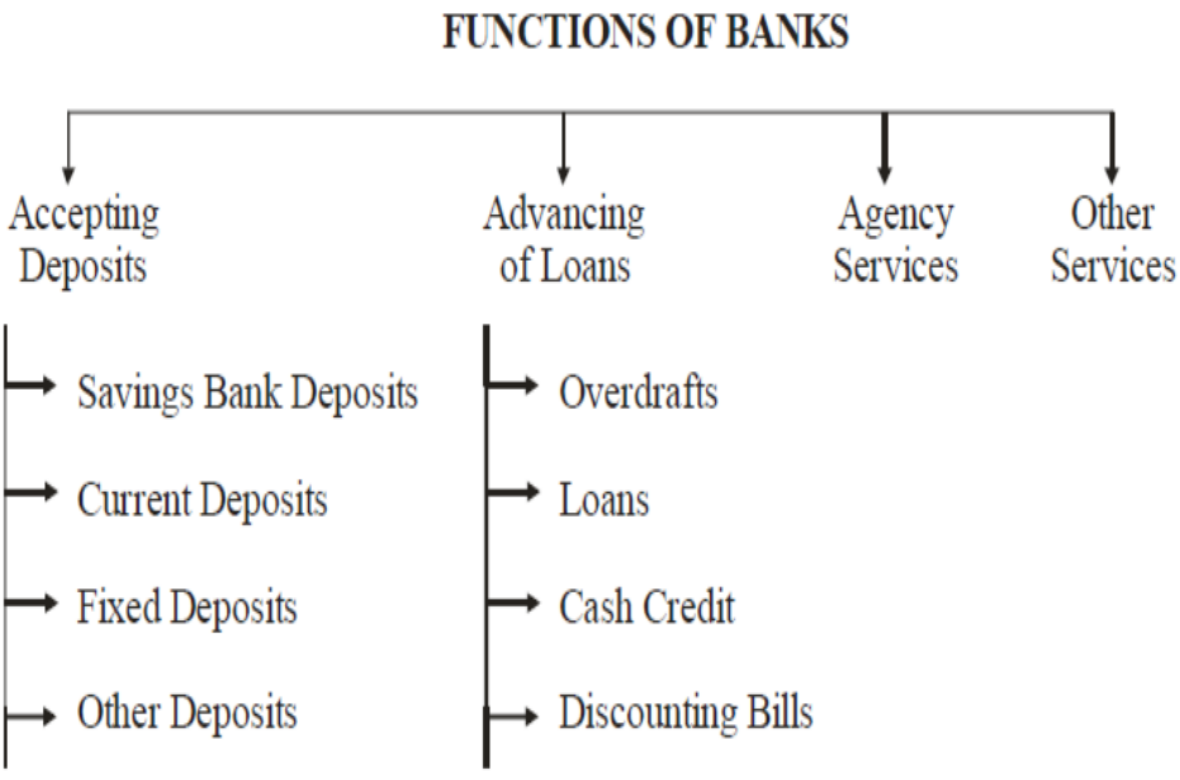


The most important aspect of the banking system are the scheduled commercial banks, co-operative banks, non-banking financial companies and development financial institutions. The banks owned by government and large private sector banks which are part of scheduled commercial banks are the very important elements of the banking system. Although, these holds 80% of the banking system assets, they represent a small number in the overall system. The area of this report is scheduled commercial banks, therefore a small description of this type of institution is given below-

Commercial Banks

Commercial & cooperative banks have existed for past several decades in the organized sector of the money market. They are spread across all of the country and cater to the short term needs of agriculture, industry, trade and commerce unlike the special banks for development which focus on the long term needs. The Indian banking sector is undergoing complete metamorphosis. The privatization in the banking sector is leading to the rapid progress in the banking services offered by the banks. Another major factors which have changed the face of banking sector are the technological and demographic changes.

Many banks are providing a vast variety of products as they are switching over to virtual banking from the brick and mortar banks. They are providing these services through very innovative channels at very competitive prices.



1. **Accepting the deposits**- It is the most important function of a commercial bank. They accept deposits from the public. People deposit their idle savings for the needs of commercial and industrial firms. Banks offer a variety of accounts to the public for depositing their money-

   Saving bank deposits- People who keep only a small amount of deposits and withdraw or make changes continuously use this type of account. A certain no. of withdrawals are allowed depending on the bank. The rate of interest on this type of account is lower than that of fixed deposits. The depositors get a passbook and a cheque book from the bank. People can withdraw their money from the bank by way of cheques and withdrawal form.

   Current deposits- People who make a large number of transactions generally maintains this type of account. This type of accounts does not attract any interest as deposits made in these accounts are for very short term and payable without notice. Banks have to keep almost 100% reserves against them. People maintaining this account can also get overdraft service.

   Fixed deposits- These types of deposits are called time deposits. An amount of money is deposited for a fixed time in this account. The principal along with the interest is payable after the stipulated time period. A higher interest rate is paid on the fixed deposits. A penalty is imposed on the person if he withdraws the amount before the maturity of the fixed deposit.

   Other deposits- Banks need to provide different types of account to different customers to satisfy their needs. So they offer different types of account such as recurring deposit, retirement scheme account etc.

2. **Advancing of loans**- Advancing loans is the second most important function of the bank. Banks can advance money by way of following ways-

   Overdrafts- customers who have goodwill can overdraw from their accounts by paying interest on the extra amount withdrawn by the person.

