Research Paper *IJBARR*
Impact Factor: 3.072 *E- ISSN -2347-856X*
Peer Reviewed, Listed & Indexed *ISSN -2348-0653*

DETERMINANTS OF SHAREHOLDER VALUE CREATION IN INDIAN BANKING SECTOR

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Abstract
This study empirically explores the significance of profitability and growth as drivers of shareholder value, measured by the market-to-book value (M/B) ratio in Indian banking Sector. Profitability is defined as economic profitability; that is, the spread between return on equity and the risk-adjusted cost of equity. The study uses data of Banks listed on Bombay Stock Exchange (BSE) for the period from 2004-05 to 2013-14. Banks with missing data are excluded from the study. Our final sample size is 36 Banks, 22 from Public Sector and 14 from Public sector for each period from Indian Banking Sector. The study is based on secondary data collected from Ace-knowledge Research Portal and Annual Reports of the banks collected from bank websites.Correlation and Multiple Regression analysis are used as the major analysis techniques. Thus our findings suggest that economic profitability and growth do not always contribute in shareholder value creation as in case of Indian banks. Other factors such as Capital Intensity, firm size and Business risk must also be examined for their contribution in shareholder value creation. The banks with relatively larger SIZE create higher shareholder value whereas; the relatively older banks create less shareholder value in case of private sector banks and newer banks create higher shareholder value as compared to older banks. In case of public sector banks the older banks create higher shareholder value.

Keywords: Shareholder Value, Economic Profitability, Spread, Growth, Capital Intensity, Age, Correlation Analysis, Multiple Regression Analysis.

INTRODUCTION

The creation of shareholder value is seen as an important objective for firms. For many years, firms have measured their performances in terms of profit or earnings per share. However, growing dissatisfaction with these measures has led to a whole new array of metrics being developed and promoted under the banner of shareholder value. Shareholder value is created by generating future returns for equity investors which exceed the returns that those investors could expect to earn elsewhere. The pace of development for the Indian banking industry has been tremendous over the last decade. It is interesting to note that after Independence and particularly after the Nationalization of Banks in India, Banking Sector has done remarkable work for the development and growth of the country. As a one of important sector, one has to also consider about the stakeholders of the bank and shareholder value creation. The study aims at identifying and analyzing the determinants of shareholder value creation in Indian banking sector using variousfinancial measures.

There are numerous ways available to create the greatest value for shareholders. Companies can choose excellence in operations that is closely related to the profitability. They can get their financial structure right, which is closest to free cash flow among the fundamental drivers. They can also choose to be focused and this is linked most closely to profitability. Those are areas of comparative advantage. They can also create value through credible earnings growth, which matches the fundamental driver growth and many other ways are in place to create shareholder value. The research issue arises from this variety of different ways to create value. There is always scope for creating value in companies and they avail themselves of value-creating advice. However, it is not enough to have strategies in place; there is need for some indicators to ensure whether value has been created. Thus the companies need to measure and make sure that they are being successful in creating value for shareholder. “What gets measured gets done” was a famous statement by Percy Barnevik. That statement underlines the importance of measurement

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The most popular measure of accounting profitability is return on equity (ROE). Economic profitability, on the other hand, also considers the cost of equity (ke); it is a spread between ROE and ke. The concept of economic profitability is equivalent to the concept of economic value added (EVA). The spread between ROE and ke multiplied by equity capital gives total EVA amount.

In strategic management literature growth is considered a most desirable strategy. Growth is considered necessary as it makes a firm big, opens up managerial opportunities for career advancements and gives pride to managers. Growth for the sake of becoming big has been questioned by many in academics and practice as well. In the quest for becoming big, firms may compromise profitability. There are, therefore, practitioners who aim at making their companies more profitable than bigger. The pursuit for growth perhaps implicitly assumes that it drives a firm's profitability and value. But this is an empirical question.

In this article, we explore two issues which are of considerable theoretical and practical interest. Does growth enhance the value creating potential of a firm? Does economic profitability help in creating shareholder value? To explore these questions, we start with an approach similar in nature with the study of Varaiya, Kerin and Weeks (1987) in the U.S. context. However, our study differs in many major ways. Our study confines to some selected Indian banks listed on BSE. We have used Panel data of 36 banks classified as 22 from public sector and 15 from private sector banks,over period of ten years, from 2004-05 to 2013-14. Second, we employ an improved model specification and introduce a number of control variables which influence shareholder value. Third, our findings are based on the Multiple Linear Regression Model.

