

Analyzing the Impact of Value Based Measures on Created Shareholder Value: A Study of Indian Banking Sector

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Abstract

The creation of shareholder value is seen as one of the most important objectives of the firms. For many years, the performances of the companies have been measured in terms of profit or earnings per share. Shareholder value is created by generating future returns for equity investors, which is exceeding the returns that could have been earned by the investors from elsewhere. Amongst the several measures of shareholder value creation, Pablo Fernandez (2002) has given the concept of Created Value as a measure of shareholder value creation. This paper is an attempt to analyse the impact of value based measures on the Created Value as defined by Pablo Fernandez for Indian Banking Sector and identify the most contributing value based measure thereby. The performance of the selected banks as regards their Created Shareholder Value and the Value Based Measures is compared in order to know the scope of future value creation in Indian Banks.

Keywords: Created Shareholder Value, Value Based Measures, Multiple Regression Analysis

1. Introduction

The creation of shareholder value is seen as one of the most important objectives of the firms. For many years, the performances of the companies have been measured in terms of profit or earnings per share. However, increasing dissatisfaction with these measures has directed to the development and promotion of whole new array of metrics under the banner of shareholder value. These measures recognise the fact that capital invested in an organisation is not free, and it carries a charge for its use in the operations of organisation, in terms of cost of capital and hence they have shifted the focus away from profits and towards cash flows.

Shareholder value is created by generating future returns for equity investors, which is exceeding the returns that could have been earned by the investors from elsewhere. Traditional measures like EPS, ROE and ROA do not measure the true performance of the firms, as they do not consider the opportunity cost involved in the business transactions. Value based measures, on the other hand, capture this opportunity cost in terms of economic profit rather than the accounting profit and hence they measure the true performance of the business firms. The pace of development for the Indian banking industry has been tremendous over the last decade. Banking Sector has played a vital role in the development and growth of the India. Recently, banking sector has evolved as the important sector for investment for shareholders and thus, it is a vital source for shareholder value creation. The shareholder value creation approach helps to strengthen the competitive position of the banks. This study aims at analysing the impact of value based performance evaluation measures on the created shareholder value as defined by Pablo Fernandez (2002) and thus identifying the most contributing value based measure in shareholder value creation for Indian banks. The major issue is to evaluate the performance of Indian banks as regards their created shareholder value and identify the ways and means to increase shareholder value created by these banks to make them a more profitable sector in terms of future wealth creation of their shareholders.

2. Review of Literature

Mehari Mekonnen Akalu (2000) in her discussion paper observed that the strength of value drivers is crucial to understand their influence in the process of free cash flow generation. The paper addresses the issue of value driver measurement and ranking. The research result reveals that, value drivers have similar pattern across industries. Furthermore, it is found that the effect of operating cost and interest expenses, on free cash flow, is much more important than sales (revenue). Created Shareholder Value has been defined and analysed by Pablo Fernandez (2002). He emphasizes that in order to obtain the created shareholder value, the firm must first define the increase of equity market value, and the shareholder value added the shareholder return and the required return to equity. Pablo Fernandez and Alvaro Villanueva (2004) have undertaken a study on the shareholder value creation of 50 companies listed on Euro Stock Exchange from 1997 to 2003. The companies that created most value for their shareholder were Siemens, Telefonica and BSCH. The companies that destroyed most shareholder value were Nokia, L'Oreal and Ahold. Siemens was the top shareholder value creator while Nokia was the top value destroyer during the seven years period. Robert Chikwendu Asogwa (2009) 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 results show that Random Effects Probit (REP) Model performs better than Standard Probit Model. The dividend policy is more important for value creation than profitability and earnings growth. Rajesh, Raman et al. (2012) investigated a comparative study between EVA and MVA for the selected cement companies in India and found that EVA and MVA play an important role in order to assess the financial performance of the companies. The findings also proved the two measures (EVA and MVA) provide consistent shareholder's value creation activities. Shrikant Krupasindhu Panigrahi et al. (2014) utilizes economic measures like Economic Value Added (EVA) and Market Value Added (MVA) combined with the accounting measures to perform a comparative study in order to identify the most appropriate measures for the creation of shareholder's wealth. It was found that very few of the construction companies were having positive EVA for the creation of Shareholder's wealth. It was also found that there is a strong relationship between created shareholder's value and economic value added.