Loans- banks can grant loans to persons or companies who are financially sound and can repay the loan in the specified time. Loans can be secured or unsecured.

Cash credit- when a person has tangible securities, he can get credit against them. In this case interest is charged on the amount of actual amount withdrawn by the person.

Discounting bills- The banks can provide advances by way of discounting bills also. In this banks can purchase bills and give money after deducting the interest and get the full money back when the bill expires. They are considered as good liquid assets by the bank as well as borrowers.

3. **Agency services**- banks can also provide services to the customers as agents also by collection of bills, cheques and promissory notes.

   It can also act as agent when a person transfers his funds from one bank to the another.

4. **Other services**- Now-a-days banks can issue letters of credit to the traders and they benefit from the superior credibility of the bank.

   Banks can also underwrite loans of govt., public or traders and provide support to them.

2. CAPITAL ADEQUACY NORMS FOR BANKS

Capital adequacy of the bank means-

- How much the bank is monetarily sound.
- The banking system has limited risk exposure.

It reflects the amount of capital that a bank requires to ensure the financial stability of banks and address the concerns of all stakeholders-

- Depositors
- Creditors
- Investors
- Regulators

CAR can be compared to leverage in it's most basic form but it takes into account the levels of risk that an asset have.

CAR can be said as bank's capital expressed as a percentage to the bank's risk weighted assets. It can be defined as-

- TIER 1 CAPITAL= "(paid up capital + statutory reserves + disclosed free reserves) - (equity investments in subsidiary + intangible assets + current losses)"

- TIER 2 CAPITAL = "(Undisclosed Reserves + General Loss reserves + hybrid debt capital instruments and subordinated debts where Risk can either be weighted assets or the respective national regulator's minimum total capital requirement)"

3. Risk Weights for calculation of CAR

(A) On-Balance Sheet Assets: Banks assign a percentage weight as per their risk profile to all the on-balance sheet items. Then the value of the asset is multiplied by the risk weights to get a risk adjusted value of the asset. The aggregate is considered while calculating minimum capital ratio.

	Nature of asset/item		Percentage weight
(i)	Cash balances and balances in Current Account with RBI		0
(ii)	Amounts lent in call/notice money market/ other money market instruments of banks/ Financial Institutions (FIs) including Certificate of Deposits (CDs) and balances in Current account with banks		20
(iii)	Investments		
	(a)	Government securities/Approved securities guaranteed by Central/State Governments [other than at (e) below]	0
	(b)	Fixed Deposits, Bonds of banks and FIs	20
	(c)	Bonds issued by banks/FIs as Tier-II capital	100
	(d)	Shares of all Companies and debentures/bonds/ Commercial Paper of Companies other than in (b) above /units of mutual funds	100
	(e)	Securities of Public Sector Undertakings guaranteed by Government but issued outside the market borrowing programme	20
	(f)	Securities of and other claims on PDs	100
	(g)	Subordinated debts issued by other PDs	100

(iv)	Current assets		
	(a)	Loans to staff	100
	(b)	Other secured loans and advances considered good	100
	(c)	Others (to be specified)	100
(v)	Fixed Assets (net of depreciation)		
	(a)	Assets leased out (net book value)	100
	(b)	Fixed Assets	100
(vi)	Other assets		
	(a)	Income tax deducted at source (net of provision)	0
	(b)	Advance tax paid (net of provision)	0
	(c)	Interest accrued on Government securities	0
	(d)	Others (to be specified and risk weight indicated as	X
		per counter party)	

Notes:	*(1)*	*Netting may be done only in respect of assets where provisions for depreciation or for bad and doubtful debts have been made.*
	(2)	*Assets which have been deducted from capital fund, shall have a risk weight of 'zero'.*
	(3)	*The PDs may net off the Current Liabilities and Provisions from the Current Assets, Loans and Advances in their Balance Sheet, as the Balance Sheet is drawn up as per the format prescribed under the Companies Act. For capital adequacy purposes, no such netting off should be done except to the extent indicated above.*

(B) Off-Balance Sheet items: In case of off balance sheet items, credit risk exposure can be calculated by multiplying the value of item by credit conversion factor. The result is then multiplied by weight to arrive at risk value of the asset.

	Nature of item	**CCF percentage**
(i)	Share/debenture/stock underwritten	50
(iii)	Partly-paid shares/debentures/other securities and actual devolvement	100
(iii)	Notional Equity/Index position underlying the equity Derivatives *	100
(iv)	Bills discounted/rediscounted	100
(v)	Repurchase agreements (e.g. buy/sell) where the credit risk remains with the PD	100
(vi)	Other contingent liabilities/commitments like standby commitments like standby facility with original maturity of over one year	50
(vii)	Similar contingent liabilities/ commitments with original maturity of upto one year or which can be unconditionally cancelled at any time	0

CAR is the ratio which helps us to identify whether a bank can meet it's liabilities on time or not and also manage other risks such as-

- Operational risk
- Credit risk

4. BASEL NORMS

What is Basel III norms?

These are the set of financial reforms which were developed by BCBS. The aim of Basel 3 norms is to increase the regulation, supervision and risk management in the banking industry.

After analyzing the impact of 2008 financial crises on the banking system, Basel 3 norms were introduced so that the banks can handle such situations in the future and also to increase the transparency and disclosure requirements.

Basel 3 is build on the platform of Basel 1 and Basel 2 norms. It is a part of the practice to increase the regulation and confidence in the banking industry and reduce the chances of it's failure. It also stops banks from taking too much risk when compared to their size.