Shareholder Value Model

A most common measure of the shareholder value creation is the comparison between the market value and book value per share. When the market value exceeds the book value, the shareholder value is created and when the book value exceeds the market value, the shareholder value is destroyed.

A simple valuation model that can be used to make predictions about the relationship between profitability and growth and shareholder value is the constant-growth model. The market value of a share (M) is given as follows (Brealey& Myers, 2003):

$$M = \frac{DPS}{K_e - g} = \frac{EPS(1-b)}{K_e - g} \qquad (1)$$

This model assumes that dividends grow at a constant rate in perpetuity. Dividend per share (DPS) is equal to earnings per share (EPS) multiplied by one minus retention ratio (b). EPS depends on the firm's return on equity (ROE) and the equity investment, expressed as book value of per equity share (B). Eq. (1) can be rewritten as follows:

$$M = \frac{B * ROE\ (1-b)}{K_e - g} = \frac{B(ROE\ - b * ROE\ )}{K_e - g}$$

$$\frac{M}{B} = \frac{ROE\ - g}{K_e - g} \qquad (2)$$

Eq. (2) implies that shareholder value will be created when market-to-book (M/B) ratio is greater than 1, and value will be destroyed if it is less than 1. We may further rewrite Eq. (2) as follows (Varaiya et al., 1987):

$$\frac{M}{B} = 1 + \frac{ROE - K_e}{K_e - g} \qquad (3)$$

Eq. (3) indicates that M/B will be greater than 1 if ROE exceeds ke; that is, the spread, ROE – ke, is positive. Both Eq. (2) and (3) assume that in equilibrium ke is greater than g. However, this is not a necessary condition to empirically test the effect of g on M/B ratio. The cost of equity is the risk-adjusted return that shareholders require on their investment. Hence, a firm will be creating value for its shareholders when it undertakes investments that generate positive spread; which is, return on equity exceeding the cost of equity (ROE > ke). It should be clear from this reasoning that a positive ROE alone is not enough for creating shareholder value. A number of firms providing positive ROE may in reality be destroying value if their cost of equity exceeds ROE. The approach of focusing on the spread considers the quality of earnings – earnings after adjusting for the risk-adjusted cost of equity.

Many researchers have argued that the appropriate measure of a firm's profitability is the spread between ROE and ke, which may be referred to as economic profitability (Hax&Majluf, 1984). We may notice from Eq. (3) that growth resulting from earnings reinvestment may affect shareholder value depending on whether ROE is greater than or lower than ke. Thus, an interaction between profitability and growth is indicated.

LITERATURE REVIEW

There are a number of studies on the relationship between growth, profitability and value in the context of U.S.A. In a study of the U.S. companies, Varaiya et al. (1987) find that both profitability and growth influence shareholder value, but profitability has a greater impact. However, their results in case of negative-spread earning firms are not very strong. This study omitted several other variables that are expected to influence shareholder value, and hence it is suspected that the

results of the study may be biased. In an earlier study, Woo (1984) finds similar results. More recently, Ramezani, Soenen and Jung (2002) explore the relationship between growth (earnings or sales) and profitability (measured as economic value added, EVA) and between profitability and shareholder value. They use Jensen's alpha as a measure of shareholder value and include several control variables in their estimation. They find that beyond a point, growth adversely affects profitability and destroys shareholder value. Viruli de Silva(2008)conducted a research on "Shareholder Value Creation In The Banking Industry During Turbulent Times"The above study focused on the global banks' performance in year 2007. The sample comprised of 593 stock-market-listed global and specialized companies in the banking industry, which include all major banking players and represent over 75% of the industry's total market capitalization as of January 2008. Based on the above study, the author discusses the state of the global banking industry in 2007 and quantifies the drivers of value creation for short-term (one year) and long-term (five year) performance in the global banking industry.

