# Shareholder Value Creation:

# An Empirical Analysis of Indian Banking Sector

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# Abstract

This study investigates the importance of economic value added for the shareholders' value maximization. Economic value added (EVA) is a value based performance measurement tool that helps to settle down the management decision regarding creation of shareholders value. Very few literatures are found regarding creation of shareholder values in banks. Sample of 40 Indian commercial listed Banks and panel data are used for the period of 2001 to 2015, the empirical findings for Public limited banks and overall Indian banks revealed that there is a positive and significant relationship between shareholder's value maximization and EVA but in case of Private limited banks, DPS was found to have significant relationship with shareholder value. The Higher the value of EVA, higher shareholders value .The finding shows significant support for EVA and DPS, but it was found that EVA is not efficiently used for Analysis and decision making regarding creation of value. Thus it is suggested to focus on criteria of EVA for analyzing shareholder's value of banks.

Keywords: Shareholder value creation, EVA, DPS, ROE, Equity based approach

# 1. Introduction

The traditional accounting measures of corporate performance such as DPS, ROE, and EPS are meeting up with ever increasing criticism and dissatisfaction. There are traditional measures like earnings per share (EPS), dividend per share (DPS), return on equity (ROE), return on assets (ROA), and the like have been used by the shareholders to measure performance appraisals. Such traditional measures have been criticized due to not inclusion of cost of capital resources of the firm (Hasani and Fathi, 2012). Thus in order to overcome such issues economic value based measures like economic value added (EVA) were proposed (Al Mamun, Entebang & Mansor, 2012; Erasmus, 2008). Academic literature argues that these measures provide a comparatively low guide to shareholder value. Rappaport's pioneering work (1986, 1998) that focused on shareholder value took into account the shortcomings of the traditional accounting measures, thus preparing the way for a value-based management (VBM) approach. This new approach has gained widespread approval as it outlines two important propositions: first, that shareholder value creation is the primary corporate objective, and secondly, that economic income of a company, as expressed by its EVA, is the primary measure of corporate performance (Davies, 2000). But the focus of this type study in financial firms is very few. It has become prime necessity to use appropriate performance measure for shareholder value creation in Banks.

This study extends prior studies on the relationship between value-based Performance metrics and shareholder value creation. The objective of this study was to empirically examine that EVA is highly associated with MVA. The purpose of the study, though, was not to fully explain the determinants of MVA, but only to show how well EVA acts as a genuine explanatory variable for MVA, in order to justify its appropriateness for performance measurement and shareholder value creation. Traditional performance measures such as DPS, EPS and ROE more commonly used value-based performance metrics used for the study in Indian banks for predicting the shareholder value so they were also considered to highlight the value-relevance of EVA vis-a-vis these measures in predicting shareholder value.

This study will contribute to the growing literature on performance measurements; it made use of pooled time-series cross-sectional data, which certainly allows for greater empirical certainty on the usefulness of EVA. Moreover, the current study is the comparison study to use data on four value-based performances metrics-namely, EVA, EPS, DPR and ROE and covers a more recent period in the context of Indian commercial banks performance and shareholder value creation. Thus, this study provides evidence that would prove useful to policy makers who are interested in EVA as a replacement or a complement to traditional accounting-based performance metrics for their decision-making and compensation purposes.

# 2. Literature Review

Performance evaluation methods are relatively established in production industries (Ansari & Riasi, 2016; Cohen et al., 1985), however, performance evaluation in service settings such as the banking industry is more complicated, involves convoluted analysis of several factors, and have not been widely studied (Riasi, 2015)"

The shareholders' value depends on the performance of the banks. The term 'performance' cannot be put into a tight framework of definition. It is an ambiguous phenomenon and it can be interpreted and measured in different ways (Goodman and Pennings, 1977); and (Millward, 1982). Performance can be assessed by different users from their own points of view. Performance measure used for banks can be classified into traditional, economic and market based measures. The traditional measures like Return on Capital Employed (ROCE), Return on Net worth (RONW), Earnings Per Share (EPS), etc., do not represent the shareholders' true return, because all these measures consider only the borrowing cost and not the cost of equity.