Basel 3 was introduces with the aim of mitigating the risk in the banks by forcing the banks to maintain good leverage ratios. It was joined by central bank from 28 countries.

The implementation to be done by countries voluntarily was set at 2015 but it was then shifted to 2022.

Minimum Capital Requirements classification by Tiers

Banks have two essential types of capital-

1. Tier1 capital- It includes equity, reserves and bank's core capital.
2. Tier 2 capital- It is the supplementary capital that a bank has and has a maturity of at least five year.

5. Analyzing Bank Performance

In order to survive, banks need to make profit for which there are 3 possible reasons-

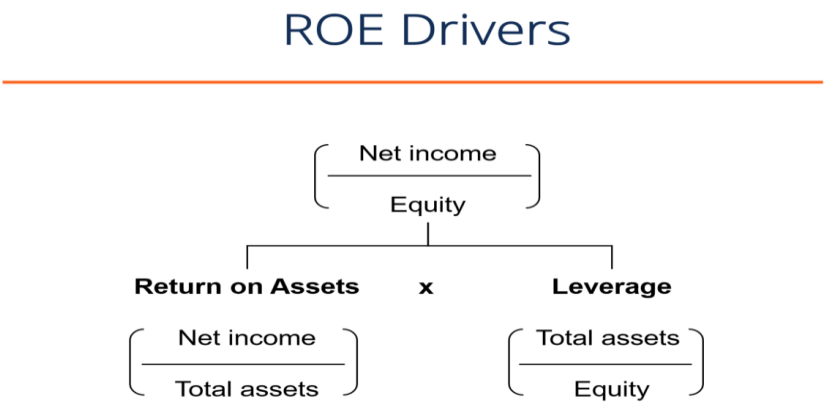
- Shareholders need return for their capital
- Depositors need to feel confident about the future prospect of the bank
- Banks also need to expand their capital base for future growth

Measures of Profitability

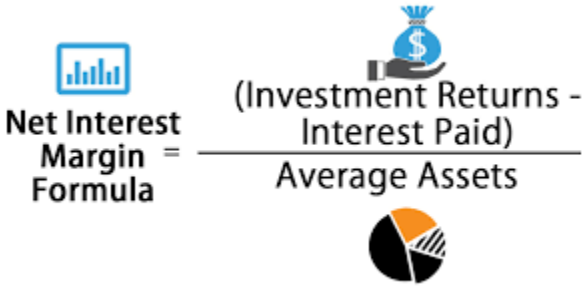
Important measures of profitability are:

- **Return on equity-** It is used for calculating investment returns for shareholders equity. A good ROE means that the company is able to deploy equity capital or reserves in a good project.

  It is calculated by dividing net income by shareholders equity (equity capital + reserves).



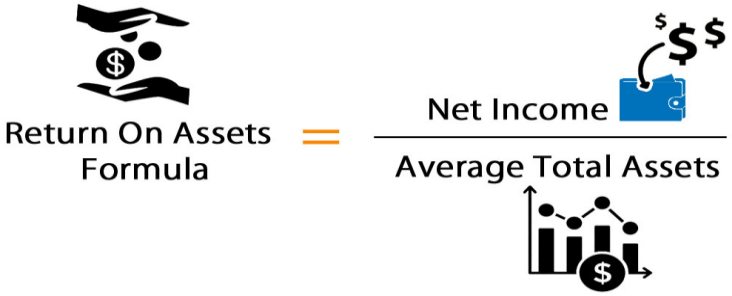
- **Net interest margin-** It is the difference earned by banks by accepting deposits and lending loans divided by the asset base.



- **Other operating income to total assets-** Banks also earn income by charging customers for providing services.

  Other operating income to total assets = total income – net interest income/total assets

- **Return on assets-** It shows how much percentage of profit a company is earning by utilizing the assets of the company.



- **Interest spread-** It can be termed as the difference between the interest earned on loans advanced and the cost of deposits for the bank.
  For example, the average interest earned by a bank on the loans given is 8% per annum and the average cost of deposits is 5% per annum, then the interest spread for the bank is 3%.

  In this report, for measuring the profitability of the bank we will be taking the return on assets as the standard for comparing it with other values such as capital adequacy ratio and P/B per share.

6. Objectives of study

- To understand the concept of CAR in banking.
- To estimate the effects of Basel 3 norms on the banking sector in India.
- To understand the effect of capital structure on profitability of banks.
- To estimate the effect of capital structure on the market value of firms.

7. LITERATURE REVIEW

1. The intellectual capital performance of the Indian banking sector

Purpose –

The paper seeks to estimate and analyze the Value Added Intellectual Coefficient (VAIC™) for measuring the value-based performance of the Indian banking sector for a period of five years from 2000 to 2004.

Design/methodology/approach – Annual reports, especially the profit/loss account and balance-sheet of the banks concerned for the relevant years, were used to obtain the data. A review is conducted of the international literature on intellectual capital with specific reference to literature that reviews measurement techniques and tools, and the VAIC™ method is applied in order to analyze the data of Indian banks for the five-year period. The intellectual or human capital (HC) and physical capital (CA) of the Indian banking sector is analysed and their impact on the banks' value-based performance is discussed**.**

Findings –

The study confirms the existence of vast differences in the performance of Indian banks in different segments, and there is also an improvement in the overall performance over the study period. There is an evident bias in favour of the performance of foreign banks compared with domestic banks.