Robert ChikwenduAsogwa(2009)studied on "Measuring The Determinants Of Value Creation For Publicly Listed Banks In Nigeria: A Random Effects Probit (REP) Model Analysis"This paper investigates empirically the determinants of shareholder value creation in banks listed in Nigerian Stock Exchange from 2004-2008 using Random Effects Probit (REP) Model.The paper tests the significance of such hypothesis as: financial policy hypothesis, dividend policy hypothesis, profitability and earnings hypothesis as well as variables like size, age and structure in capturing the firm value creation of the listed banks. Data has been obtained from annual reports of listed banks supplemented by info- Financial publications and Nigerian Stock Exchange- Stock market data, all for the period 2004-2008. Author compares data using Standardprobit model and Random Effects Probit (REP) Model. The results show that Random Effects Probit (REP) Model performs better than Standardprobit model. also the dividend policy is more important for value creation than profitability and earnings growth. The financial/debt policy variables, bank size and structure do not affect value creation but unobservable bank characteristics such as management quality or strategy may be important for value creation.Mahdi Salehi, HashemValipour and Zahra Yousefi(2011) have conducted a study on "A Study Of Value Creation Criteria: An Iranian Scenario"The aim of this study is to induce voluble measures to users and increase their understanding. In this study, these measures are obtained by using informative contexts comprising accounting and economic measures for this purpose. The main hypothesis and the sub-hypotheses are tested and 92 companies listed in Tehran Stock Exchange are selected in the four year period (2005 to 2009). The results of the study reveal that according to the findings, there is meaningful relationship between economic measures and value creation. According to findings, although there is meaningful relation between economic measures and value creation, in regard to correlation and determination of the coefficient calculated, it is concluded that because there is meaningful relation between dependent and independent variables, these variables are appropriate enough to predict independent variables. It is calculated that economic measures, having powerful correlation and determination coefficient have appropriate predictability for value creation as an independent variable. Thus, decision making based on each will lead to different results.

DATA AND METHODOLOGY

This study mainly relies upon the Descriptive and Causal Research Designs. An attempt has been made to describe the current scenario of shareholder value creation in Indian banks using Descriptive Research Design whereas various causal models are used to evaluate the impact of various shareholder value drivers on the shareholder value creation process in Indian Banks.

OBJECTIVES

The major objectives of our study are:

- To examine the patterns of shareholder value in Selected Indian Banks.
- To Identify Determinants of Shareholder Value Creation using Accounting measures in Indian Banking Sector

Sampling design

The study uses Panel data of Banks listed on Bombay Stock Exchange (BSE) for the period from 2004-05 to 2013-14. Banks with missing data are excluded from the study. Our final sample size is 36 Banks, 22 from Public Sector and 14 from Public sector for each period from Indian Banking Sector. The study is based on secondary data collected from Ace-knowledge Research Portal and Annual Reports of the banks collected from bank websites. The list of the banks in the final sample is given in the table below:

Public Sector Banks	**Private Sector Banks**
State Bank of India	**Old Private Sector Banks**
Bank Of Baroda	Federal Bank Limited

DENA Bank	ING VYSYA Bank Limited
CANARA Bank	Karnataka Bank Limited
IDBI Bank	KarurVysya Bank Limited
UNION BANK Of India	Laxmivilas Bank Limited
Syndicate Bank	South Indian Bank Limited
Bank of Maharashtra	City Union Bank Limited
Allahabad bank	**New Private Sector Banks**
Andhra Bank	Axis Bank Limited
Central Bank of India	Development Credit Bank Limited (DCB)
Indian Bank	HDFC Bank Limited
Indian Overseas Bank	ICICI Bank Limited
Punjab National Bank	INDUSIND Bank Limited
UCO Bank	Kotak Mahindra Bank Limited
Vijaya Bank	YES Bank Limited
Bank of India	
Corporation Bank	
Oriental Bank of Commerce	
State Bank Bikaner & Jaipur	
State Bank of Mysore	
State Bank of Travancore	

Since, profitability policy of the banks is found to be the most effective one as regards its impact on shareholder value, here, a further exploration of profitability measures based upon accounting concepts has been conducted and their impact on shareholder value defined as M/B Ratio= Market value of Equity/ Book Value of Equity has been examined for overall sample as well as for both the sectors: Public and Private.An attempt here has been made to empirically explore the significance of profitability and growth as drivers of shareholder value, measured by M/B Ratio. Profitability here is defined as economic profitability; that is the spread between return on equity and risk-adjusted cost of equity. The analysis is carried out at three levels: 1) Overall banking Sector 2) Public Sector and 3) Private Sector.