3. Research Methodology

3.1 Research Objectives

- ❖ To analyse the impact of value based measures on Created Shareholder value in Indian banks.
- ❖ To compare the performance of the banks as regards their Created Shareholder value and the predominant Value Based Measure

3.2 Sampling Design

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. The classification of private sector banks into "OLD BANKS" and "NEW BANKS" is considered as given by Department of Financial Services, Ministry of Finance; Government of India. Our final sample size is 36 Banks, 22 Public Sector Banks and 14 Private sector banks from Indian Banking Sector. The study is based on secondary data collected from Ace-Knowledge and 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:

Table -1 Sample Description

Public Sector Banks	Private Sector Banks
State Bank of India (SBI)	Old Private Sector Banks
Bank Of Baroda (BOB)	Federal Bank Limited
DENA Bank (DENA)	ING VYSYA Bank Limited
CANARA Bank (CANARA)	Karnataka Bank Limited
IDBI Bank (IDBI)	Karur Vysya Bank Limited
UNION BANK Of India (UBI)	Lakshmi Vilas Bank Limited (LVB)
Syndicate Bank	South Indian Bank Limited
Bank of Maharashtra(BOM)	City Union Bank Limited
Allahabad bank	New Private Sector Banks
Andhra Bank	Axis Bank Limited
Central Bank of India (CBI)	Development Credit Bank Limited (DCB)
Indian Bank	HDFC Bank Limited
Indian Overseas Bank (IOB)	ICICI Bank Limited
Punjab National Bank (PNB)	INDUSIND Bank Limited
UCO Bank	Kotak Mahindra Bank Limited
Vijaya Bank	YES Bank Limited
Bank Of India(BOI)	
Corporation Bank	
Oriental Bank of Commerce (OBC)	
State Bank Bikaner & Jaipur (SBBJ)	
State Bank of Mysore (SB Mysore)	
State Bank of Travancore (SB Travancore)	

3.3 Statistical Tools and Techniques:

- Descriptive Measures
- Correlation Analysis
- Multiple Regression Analysis

4. Data Analysis:

Amongst the several measures of shareholder value creation, given by Pablo Fernandez (2002) has given the concept of Created Value as a measure of shareholder value creation.

According to him, a company creates value for its shareholders when the shareholder return exceeds the required return on equity i.e. when it outperforms the expectations of shareholders. The Created Value is quantified as under:

$$\text{Created Shareholder Value} = \text{Equity Market Value} * (\text{Shareholder Return} - K_e).$$

An attempt here has been made analyse the impact of value based measures on the Created Value as defined by Pablo Fernandez, in search of the most contributing value based measure and thereafter to evaluate the performance of the selected banks as regards their created shareholder value and the most contributing value based measure. The explanatory variables used for this purpose are the value based performance evaluation measures defined as under:

- Market Value Added (MVA) = Market Value of Equity – Total Capital
- Cash Value Added (CVA) = Cash Flows Of Operating Activities – Taxes – (Interest + Dividend).
- Economic Value Added (EVA) = NOPAT - (IC_{t-1} * WACC %)

Where, NOPAT = Operating Profit (1 - Tax Rate)

$$\text{WACC} = (\text{Debt Capital} * \text{Rate Of Cost of Debt}) + (\text{Equity Capital} * \text{Rate Of Cost Of Equity}) / \text{Total Capital Employed}$$

$$\text{Rate of Cost of Equity (ke)} = (\text{Risk Free Rate} + \text{Risk Premium}) * \text{Beta}$$

$$\text{Rate of Cost of Debt (kd)} = (\text{Total Debt} * \text{Rate of Interest Post Tax}) / \text{Total Capital Employed}$$