Research limitations/implications –

All 98 scheduled commercial banks are studied as per the information provided by the Reserve Bank of India (RBI)/India's Apex bank. Regional rural banks (RRBs), a segment of the indian banking sector, are not dealt with in the study since their number is large (more than 200), but they contribute only 3 percent of the market of Indian banks.

This paper is a landmark in Indian banking history as it approaches performance measurement with a new dimension.

Practical implications –

The paper has strong theoretical foundations, which have a proven record and applications. The methodology adopted has been research tested. Domestic banks in India are provided with a new dimension to understand and evaluate their performance and benchmark it with global standards. The paper also has policy implications, as it reflects the lop-sided growth of a few sections in the Indian banking segment.

Originality/value – The paper represents a pioneering and seminal attempt to understand the implications of the business performance of the Indian banking sector from an intellectual resource perspective.

2. Examining the Relationships between Capital, Risk and Efficiency in European Banking

Yener Altunbas Santiago Carbo Edward P.M. Gardener Philip Molyneux

This paper analyses the relationship between capital, risk and efficiency for a large sample of European banks between 1992 and 2000. In contrast to the established US evidence we do not find a positive relationship between inefficiency and bank risk-taking. Inefficient European banks appear to hold more capital and take on less risk. Empirical evidence is found showing the positive relationship between risk on the level of capital (and liquidity), possibly indicating regulators' preference for capital as a mean of restricting risk-taking activities.

We also find evidence that the financial strength of the corporate sector has a positive influence in reducing bank risk-taking and capital levels. There are no major differences in the relationships between capital, risk and efficiency for commercial and savings banks although there are for co-operative banks. In the case of co-operative banks we do find that capital levels are inversely related to risks and we find that inefficient banks hold lower levels of capital. Some of these relationships also vary depending on whether banks are among the most or least efficient operators.

3. Capital Adequacy: A Financial Soundness Indicator for Bank

Nikhat Fatima

The capital which banks hold with themselves as required by financial regulator is known as minimum capital requirement. Banks exposed to various types of risks while granting loans and advances to various sectors. In order to absorb any losses which banks face from its business, it is imperative that banks should have sufficient capital. If banks have adequate capital, then it can protect its depositors from unforeseen contingencies as well promotes the stability and efficiency of financial systems. The capital which banks hold with themselves as required by financial regulator is known as minimum capital requirement. Banks exposed to various types of risks while granting loans and advances to various sectors. In order to absorb any losses which banks face from its business, it is imperative that banks should have sufficient capital. If banks have adequate capital, then it can protect its depositors from unforeseen contingencies as well promotes the stability and efficiency of financial systems. Followed by HDFC and Axis bank while Bank of India has the lowest. This made us conclude that private sector banks are in good position as

compare to public banks in maintaining higher capital adequacy ratio. On an average basis all the banks have CAR between 12.22% to 18.35%, which is an indicator that even implementation of Basel III norms will not pose much difficulty for Indian banks at least initially. Financial crisis in the world has increased the importance of capital adequacy requirements. In India, the impact of financial crises was low due to strong capital structure regulatory environment.

4. The Determinants of Capital Structure Choice

SHERIDAN TITMAN, ROBERTO WESSELS

This paper examines corporate leverage and its determinants on panel of 921 large Western European companies from 2003 to 2010. The results proved a substantial influence of estimated variables on changes in target debt or leverage ratio. Apart of the determinants from the «core" model, I test the influence of stock price variations on changes in capital structure to conclude if companies «time" the market. The estimation procedure of target debt ratio was performed using Fixed-Effect and FGLS methods. The results were compared to the results of often used methodology in previous research - OLS and Tobit regression.

I found statistically significant and negative correlation between target leverage ratio and tangibility, market to book, profitability, product uniqueness and total return (average stock return) and statistically significant and positive correlation between target leverage ratio and size. The results suggest the mix of trade-off and pecking order theory predictions and are consistent with findings of previous studies. Future research should focus on impact of leverage deficit (deviations from target leverage ratio) on corporate decisions in Europe.

5. Risk in Banking and Capital Regulation

Daesik Kim; Anthony M. Santomero

This paper investigates the role of bank capital regulation in risk control. It is known that banks choose portfolios of higher risk because of inefficiently priced deposit insurance. Bank capital regulation is a way to redress this bias toward risk. Utilizing the mean-variance model, the following results are shown: (a) the use of simple capital ratios in regulation is an ineffective means to bound the insolvency risk of banks; (b) as a solution to problems of the capital ratio regulation, the "theoretically correct" risk weights under the risk-based capital plan are explicitly derived; and (c) the "theoretically correct" risk weights are restrictions on asset composition, which alters the optimal portfolio choice of banking firms.

6. Factors determining capital structure and corporate performance in India

Arindam Bandyopadhyay, Nandita Malini Barua

This paper empirically investigates the linkage of corporate sector performance with the capital structure and macroeconomic environment. Using a balanced panel data of 1594 Indian corporate firms over 14 years (1998 to 2011), we find empirical evidence to support the hypotheses relating to the relevance of asymmetric information, agency cost, trade off theory, signaling and liquidity aspects in determining firm's capital structure decisions in emerging market economy. It is found that macro economic cycle significantly influences corporate financing decisions and hence performance. The endogeneity between capital structure and corporate performance has also been resolved through a two step dynamic panel generalized method of moments (GMM). The study suggests that the performance of any company hinges around its ability to operate on a capital structure. With the widening of scope of sourcing of capital, the right blend of instruments needs to be meticulously worked out to optimize cost of capital.