MODEL SPECIFICATION

Estimation model of this study uses panel data.

$$(M/B)_{it}=\beta_0+\beta_1 (ROE-k_e)_{it}+\beta_2 g_{it}+\beta_3(ROE-k_e)_{it}g_{it}+\beta_4 Ln\ TA_{it}+\beta_5(TD/TA)_{it}+\beta_6 Beta_{it}+\beta_7(FA/TA)_{it}+\beta_8(FCF/TA)_{it}+\beta_9 AGE_{it}+\gamma_t+\eta_i+\varepsilon_{it}$$

Given that the growth rate, g, is held constant, a higher spread, (ROE – ke), implies a higher M/B ratio. Hence, the sign of β1 is expected to be positive. However, the sign of β2 is unspecified.

Variables:

Variable Name	Description
Dependent Variable:	
M/B RATIO	Market value of Equity/ Book Value of Equity
Independent Variables:	
Economic profitability (spread) (ROE – ke).	ROE is calculated as profit net of all expenses and taxes and excluding all extra-ordinary items divided by the net worth (book value equity). Cost of equity (ke) is calculated using the capital assets pricing model (CAPM). The estimation of the equity beta is based on the daily closing share prices. The risk-free rate is the monthly T-

Growth (g)	g = ROE × (1 – payout).It is a proxy for the expected growth in the future, since, sustainable growth, rather than
Economic-profitability-growth interaction (ROE-Ke)*g	It is used to capture the joint effect of economic profitability and growth.
Size (Ln TA)	It is measured as natural log of total assets
Leverage (TD/TA)	It is calculated as the book value of total debt divided by total assets (which is equal to the book value of equity plus total debt (TD/TA). It is used as a proxy for the financial risk.
Business risk (BETA)	It is measured by asset beta is used to account for the volatility in a firm's earnings and value. Asset beta is calculated as the equity beta of a firm multiplied by total assets, that is βE × TA/E. Total assets are used as proxy for the firm's value.
Capital intensity (FA/TA)	It is defined as fixed assets divided by total assets (FA/TA). This variable is used as a proxy for a firm's operational flexibility.
Free cash flows ratio (FCF/TA)	It is measured as free cash flows divided by total assets (FCF/TA) captures the influence of cash flows on a firm's value. Free cash flows include net profit (excluding extra-ordinary items) plus depreciation.
AGE	It is the difference between the respective year under study and the year of inception of the respective bank.
Sector Dummy (η)	1 for Public Sector banks and 0 for Private Sector Banks.
Time Dummy (γ)	T = 1,2,……10 for ten years of each bank.

ANALYSIS

The results and their interpretations of our estimated model for all the banks are shown below:

	Model-1 Overall Banking Sector			Model-1 Public Sector Banks			Model-3 Private Sector Banks		
	Mean	Std. Deviation	CV(%)	Mean	Std. Deviation	CV(%)	Mean	Std. Deviation	CV(%)
MB RATIO	1.44589166	1.190049288	82.305564	1.03900453	.43204879	41.58296	.70828571	1.294914759	182.8238
ROE-Ke	14.25553277	9.494898179	66.605004	15.90585425	6.89548230	43.35185	4.10538881	7.020354102	171.0034
g	13.10548679	8.402607482	64.115188	14.59799595	5.83683127	39.98378	3.64412312	6.092544292	167.1882
(ROE-Ke)*g	261.67430594	368.671585483	140.88949	267.84547911	188.46673718	70.36398	56.38116410	104.580633038	185.4886
Ln TA	11.19159952	1.239075349	11.071477	11.69369349	.88097701	7.533779	3.38323429	5.396209740	159.4986
TDTA	0.07225882	0.075663249	104.71144	.06124003	.07033084	114.8446	.08957406	.080613469	89.99644
BETA	0.97466506	0.382230028	39.216552	1.04477291	.31811347	30.4481	.86449558	.444853176	51.45812
FATA	0.01577474	0.006400238	40.5727	.01428264	.004664215	32.65653	.01811948	.007903153	43.61689