There are some changes to be made to the standard method of calculating EVA when it comes to banks as in banks equity approach is more preferred. Due banks peculiar characteristics the traditional ratios and other performance measures has to be modified in order to correctly performance of banks.

In the case of banks, the Equity approach is recommended: (Thampy Ashok, 2000),

So formula of EVA = Adjusted Net Profit - (Equity x Cost of Equity)

In case of banks, equity approach is preferred as compared to entity approach. As it is difficult to define the debt capital used for financing and assign a proper cost of capital to this debt, the equity approach is more appropriate for valuing banks debt. Thus, we do not consider debt as capital and consider interest paid as an operating expense the entity approach is the most widely used approach for valuing industrial companies; it falls short when measuring the shareholder value of banks. Copeland et al. (2000), Another reason is that debt capital is composed of a variety of debt tranches varying in amount and the interest rate paid. As a result, the estimation of the overall cost of bank debt is complicated. Given the high leverage of banks and consequently the small share of equity on the liability side of bank balance sheets, the cost of equity has only a small impact on the weighted average cost of capital. In addition, the margin between equity cost and interest income is very small. Small errors in the calculation of capital cost may therefore lead to significant variations in the value of equity. The capital structure and the structure of the debt capital of banks are continuously changing. This reason, the cost of equity varies significantly with changes in interest rates, and assuming a constant debt ratio and cost of debt may lead to misinterpretations. The equity approach is therefore the most qualified for measuring the shareholder value of banks. In particular, it is more appropriate for the measurement of shareholder value on a business unit level and for the management of shareholder value.

# The choice of the equity model for valuing financial companies means that all debt is regarded as part of operations rather than financing. Debt is not considered capital and interest paid on debt is an operating expense. So Cost of equity is being used instead of WACC.

EVA = Adjusted Net Profit - (Equity x Cost of Equity)

Adjusted Profit after Tax: The profit after tax has been taken after all adjustments for non- recurring events have been made to this to exclude the non-operating income or expense. This adjustment has been made on an after tax basis .Equity includes equity share capital, reserves and surplus. The Capital Asset Pricing Model is the basic model used for calculating cost of equity.

Cost of equity = Risk free rate + Beta (Market risk premium)

The results obtained by means of the economic value added method answer the question regarding the capital use efficiency and company value increase. We shall analyze three variants of the relationship between the value of the EVA indicator and investors' behavior as given by Fernández, 2002

From an investor's point of view, MVA is the best external measure of a company's performance. (Stewart, 1991) states that MVA is a cumulative measure of corporate performance and that it represents the stock market's assessment from a particular time onwards of the NPV of all a company's past and projected capital projects.

The market value added (MVA) is the difference between the total market value and the Invested capital (Firer, 1995, Reillyand Brown, 2003).

MVA = Market value of company - IC

EVA is an internal measure of performance that determines MVA. (Stewart, 1991) defines EVA as follows: "A company's EVA is the fuel that fires up its MVA." EVA takes into account the full cost of capital, including the cost of equity. A survey of the available research literature shows results from different sources that conclude that EVA has a stronger correlation with MVA than the other accounting measures tested. These supporters of EVA include (O'Byrne, 1996). However, following the initial strong support for EVA, some criticisms have been aired, along with research results indicating that EVA in fact does not have superior explaining power of MVA, compared to the other measures. Researchers that have come out criticizing EVA include (Kramer & Pushner, 1997). Major literature favored modern measure of performance. The purpose to investigate the strength of the relationship between EVA and other traditional accounting measures relative to MVA. The reason why this may be of interest to financial managers and analysts is that the identification of the driver(s) with the strongest impact on MVA may be extremely helpful in developing financial strategies that would optimize value creation for shareholders

# 3. Research Objective

The main aim of the study is to find the answer to the following research question:

To find the most appropriate performance measure for creation of shareholder value in case of Indian banks

To empirically analyse and interpret statistical relationship between traditional and modern performance measures with shareholder value (MVA) and also to find its proportion of variation with regards to creation of shareholder value.