8. RESEARCH METHODOLOGY

- To investigate the impact of valuation of banks, this study proposes to use the methodologies adopted in earlier research work on this issue. As other studies have discussed these relationships, conceptual framework of our study is based on deduction method and for analysis of data collected from secondary sources

- Quantitative techniques like correlation, regression are employed in this study.

- Analysis of data is proposed to be done through descriptive statistics, correlation matrix and regression models.

9. CASE

Introduction to the case

BANK	CAR (%)	P/B PER SHARE	ROA (%)
STATE BANK OF INDIA	12.88	1.22	.05
CANARA BANK	13.22	0.70	.08
BANK OF BARODA	12.62	0.74	.05
PUNJAB NATIONAL BANK	9.82	1.05	-1.21
INDIAN OVERSEAS BANK	9.25	0.81	-1.49
PUNJAB AND SINDH BANK	11.25	0.31	-.49
CENTRAL BANK OF INDIA	9.04	0.77	-1.69
HDFC BANK	17.09	5.67	1.71
ICICI BANK	17.90	3.57	.34
AXIS BANK	16.57	2.94	.61
FEDERAL BANK	14.14	1.44	.78
KOTAK MAHINDRA BANK	17.45	6.01	1.55
INDUSIND BANK	14.19	4.07	1.18
RBL BANK	13.46	3.65	1.07
KARUR VYSYA Bank	16	.89	.30

BANDHAN BANK	**29.20**	**5.59**	**3.45**
ALLAHABAD BANK	**12.51**	**1.85**	**-3.48**
CORPORATION BANK	**12.30**	**1.10**	**-3.14**
DENA BANK	**2**	**0.46**	**-5.49**
INDIAN BANK	**13.21**	**0.80**	**0.12**
ORIENTAL BANK OF COMMERCE	**12.73**	**0.91**	**0.02**
SYNDICATE BANK	**14.23**	**0.72**	**-0.87**
VIJAYA BANK	**10.14**	**0.69**	**-1.26**
DCB BANK	**16.81**	**2.20**	**0.99**
UCO BANK	**10.70**	**0.89**	**-1.84**
UNION BANK OF INDIA	**11.78**	**0.69**	**-0.59**
UNITED BANK OF INDIA	**13**	**0.78**	**-1.60**
BANK OF MAHARASHTRA	**11.86**	**0.64**	**-3.01**

Descriptive statistics

CAR (%)		*P/B PER SHARE*		*ROA (%)*	
Mean	13.40536	Mean	1.827143	Mean	-0.495
Standard Error	0.845398	Standard Error	0.324462	Standard Error	0.3482513
Median	12.94	Median	0.9	Median	0.035
Mode	#N/A	Mode	0.89	Mode	0.05
Standard Deviati	4.473427	Standard Deviati	1.716894	Standard Deviati	1.84277267
Sample Variance	20.01155	Sample Variance	2.947725	Sample Variance	3.39581111
Kurtosis	2.318234	Kurtosis	0.88528	Kurtosis	1.07635578
Skewness	0.603635	Skewness	0.454251	Skewness	-0.60621964
Range	27.2	Range	5.7	Range	8.94
Minimum	2	Minimum	0.31	Minimum	-5.49
Maximum	29.2	Maximum	6.01	Maximum	3.45
Sum	375.35	Sum	51.16	Sum	-13.86
Count	28	Count	28	Count	28
Largest(1)	29.2	Largest(1)	6.01	Largest(1)	3.45
Smallest(1)	2	Smallest(1)	0.31	Smallest(1)	-5.49
Confidence Level	1.734614	Confidence Level	0.665742	Confidence Level	0.71455265

Following are the observations from the descriptive statistics-

- The mean CAR of banks in INDIA is 13.405 while median CAR is 12.94 .
- The sample variance of CAR is 20 which is high which indicates that the value of CAR is high in some banks while it is very low in banks like Dena and Indian overseas bank.
- The CAR range from 2 in Dena bank to 29.2 in Bandhan bank.
- The skewness of CAR is 0.60 which means that CAR is skewed to the right.
- The kurtosis value of CAR, P/B ratio and ROA is 2.3, 0.88 and 1.07 which is under the acceptable limits.
- The mean ROA is -0.495 which is due to the negative ROA of public sector banks.
- The sample variance in ROA is 3.39 which indicates that the difference in the value of ROA among the banks is not that high.
- The standard deviation of P/B per share is low which means there is not much variation in values but in case of ROA it is high because of the negative mean value and there is quite a variation in the values of the dataset.
- The range for CAR is 27.2.
- The range for P/B per share is 5.7.
- The range for ROA is 8.94.

Result of descriptive statistics-

- The measures of central tendency which are mean, median and mode tells us about the tendency of the values of the data i.e. center point.

- The central point of CAR is around 13 which tells us that the Indian banks are well capitalized barring some few exceptions like Dena bank and Indian overseas bank.

- The central point of P/B ratio tells us that the Indian banks are not overpriced.

- The central point of ROA is around zero which shows the poor performance of Indian banking sector.