FCFTA	-0.0144427	0.02088057	-144.5753	-.01142837	.017456924	-152.751	-.01917962	.024676921	-128.662
AGE	75.94	39.885	52.5217	91.8182	33.24344	36.2057	51.00	36.63	71.8235
N	360			220			140		

Interpretation: The above table shows descriptive statistics of different independent variables. It shows that the CV of FCF/TA is least in all the three cases: Overall, Public Sector and Private Sector, which indicate that it is a most uniform variable. The variable (ROE-Ke)*g has highest CV in case of Overall Banking Sector well as private sector whereas, TD/TA has the highest CV in case of public sector which indicates that they have the highest variation and do not have uniformity

Correlation Analysis

Correlation Analysis for Overall Banking Sector: Model-1

	MBRATIO	ROE-Ke	g	ROE-Ke*g	Ln TA	TDTA	BETA	FATA	FCF TA	SECTOR DUMMY	TIME	AGE
MB RATIO	1.000 (0.000)											
ROE-Ke	0.071 (0.089)	1.000 (0.000)										
g	0.137* (0.005)	0.941* (0.000)	1.000 (0.000)									
ROE-Ke*g	-0.075 (0.077)	-0.253* (0.000)	-0.331* (0.000)	1.000 (0.000)								
LnTA	-0.060 (0.128)	0.214* (0.000)	0.194* (0.000)	-0.129* .007	1.000 (0.000)							
TDTA	0.288* (0.000)	-0.159* (0.001)	-0.154* (0.002)	-0.125* (0.009)	0.143* (0.003)	1.000 (0.000)						
BETA	-0.091* (.042)	-0.058 (0.134)	-0.021 (0.348)	-0.075 (0.077)	0.260* (0. 000)	0.113* (0.016)	1.000 (0.000)					
FATA	0.090* (0.043)	-0.332* (0.000)	-0.331* (0.000)	0.174* (0.000)	-0.339* (0.000)	-0.045 (0.198)	-0.097* (0.033)	1.000 (0.000)				
FCFTA	-0.109* (0.019)	0.266* (0.000)	0.284* (0.000)	-0.154* (0.002)	0.164* (0.001)	-0.130* (0.007)	0.016 (0.381)	-0.195* (0.000)	1.000 (0.000)			
SECTOR DUMMY	-0.429* (0.000)	0.218* (0.000)	0.223* (0.000)	0.021 (0.346)	0.509* (0.000)	-0.183* (0.000)	0.230* (0.000)	-0.293* (0.000)	0.181* (0.000)	1.000 (0.000)		
TIME	-0.116* (0.014)	-0.003 (0.480)	-0.027 (0.303)	-0.169* (0.001)	0.447* (0.000)	0.145* (0.003)	0.062 (0.120)	-0.317* (0.000)	0.131* (.007)	0.000 (0.500)	1.000 (0.000)	
AGE	-0.407* (0.000)	0.202* (0.000)	0.189* (0.000)	-0.045 (0.195)	0.321* (0.000)	-0.410* (0.000)	0.021 (0.348)	-0.230* (0.000)	0.277* (0.000)	0.500* (0.000)	0.072 (0.086)	1.00 (0.000)

*. Correlation is significant at the 0.05 level (2-tailed).

The above table presents the Correlation Matrix which shows the Correlation between the variables under study. The figures in the parenthesis indicate the p-values of the corresponding correlation coefficients. The "*" indicates the significant correlation coefficients at 5% level of significance. The Dependent variable MBRATIO has positive significant Correlation with TDTA, FATA and Growth whereas it has negative significant Correlation with FCFTA, BETA, SECTOR DUMMY and AGE. MBRATIO has positive insignificant Correlation with ROE-Ke and negative insignificant Correlation LnTA and (ROE-Ke)*g.