IC = Invested Capital

4.1 Correlation Analysis:

In order to examine the interrelationship between Created shareholder value and the value based performance measures, Correlation Analysis has been carried out for the Overall Banking sector, as well as for the public and private sector banks separately. The results of this analysis are given in Table-2, 3 and 4 below:

Table-2 Correlation Analysis for Overall Banking Sector

	MVA	EVA	CVA	CREATED VALUE
MVA	1.000 (0.000)			
EVA	0.693* (0.000)	1.000 (0.000)		
CVA	0.101* (0.028)	0.217* (0.000)	1.000 (0.000)	
CREATED VALUE	0.540* (0.000)	0.187* (0.000)	0.041 (0.218)	1.000 (0.000)

Table-3 Correlation Analysis for Public Sector Banks:

	MVA	EVA	CVA	CREATED VALUE
MVA	1.000 (0.000)			
EVA	0.757* (0.000)	1.000 (0.000)		
CVA	0.099 (0.072)	0.281* (0.000)	1.000 (0.000)	
CREATED VALUE	0.543* (0.000)	0.191* (0.002)	0.015 (0.411)	1.000 (0.000)

Table-4 Correlation Analysis for Private Sector Banks:

	MVA	EVA	CVA	CREATED VALUE
MVA	1.000 (0.000)			
EVA	0.542* (0.000)	1.000 (0.000)		
CVA	0.146 (0.043)	-0.073 (0.194)	1.000 (0.000)	
CREATED VALUE	0.251* (0.001)	0.216* (0.005)	0.318* (0.000)	1.000 (0.000)

The above results indicate that MVA has significant positive Correlation with all variables in all the three cases. The EVA has positive significant Correlation with almost all the variables except CVA in case of private sector banks where it is insignificantly inversely correlated. CVA has positive significant effect with Created Value in case of private sector banks whereas; it has positive but insignificant correlation with Created Value in case of overall banking sector as well as public sector banks. Created Value has the highest positive correlation with MVA in case of overall banking sector and public sector banks whereas; it has highest positive correlation with CVA in case of private sector banks. The highest and positive significant correlation coefficients are between EVA and MVA in all the three cases. Significant correlation coefficients are indicated by “*” at 5 % level of significance

4.2 Multiple Regression Analysis:

Further, in order to examine the impact of the value based performance measures on Created Shareholder Value, the Multiple Regression Analysis has been carried out using the following Model:

Model Specifications:

$$\text{Created Value} = \beta_0 + \beta_1\text{EVA}_{it} + \beta_2\text{MVA}_{it} + \beta_3\text{CVA}_{it} + \varepsilon_{it}$$

Estimated Models From Regression Analysis:

Model-1: Overall Banking Sector

$$\text{Created Value} = 146358.578 - 94.569\text{EVA} + 2.882\text{MVA} + 4.710\text{CVA}$$

Model-1.1: Public Sector

$$\text{Created Value} = 270793.933 - 159.662\text{EVA} + 3.453\text{MVA} + 9.946\text{CVA}$$

Model-1.2: Private Sector

$$\text{Created Value} = 16960.936 + 14.820\text{EVA} + 0.695\text{MVA} + 10.056\text{CVA}$$

Table-5 Regression Results for Models 1, 1.1 & 1.2

	Model-1 (Overall Banking Sector)		Model-1.1 (Public Sector)		Model-1.2 (Private Sector)	
	Coefficients	p-Value	Coefficients	P-Value	Coefficients	P-Value
(Constant)	146359	0.000	270794	0.000	16961	0.196
EVA	-94.569*	0.000	-159.662*	0.000	14.82	0.059
MVA	2.882*	0.000	3.453*	0.000	0.695	0.262
CVA	4.71	0.335	9.946	0.167	10.056*	0.000
R Square	0.361*		0.414*		0.166*	
F Change	66.941		50.893		9.046	
Sig.F Change	0		0		0	
Durbin-Watson	2.091		2.112		2.083	