#### 4. Research Methodology

In this study comparison of Traditional and modern performance measure for measuring the Performance of Banks in order to decide which performance measure is more compactable for the Indian commercial banks.

#### 4.1 Research Design

The nature of this research is discrete and flexible in addressing the research aim which is to examine the possible bank in the India with a particular focus on the period from 2001 to 2015. We have chosen a descriptive research design to more openly achieve the research objectives which are difficult to address in exploratory research design (Creswell, 2003). In addition, this study is mainly based quantitative or empirical data and therefore detailed analyses are required which are easily achievable in descriptive design.

#### 4.2 Sample Data and Its Sources

Secondary data has been used for this study. The macro economic data for India has been collected from Data book for planning commission. The bank wise data has been collected from RBI, CMIE – prowess and from the annual reports of each bank was considered. The present work has considered almost all the major banks in India which counted up to 40 banks and the time period is from 2001 to 2015.

The population of this study is the Indian commercial banks. Currently 48 listed Public and private banks are running their operations in the India. However, 40 banks are selected for this study. The data of other banks such as co-operative and foreign banks are not considered to avoid its possible impact on research findings and conclusions.

There are currently (27) Twenty Seven Public Sector Banks out of which (19) Nineteen is Nationalized Bank, (6) Six are SBI & its Associates and rest (2) two are other Public Sector Banks. There are currently (21) Twenty One Private Sector Banks are Operating in India.

We have covered (24) Twenty four Public Sector Banks and (16) sixteen Private Sector Banks for our empirical study for 15 years i.e. (2001-2015).

# 5. Tools and Techniques for Analysis

The data collected for the present analysis is balance panel data. So, the relationship between the dependent and independent variables is obtained from a regression model called panel regression analysis. Because panel data have both cross-sectional and time series dimensions, the application of regression models to fit econometric models are

more complex than those for simple cross-sectional data sets. Nevertheless, they are increasingly being used in applied work and the aim of this chapter is to provide a brief introduction. A panel is described as balanced if there is an observation for every unit of observation for every time period and as unbalanced if some observations are missing, the banking data considered is a balanced panel. Panel data are cross-sectional and time-series. Panel data may have group effects, time effects, or the both, which are analyzed by fixed effect and random effect models.

Panel data models examine group (individual-specific) effects, time effects, or both. These effects are either fixed effect or random effect. Panel data models examine fixed and/or random effects of entity (individual or subject) or time. The core difference between fixed and random effect models lies in the role of dummy variables .If dummies are considered as a part of the intercept, this is a fixed effect model. In a random effect model, the dummies act as an error term.

A standard specification is

$$Y_{it} = \beta_1 + \sum_{j=2}^k \beta_j X_{jit} + \sum_{p=1}^s \gamma_p Z_{pi} + \delta t + \varepsilon_{it}$$

Where Y is the dependent variable, the Xj are observed explanatory variables and the Zp are unobserved explanatory variables. The index i refer to the unit of observation, t refers to the time period, and j and p are used to differentiate between different observed and unobserved explanatory variables. A trend term t has been introduced to allow for a shift of the intercept over time. If the implicit assumption of a constant rate of change seems too strong, the trend can be replaced by a set of dummy variables, one for each time period except the reference period.

Panel Regression analysis is used to measure relation of the variables

# Variables Selected for Study:

Study of modern measure of performance of Value creation that is EVA with traditional measure of performance such as EPS, DPS and ROE.

# Dependent variables is Market value added

#### Independent variable is EVA, EPS, ROE and DPS

# **Research Variables:**

Dependent variable is MVA which represents shareholder value of banks

MVA = Market value of company – Invested capital

Independent variables such as EVA, EPS, ROE and DPS are the variables which represents different performance measure and matrix for creation of shareholder value.