Correlation Analysis for Public Sector Banks for Model-2

	MBRATIO	ROE-Ke	g	ROE-Ke*g	Ln TA	TDTA	BETA	FATA	FCF TA	TIME	AGE
MBRATIO	1.000 (0.000)										
ROE-Ke	0.269* (0.000)	1.000 (0.000)									
g	0.388* (0.000)	0.890* (0.000)	1.000 (0.000)								
ROE-Ke*g	0.309* (0.000)	0.926* (0.000)	0.913* (0.000)	1.000 (0.000)							
LnTA	0.002 (0.488)	-0.198* (.002)	-0.236* (0.000)	-0.236* (0.000)	1.000 (0.000)						
TDTA	-0.101 (0.067)	-0.250* (0.000)	-0.268* (0.000)	-0.244* (0.000)	0.180* (0.004)	1.000 (0.000)					
BETA	-0.081 (0.115)	-0.149* (0.014)	-0.120* (0.038)	-0.183* (0.003)	0.213* (0.001)	0.102 (0.066)	1.000 (0.000)				
FATA	0.103 (0.063)	0.124* (0.033)	0.165* (0.007)	0.178* (0.004)	-0.280* (0.000)	-0.250* (0.000)	-0.115* (0.045)	1.000 (0.000)			
FCFTA	0.020 (0.387)	0.109 (0.054)	0.083 (0.110)	0.081 (0.116)	0.112* (0.049)	0.075 (0.134)	-0.003 (0.482)	0.000 (0.499)	1.000 (0.000)		
TIME	-0.474* (0.000)	-0.290* (0.000)	-0.332* (0.000)	-0.314* (0.000)	0.582* (0.000)	0.104 (0.062)	0.102 (0.065)	-0.346* (0.000)	0.150* (0.013)	1.000 (0.000)	
AGE	0.332* (0.000)	0.057 (0.201)	0.045 (0.252)	0.035 (0.302)	0.573* (0.000)	-0.170* (0.006)	0.071(0.146)	0.039 (0.282)	0.081 (0.116)	0.087(0. 100)	1.000 (0.000)

*. Correlation is significant at the 0.05 level (2-tailed).

The above table presents the Correlation Matrix which shows the Correlation between the variables under study. The figures in the parenthesis indicate the p-values of the corresponding correlation coefficients. The "*" indicates the significant correlation coefficients at 5% level of significance. The Dependent variable MBRATIO has positive significant Correlation with ROE-Ke, (ROE-Ke)*g, AGE and Growth. MBRATIO has positive insignificant Correlation with LnTA, FATA and FCFTA and negative insignificant Correlation with TDTA and BETA.

Correlation Analysis for Private Sector Banks for Model-3

	MBRATIO	ROE-Ke	g	(ROE-Ke)*g	Ln TA	TDTA	BETA	FATA	FCF TA	TIME	AGE
MBRATIO	1.000 (0.000)										
ROE-Ke	0.855* (0.000)	1.000 (0.000)									
g	0.893* (0.000)	0.975* (0.000)	1.000 (0.000)								
ROE-Ke*g	0.833* (0.000)	0.971* (0.000)	0.966* (0.000)	1.000 (0.000)							
LnTA	0.875* (0.000)	0.920* (0.000)	0.937* (0.000)	0.843* (0.000)	1.000 (0.000)						
TDTA	0.066 (0.220)	0.056 (0.255)	0.041 (0.316)	-0.001 (0.496)	0.178* (0.017)	1.000 (0.000)					
BETA	0.006 (0.472)	0.021 (0.405)	0.012 (0.444)	0.015 (0.428)	0.054 (0.262	0.224* (0.004)	1.000 (0.000)				

FATA	-0.017 (0.420)	-0.089 (0.147)	-0.094 (0.135)	-0.094 (0.135)	-0.079 (0.176)	0.010 (0.455)	0.023 (0.393)	1.000 (0.000)			
FCFTA	0.055 (0.259)	0.036 (0.335)	0.066 (0.218)	0.039 (0.324)	0.061 (0.236)	-0.271* (0.001)	-0.046 (0.295)	-0.252* (0.001)	1.000 (0.000)		
TIME	-0.041 (0.317)	-0.009 (0.460)	-0.023 (0.393)	-0.023 (0.394)	0.030 (0.361)	0.207* (0.007)	0.023 (0.396)	-0.340* (0.000)	0.118 (0.083)	1.000 (0.000)	
AGE	-0.422* (0.000)	-0.335* (0.000)	-0.335* (0.000)	-0.319* (0.000)	-0.363* (0.000)	-0.628* (0.000)	-0.301* (0.004)	-0.224* (0.000)	0.362* (0.000)	0.079 (0.178)	1.00 (0.000)

*. Correlation is significant at the 0.05 level (2-tailed).