The results of Regression analysis in Table-5 show that, EVA is the highest contributing variable with negative relation with created Value for both Aggregate and Public Sector Banks whereas, it has highest contribution to Created Value with positive effect for Private Sector Banks. The next highest contribution to Created Value is of CVA with positive effect in all the three cases. However, it is significant only in case of Private Sector Banks. MVA has the least contribution to the Created Value in all the three cases, but it is not significant in case of Private Banks and it is significant for Aggregate and Public sector Banks. The significant parameter estimates at 5% significance level are indicated by a star against their values. R-square values for all the three models indicate moderate relationship between Created Value and the independent variables. It is found to be the least in case of Private Sector Banks. F-test for R-square indicates that R-square is significant. Durbin-Watson statistics indicates the presence of a moderate degree of positive autocorrelation in all the three models.

4.3 Sectoral Analysis of Created Value:

Sectoral Analysis of the selected banks has been carried out to evaluate the performance of the selected banks as regards their created shareholder value. The Bank-wise descriptive measures used for this purpose are summarized in Table-6 below:

Table-6 Sectoral Analysis of Created Value

Public Sector Banks	Average	S.D.	CV	Private Sector Banks	Average	S.D.V	CV
SBI	183995.6986	322400.3348	1.7522	Axis Bank	96233.5086	136259.488	1.4159
BOB	40847.9872	75734.1362	1.8540	Federal Bank	710.3487	25646.3840	36.103
DENA	3256.2578	7140.0420	2.1927	HDFC	96483.0868	301731.061	3.1273
CANARA	24881.6054	57223.2428	2.2998	ICICI	209882.756	344625.470	1.6420
IDBI	11940.8464	30265.6231	2.5346	INDUSIND Bank	32608.2024	36325.7370	1.1140
UNION BANK	15207.0810	32352.7474	2.1275	ING VYSYA	10801.7538	13132.5384	1.2158
Syndicate Bank	9084.7143	12503.9696	1.3764	Karnataka Bank	3449.3619	5348.5594	1.5506
Bank of Maharashtra	2449.4955	6692.4277	2.7322	Karur Vysya	2269.4255	7017.4228	3.0922
Allahabad bank	13757.3307	30165.1439	2.1927	Kotak Mahindra	57322.2269	93254.5389	1.6268
Andhra Bank	7657.7235	19293.1297	2.5194	Lakshmi Vilas Bank	147.9281	852.2066	5.7610
Central Bank of India	3583.4490	30673.2787	8.5597	South Indian Bank	1318.4971	9513.7851	7.2156
Indian Bank	11046.0465	22181.5866	2.0081	YES Bank	26076.5132	39690.3619	1.5221
Indian Overseas Bank	7493.9206	21435.5761	2.8604	City Union	2221.9863	3516.9896	1.5828
Punjab National Bank	37330.9730	84639.7672	2.2673	DCB Bank	2280.7913	2403.6764	1.0539
UCO Bank	10064.9769	16021.0991	1.5918				
Vijaya Bank	2496.3992	8382.4823	3.3578				
BOI	26208.1246	38716.3323	1.4773				
Corporation Bank	6627.4752	22207.6795	3.3509				
Oriental	8720.0076	26764.2808	3.0693				
SBB&J	3221.3065	8986.7346	2.7898				
SBMysore	4365.9159	11319.1699	2.5926				
SBTravancore	4433.7134	12981.3065	2.9279				

• The results of Table-6 above indicates that amongst the public sector banks, SBI has the highest average Created Value of 183995.6986 whereas; Bank of Maharashtra has the lowest average Created Value of 2449.4955 over the period of study. While, in case of private sector banks, ICICI Bank has the highest average Created Value of 209882.7560 whereas, Lakshmi Vilas Bank has the lowest average Created Value of 147.9281 over the period of study.