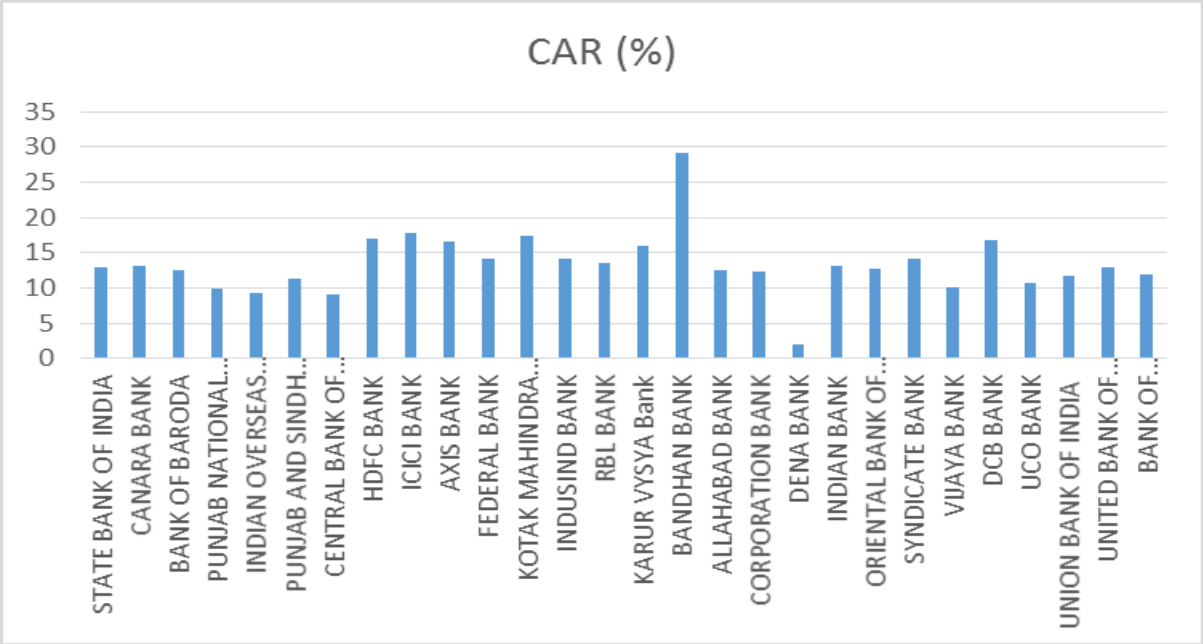
- The measures of dispersion which are standard deviation and variance tells us that the data(CAR, P/B ratio,ROA) is not very spread out.

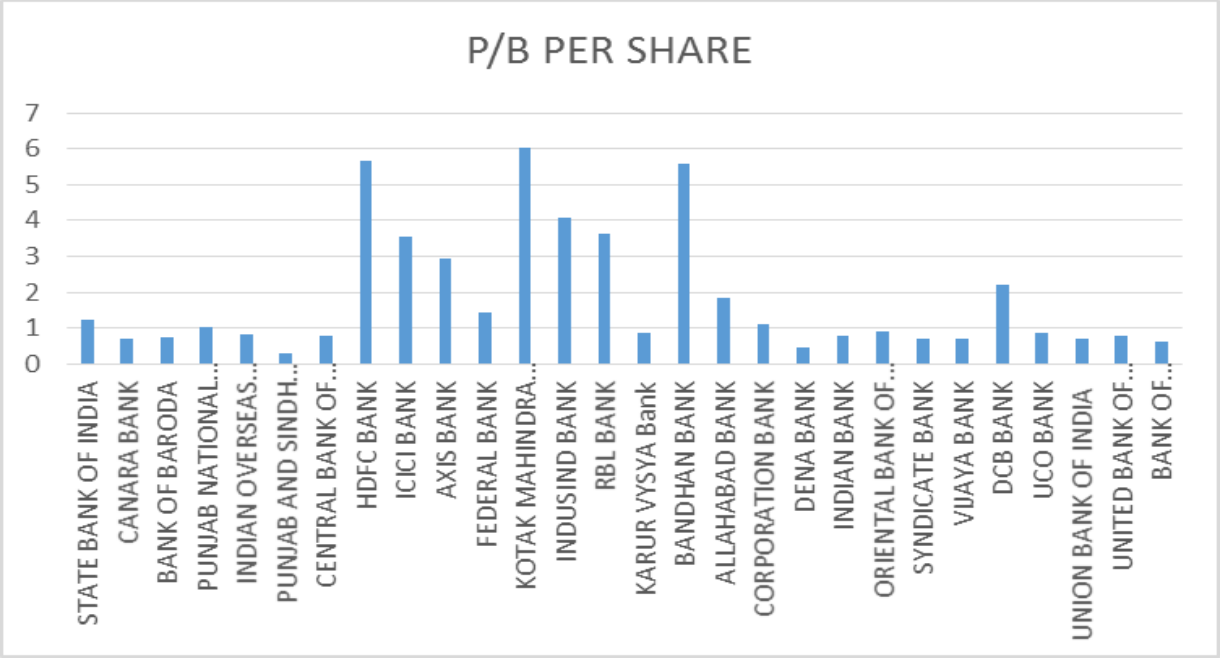
- The measures of normality i.e. kurtosis and skewness shows that-