The above table presents the Correlation Matrix which shows the Correlation between the variables under study. The figures in the parenthesis indicate the p-values of the corresponding correlation coefficients. The "*" indicates the significant correlation coefficients at 5% level of significance. The Dependent variable MBRATIO has positive significant Correlation with ROE-Ke, (ROE-Ke)*g, LnTA and Growth. MBRATIO has positive insignificant Correlation with FCFTA, TDTA and BETAwhereas, negative insignificant Correlation with FATA and negative significant Correlation with AGE.

Regression Analysis

Regression Results for All the Models

	Coefficients	p-Value	Coefficients	p-Value	Coefficients	p-
(Constant)	-0.990	0.089	-0.238	0.585	0.918	0.002
ROE-Ke	-0.064*	0.000	-0.026*	0.003	-0.086	0.065
g	0.104*	0.000	0.046*	0.000	0.122	0.071
(ROE-Ke)*g	0.000	0.248	-0.00000675	0.985	0.002	0.530
Ln TA	0.339*	0.000	0.131*	0.002	0.129*	0.008
TDTA	2.087*	0.007	-0.052	0.881	-2.833*	0.001
BETA	-0.223	0.102	-0.126	0.075	-0.189	0.079
FATA	-1.231	0.891	-9.329	0.071	2.317	0.716
FCFTA	-1.791	0.477	1.398	0.273	2.270	0.266
SECTORDUMM	-1.242*	0.000	-	-	-	-
TIME	-0.100*	0.000	-0.90*	0.000	0.007	0.681
AGE	-0.007*	0.000	0.003*	0.001	-0.010*	0.000
R Square		0.424		0.486		0.859
F Change		23.258*		19.796*		72.892*
Sig.F Change		0.000		0.000		0.000
Durbin-Watson		0.650		1.575		0.540

Estimated Models are

Model-1: Overall Banking Sector

(M/B)= -0.990 -0.064 *(ROE-k_e)*+0.104*g*+0.000 *(ROE-k_e)*g*+0.339*Ln TA* + *2.087 (TD/TA)* -0.223 *Beta -1.231 (FA/TA)*– 1.791 *(FCF/TA)* -1.242 *SECTOR DUMMY*- 0.100*TIME* -0.007 *AGE*

Model-2: Public Sector

(M/B)= -0.238- 0.026 *(ROE-k_e)* +0.046*g*- 0.00000675 *(ROE-k_e)*g*+ 0.131*Ln TA* - 0.052 *(TD/TA)* -0.126 *Beta* –9.329 *(FA/TA)* + 1.398 *(FCF/TA)*- 0.90 *TIME* + 0.003 *AGE*

Model-3: Private Sector

(M/B)= 0.918 - 0.086 *(ROE-k_e)*+ 0.122*g*+0.002 *(ROE-k_e)*g*+ 0.129 *Ln TA* –2.833 *(TD/TA)* - 0.189*Beta* +2.317 *(FA/TA)*+2.270 *(FCF/TA)*+ 0.007*TIME* - 0.010 *AGE*

The results of Regression analysis of **Model-1** shows that BETA, FCFTA and (ROE- Ke), FATA, AGE, TIME and SECTOR have inverse impact on M/B Ratio out of which BETA, FATA and FCFTA have insignificant negative impact. AGE, SECTOR DUMMY and ROE-Ke have significant negative impact on M/B Ratio. TDTA, LnTA and Growth have significant positive impact on M/B Ratio. TDTA is the highest contributing variable with significant effect. The significant parameter estimates at 5% significance level are indicated by a star against their values. R-square value indicates that the model is weak and 42.4% of the variation in MB Ratio is explained by the selected independent variables. F-test for R-square indicates that R-square is significant. Durbin-Watson statistics indicates the presence of a moderate degree of negative autocorrelation.