• Amongst public sector banks, Syndicate Bank has the least coefficient of variation indicating the most consistent Created Value while Central Bank of India has the highest coefficient of variation indicating the most inconsistent Created Value. Amongst private sector banks, Development Credit Bank has the least coefficient of variation indicating the most consistent Created Value while Federal Bank has the highest coefficient of variation indicating the most volatile Created Value.

Thus, SBI amongst the public sector banks and ICICI amongst the private sector banks are the best performers as regards their created shareholder value.

4.4 Sectoral Analysis of Economic Value Added:

Since EVA is found to be the highest contributing value based measure in all the three cases, viz., Overall Banking sector, Public sector as well as private sector banks, the further analysis of the selected banks has been carried out as regards their EVA over the period of study.

Table-7 Sectoral Analysis of Economic Value Added

Public Sector Banks	Average	STDEV	CV	Private Sector Banks	Average	STDEV	CV
SBI	10859.82114	5183.895	0.477346	Axis Bank	2806.234861	2108.479755	0.751355
BOB	3826.035375	2415.803	0.631412	Federal Bank	720.1522606	308.8091912	0.428811
DENA	511.9562014	1874.632	3.661704	HDFC	4115.257725	2608.351212	0.633825
CANARA	3613.924649	1179.186	0.32629	ICICI	3688.458146	2338.624342	0.634038
IDBI	10.99006734	1276.393	116.1406	INDUSIND Bank	469.0217318	424.8485072	0.905818
UNION BANK	2266.267111	851.936	0.37592	ING VYSYA	274.405826	190.0621409	0.692632
Syndicate Bank	1867.238142	1032.045	0.552712	Karnataka Bank	302.7658298	99.22022746	0.327713
Bank of Maharashtra	557.9825364	261.3664	0.468413	Karur Vysya	360.0855938	183.9758953	0.510923
Allahabad bank	1683.070776	736.2591	0.43745	Kotak Mahindra Bank	514.7698761	401.2210664	0.779418
Andhra Bank	1092.147196	482.5269	0.441815	Lakshmi Vilas Bank	99.10030643	65.26097364	0.658535
Central Bank of India	1434.979176	729.1986	0.50816	South Indian Bank	304.0105083	183.9577065	0.605103
Indian Bank	1651.581678	663.7402	0.401882	YES Bank	433.2704313	368.8887912	0.851405
Indian Overseas Bank	1431.634161	592.8262	0.414091	City Union	225.076484	138.9245406	0.617233
Punjab National Bank	4232.990118	2087.713	0.493201	DCB Bank	54.15944416	59.54564929	1.099451
UCO Bank	1671.455436	1118.775	0.669342				
Vijaya Bank	699.4525974	187.4541	0.268001				
BOI	3075.944684	1667.947	0.542255				
Corporation Bank	1626.458048	1478.259	0.908883				
Oriental	1576.420786	909.703	0.577069				
SBB&J	641.272164	306.8766	0.478543				
SBMysore	546.1223302	288.1194	0.527573				
SBTravancore	589.5943988	138.5051	0.234916				

• Table-7 above indicates that amongst the public sector banks, State Bank of India has the highest average Economic Value Added of 10859.82114 whereas; IDBI has the lowest average Economic Value Added of 10.99 over the period of study. While, in case of private sector banks, HDFC Bank has the highest average Economic Value Added of 4115.257725 whereas, Development Credit Bank has the lowest average Economic Value Added of 54.15944416 over the period of study.

• Amongst public sector banks, State Bank of Travancore has the least coefficient of variation indicating the most consistent Economic Value Added while IDBI has the highest coefficient of variation indicating the most inconsistent Economic Value Added with lowest average EVA. Amongst private sector banks, Karnataka Bank has the least coefficient of variation indicating the most consistent Economic Value Added while Development Credit Bank has the highest coefficient of variation indicating the most volatile Economic Value Added.