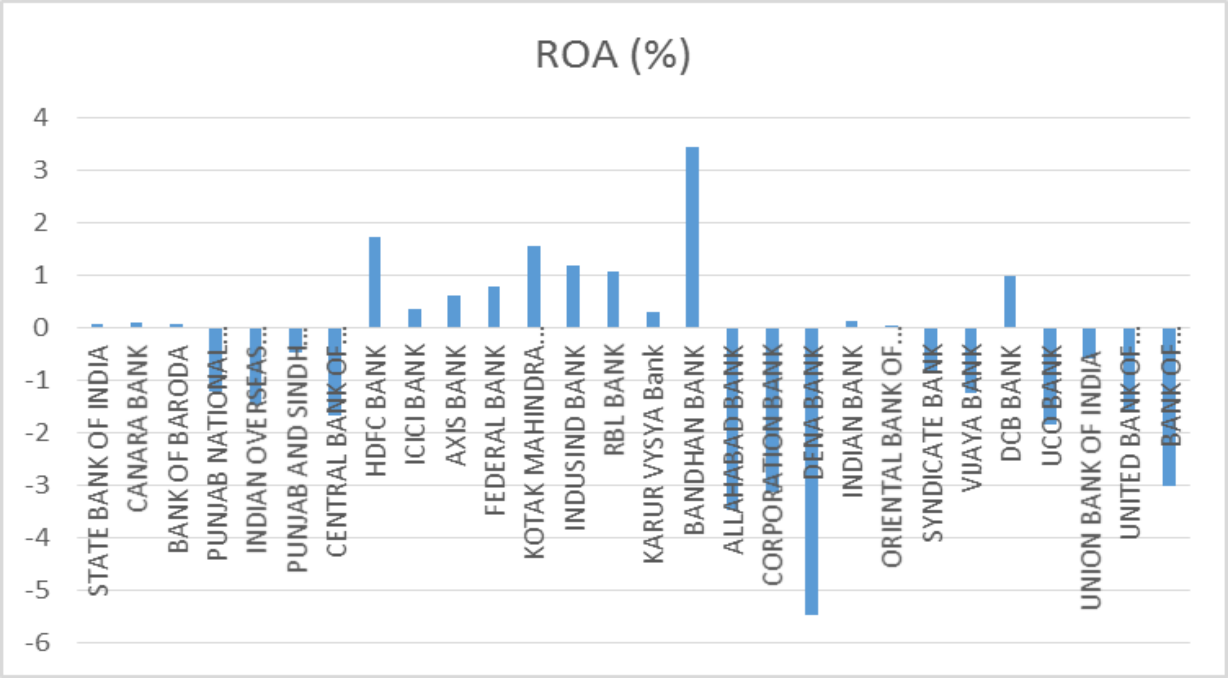
    - The CAR mirrors normal distribution and is somewhat skewed to the right.

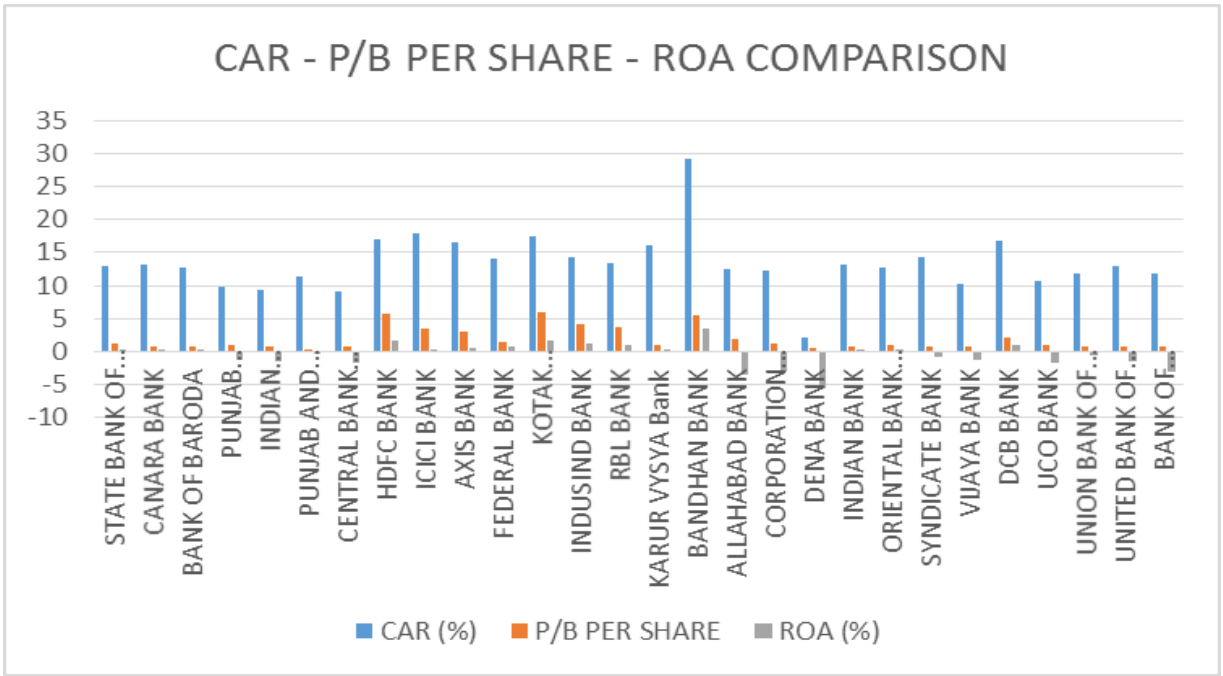
    - The P/B ratio mirrors normal distribution and slightly skewed to the right.

    - The ROA mirrors normal distribution and is moderately skewed to the left.