The results of Regression analysis of **Model-2** shows that ROE-Ke, (ROE-Ke)*g, TDTA, FATA,TIME and BETA have inverse impact on M/B Ratio out of which only ROE-Ke and TIME have significant negative effect. FATA has the highest but negative contribution to M/B Ratio. LnTA, FCFTA, AGE and Growth have positive impact on M/B Ratio out of which LnTA followed by GROWTH, followed by AGE have positive significant effect. FCFTA has the highest positive contribution to M/B RATIO but its effect is insignificant. The significant parameter estimates at 5% significance level are indicated by a star against their values. R-square value indicates that the model is weak and 48.6% of the variation in MB Ratio is explained by the selected independent variables. F-test for R-square indicates that R-square is significant. Durbin-Watson statistics indicates the presence of a high degree of negative autocorrelation.

The results of Regression analysis of **Model-3** shows that ROE-Ke, BETA, TDTA and AGE have inverse impact on M/B Ratio out of which TDTA and AGE have negative significant effect on M/B Ratio, whereas, g, (ROE-Ke)*g, LnTA, FCFTA, TIME and FATA have positive impact on M/B Ratio out of which LnTA has significant positive impact on the dependent variable. TDTA is the highest contributing variable with significant inverse effect. The significant parameter estimates at 5% significance level are indicated by a star against their values. R-square value indicates that the model is very strong with 85.9 % of the variation in MB Ratio is explained by the selected independent variables. F-test for R-square indicates that R-square is significant. Durbin-Watson statistics indicates the presence of a moderate degree of negative autocorrelation.

FINDINGS

- For overall banking sector, The Dependent variable MBRATIO has positive significant Correlation with TDTA, FATA and Growth whereas it has negative significant Correlation with FCFTA, BETA, SECTOR DUMMY and AGE. MBRATIO has positive insignificant Correlation with ROE-Ke and negative insignificant Correlation LnTA and (ROE-Ke)*g.
- For Public Sector banks, The Dependent variable MBRATIO has positive significant Correlation with ROE-Ke, (ROE-Ke)*g, AGE and Growth. MBRATIO has positive insignificant Correlation with LnTA, FATA and FCFTA and negative insignificant Correlation with TDTA and BETA.
- In case of Private sector banks, The Dependent variable MBRATIO has positive significant Correlation with ROE-Ke, (ROE-Ke)*g, LnTA and Growth. MBRATIO has positive insignificant Correlation with FCFTA, TDTA and BETA whereas, negative insignificant Correlation with FATA and negative significant Correlation with AGE.
- The results of Regression analysis of **Model-1** shows that BETA, FCFTA and (ROE- Ke), FATA, AGE, TIME and SECTOR have inverse impact on M/B Ratio out of which BETA, FATA and FCFTA have insignificant negative impact. AGE, SECTOR DUMMY and ROE-Ke have significant negative impact on M/B Ratio. TDTA, LnTA and Growth have significant positive impact on M/B Ratio. TDTA is the highest contributing variable with significant effect.
- The results of Regression analysis of **Model-2** shows that ROE-Ke, (ROE-Ke)*g, TDTA, FATA,TIME and BETA have inverse impact on M/B Ratio out of which only ROE-Ke and TIME have significant negative effect. FATA has the highest but negative contribution to M/B Ratio. LnTA, FCFTA, AGE and Growth have positive impact on M/B Ratio out of which LnTA followed by GROWTH, followed by AGE have positive significant effect. FCFTA has the highest positive contribution to M/B RATIO but its effect is insignificant.
- The results of Regression analysis of **Model-3** shows that ROE-Ke, BETA, TDTA and AGE have inverse impact on M/B Ratio out of which TDTA and AGE have negative significant effect on M/B Ratio, whereas, g, (ROE-Ke)*g, LnTA, FCFTA, TIME and FATA have positive impact on M/B Ratio out of which LnTA has significant positive impact on the dependent variable. TDTA is the highest contributing variable with significant inverse effect.

CONCLUSIONS

AGE and SIZE (LnTA) are found to be consistently significant in all the three models. SIZE has consistently positive impact on shareholder value in all the three models, while AGE has significant positive impact in case of public sector banks and negative significant impact for the entire banking sector as well as for the private sector banks. This indicates that the banks

with relatively larger SIZE create higher shareholder value whereas; the relatively older banks create less shareholder value in case of private sector banks and newer banks create higher shareholder value as compared to older banks. In case of public sector banks the older banks create higher shareholder value.

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