In order to carry out sector-wise comparative analysis of the selected Banks as regards their Shareholder Value measures, the Banks have been ranked in decreasing order of their average shareholder value and increasing order of their corresponding coefficients of variation. The results of this analysis are given in **Table- 8** below:

TABLE-6.8 Rankings of Public and Private Sector Banks

Public Sector Banks					Private Sector Banks				
	Created Value		EVA			Created Value		EVA	
	Mean	CV	Mean	CV		Mean	CV	Mean	CV
SBI	1	4	1	10	Axis Bank	3	4	3	10
BOB	2	5	3	18	Federal Bank	13	14	4	2
DENA	19	9	21	21	HDFC	2	11	1	6
CANARA	5	11	4	3	ICICI	1	9	2	7
IDBI	8	13	22	22	INDUSIND Bank	5	2	6	13
UNION BANK	6	7	6	4	ING VYSYA	7	3	11	9
Syndicate Bank	11	1	7	16	Karnataka Bank	8	6	10	1
Bank of Maharashtra	22	15	19	9	Karur Vysya	10	10	8	3
Allahabad bank	7	8	8	7	Kotak Mahindra	4	8	5	11
Andhra Bank	13	12	15	8	Lakshmi Vilas Bank	14	12	13	8
Central Bank of India	18	22	13	13	South Indian Bank	12	13	9	4
Indian Bank	9	6	10	5	YES Bank	6	5	7	12
Indian Overseas Bank	14	17	14	6	City Union	11	7	12	5
Punjab National Bank	3	10	2	12	DCB Bank	9	1	14	14
UCO Bank	10	3	9	19					
Vijaya Bank	21	21	16	2					
BOI	4	2	5	15					
Corporation Bank	15	20	11	20					
Oriental	12	19	12	17					
SBB&J	20	16	17	11					
SBMysore	17	14	20	14					
SBTravancore	16	18	18	1					

- The above Table indicates that in case of public sector banks, State Bank of India ranks first as regards its Created Value with relatively lesser corresponding coefficient of variation Further, State Bank of India has the highest EVA with moderate coefficient of variation and IDBI has the lowest EVA with the highest coefficient of variation.
- Amongst the private sector banks, ICICI bank followed by HDFC Bank has the highest average Created Value with relatively lesser coefficient of variation. As regards their economic value added, HDFC Bank followed by ICICI Bank has the highest EVA with relatively lesser coefficient of variation. Thus, ICICI Bank and HDFC Bank are relatively better performers as regards their Shareholder Value Creation amongst the selected private sector banks.

5. Findings and Conclusions:

The creation of shareholder value is seen as one of the most important objectives of the firms. An attempt has been made to analyse the impact of value based performance evaluation measures on the most popular measure of shareholder value creation as defined by Pablo Fernandez (2002) and thus identifying the most contributing value based measure in shareholder value creation for Indian banks. The study indicates that EVA is the highest contributing variable to created shareholder value for Indian banking sector and hence the banks should focus on their Economic Value Added in order to enhance their future value creation. The next highest contribution to Created Value is of CVA followed by MVA with positive effect in all the three cases: overall banking sector, Public Sector Banks and Private Sector Banks indicating that the banks must increase their Cash value Added for creating higher shareholder value. Thus banks must always try to generate higher operating cash flows in order to create better shareholder value. They must take appropriate measures to improve their operational efficiency, thereby reducing their operating costs in order to create higher shareholder value. Amongst public sector banks, State Bank of India ranks first as regards its Created Value as well as EVA making it the best performer for the shareholders. Amongst the private sector banks, ICICI bank followed by HDFC Bank has the highest average Created Value with relatively lesser coefficient of variation. HDFC Bank followed by ICICI Bank has the highest EVA with relatively lesser coefficient of variation. Thus, ICICI Bank and HDFC Bank are relatively better performers as regards their Shareholder Value Creation amongst the selected private sector banks.

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