CAR (%)
35
30
25
20
15
10
5
0
STATE BANK OF INDIA
CANARA BANK
BANK OF BARODA
PUNJAB NATIONAL...
INDIAN OVERSEAS...
PUNJAB AND SINDH...
CENTRAL BANK OF...
HDFC BANK
ICICI BANK
AXIS BANK
FEDERAL BANK
KOTAK MAHINDRA...
INDUSIND BANK
RBL BANK
KARUR VYSYA Bank
BANDHAN BANK
ALLAHABAD BANK
CORPORATION BANK
DENA BANK
INDIAN BANK
ORIENTAL BANK OF...
SYNDICATE BANK
VIJAYA BANK
DCB BANK
UCO BANK
UNION BANK OF INDIA
UNITED BANK OF...
BANK OF...


P/B PER SHARE
7
6
5
4
3
2
1
0
STATE BANK OF INDIA
CANARA BANK
BANK OF BARODA
PUNJAB NATIONAL...
INDIAN OVERSEAS...
PUNJAB AND SINDH...
CENTRAL BANK OF...
HDFC BANK
ICICI BANK
AXIS BANK
FEDERAL BANK
KOTAK MAHINDRA...
INDUSIND BANK
RBL BANK
KARUR VYSYA Bank
BANDHAN BANK
ALLAHABAD BANK
CORPORATION BANK
DENA BANK
INDIAN BANK
ORIENTAL BANK OF...
SYNDICATE BANK
VIJAYA BANK
DCB BANK
UCO BANK
UNION BANK OF INDIA
UNITED BANK OF...
BANK OF...


ROA (%)
4
3
2
1
0
-1
-2
-3
-4
-5
-6
STATE BANK OF INDIA
CANARA BANK
BANK OF BARODA
PUNJAB NATIONAL...
INDIAN OVERSEAS...
PUNJAB AND SINDH...
CENTRAL BANK OF...
HDFC BANK
ICICI BANK
AXIS BANK
FEDERAL BANK
KOTAK MAHINDRA...
INDUSIND BANK
RBL BANK
KARUR VYSYA Bank
BANDHAN BANK
ALLAHABAD BANK
CORPORATION BANK
DENA BANK
INDIAN BANK
ORIENTAL BANK OF...
SYNDICATE BANK
VIJAYA BANK
DCB BANK
UCO BANK
UNION BANK OF INDIA
UNITED BANK OF...
BANK OF...


CAR - P/B PER SHARE - ROA COMPARISON
35
30
25
20
15
10
5
0
-5
-10
STATE BANK OF...
CANARA BANK
BANK OF BARODA
PUNJAB...
INDIAN...
PUNJAB AND...
CENTRAL BANK...
HDFC BANK
ICICI BANK
AXIS BANK
FEDERAL BANK
KOTAK...
INDUSIND BANK
RBL BANK
KARUR VYSYA Bank
BANDHAN BANK
ALLAHABAD BANK
CORPORATION...
DENA BANK
INDIAN BANK
ORIENTAL BANK...
SYNDICATE BANK
VIJAYA BANK
DCB BANK
UCO BANK
UNION BANK OF...
UNITED BANK OF...
BANK OF...
CAR (%)
P/B PER SHARE
ROA (%)

10. Data analysis

Relation between CAR & P/B per share

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.70018162							
R Square	0.4902543							
Adjusted R Sq	0.4706487							
Standard Erro	1.24915251							
Observations	28							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	39.0186396	39.01863965	25.0058254	3.35532E-05			
Residual	26	40.5699318	1.560381992					
Total	27	79.5885714						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.7752592	0.75808907	-2.341755491	0.02712905	-3.333533626	-0.21698484	-3.333533626	-0.21698484
X Variable 1	0.26872854	0.05373945	5.000582507	3.3553E-05	0.158265526	0.37919156	0.158265526	0.37919156

Relation between CAR & ROA

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.803812399							
R Square	0.646114373							
Adjusted R S	0.632503387							
Standard Err	1.117116414							
Observations	28							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	59.240224	59.24022386	47.4700648	2.5835E-07			
Residual	26	32.446676	1.247949082					
Total	27	91.6869						
	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4.93378868	0.6779586	-7.27741837	9.9536E-08	-6.3273526	-3.5402247	-6.3273526	-3.5402247
X Variable 1	0.331120509	0.0480592	6.88985231	2.5835E-07	0.23233349	0.42990753	0.2323335	0.42990753

11. Results

On the basis of the regression model, it is found out that CAR has a positive impact on the

1. Market value i.e. P/B per share of the company.
   The value of p is less than .02 and the high value of F proves the validity of the model. Further, the value of r squared is .49 which demonstrates that there is a significant effect of CAR on the market value of the firm.

2. Profitability i.e. ROA of the company.
   The value of p is less than .02 and the high value of F proves the validity of the model. Further, the value of r squared is .64 which demonstrates that there is a significant effect of CAR on the profitability of the firm.

12. Conclusion

The CAR is found to have positive impact on the market value of the bank as the investors tend to give more value or multiple to a bank having quality capital and less risk when compared to a bank having more risky capital structure.

The CAR was found to have positive impact on the profitability of the Indian banks. The positive impact on the profitability can be discussed on the basis of the fact that the maintenance of quality capital in the balance sheet restricts the flow of loans to highly risky ventures.

Also, the profitability also depends on the various other factors like-

- Good management
- Area of operation etc.

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