EVA = NOPAT - (Equity x Cost of Equity)

Earnings per share = (Net Profit after Taxes - Preference Dividends) / Number of Equity Shares

ROE = Net income after tax / (Equity share holder capital + reserves – Preliminary expenses)

DPS = Total Dividend / Number of Equity share

Regression equation model for the study:

 $\begin{aligned} \mathbf{MVA}_{it} &= \alpha_0 + \alpha_1 \mathbf{EVA}_{it} + \mathbf{e}_{it} \\ \mathbf{MVA}_{it} &= \beta_0 + \beta_1 \mathbf{EPS}_{it} + \mathbf{u}_{it} \\ \mathbf{MVA}_{it} &= \gamma_0 + \gamma_1 \mathbf{DPS}_{it} + \mathbf{v}_{it} \\ \mathbf{MVA}_{it} &= \chi_0 + \chi_1 \mathbf{ROE}_{it} + \mathbf{Y}_{it} \\ \mathbf{MVA}_{it} &= \pi 0 + \pi_1 \mathbf{EVA}_{it} + \pi_2 \mathbf{EPS}_{it} + \pi_3 \mathbf{DPS}_{it} + \pi_4 \mathbf{ROE}_{it} + \mathbf{\varepsilon}_{it} \\ \mathbf{5.1 \ Empirical \ Results \ and \ Discussions:} \end{aligned}$ 

MVA as the dependent variables which is the indicator of shareholder value and EPS, DPS, ROE, EVA are the independent variable which indicate the different performance measures of bank usually selected by the researchers for the measurement of shareholder value. The main motive behind this study is to find the best performance measure for

the measuring the shareholder value in case of Indian commercial banks so a comparison study was made between the traditional performance measures and modern performance measures of shareholder value. After through literature review it was found that EVA, DPS, ROE, EPS is widely used for the performance measure of shareholder value so in order to empirically find the best performance measure of shareholder value of Indian commercial banks, EVA, DPS, ROE, EPS were selected as the independent variable.

Table 1. Correlation Matrix of Bank	performance measure with MVA
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Banks	EVA	ROE	EPS	DPS
Public Limited Banks	0.3027	0.0231	0.2539	0.2089
Indian Banks	0.2519	0.0087	0.218	0.1864
Private Limited Banks	0.0197	-0.0042	0.0978	0.178



Figure 1. Correlation Matrix of Indian Commercial Bank performance measure with MVA

From the above results it can be interpret that EVA has highest correlation with MVA of 0.30 and 0.25 in case of public sector banks and Indian banks but has very low correlation in case of 0.02 private sector banks. DPS has highest correlation with MVA in case of private sector banks.

Table 2. Regression Equation of the Study

Private Limited Banks	Public Limited Banks	Indian Banks
(16 banks for 15 years)	(24 banks for 15 years)	(40 banks for 15 years)
MVA = 123.454-0.561085 (EVA)	MVA = -15.654+ 2.44688 (EVA)	MVA = 41.2646 + 2.12502 (EVA)
MVA = 195.326- 5.3592 (ROE)	MVA = 32.1111- 0.771107 (ROE)	MVA = 95.7963 - 1.31336 (ROE)
MVA = 76.931+ 9.40839 (DPS)	MVA = -46.0553+ 8.22475 (DPS)	MVA = 5.79247+ 8.31653 (DPS)
MVA = 99.7258+ 0.710648 (EPS)	MVA = -68.9961+ 1.72434 (EPS)	MVA = -6.56276 + 1.66483 (EPS)

# Table 3. Impact of Bank Internal Performance Measure

(EVA, ROE, EPS and DPS ) on MVA

	Private Sector Bonks	Public Sector Bonks	Indian Banks	
Particulars	(16 banks for 15 years)	(24 banks for 15 years)	(40 banks for 15 years)	
Dependent Variable	MVA	MVA	MVA	
<b>Correlation Matrix</b>				
EVA	0.02	0.30	0.25	
ROE	0.00	0.02	0.01	
EPS	0.10	0.25	0.22	
DPS	0.18	0.21	0.19	
coefficient				
EVA	-0.56	2.45	2.13	
ROE	-5.36	0.77	-1.31	
EPS	0.71	1.72	1.66	
DPS	9.41	8.22	8.32	
std. error				
EVA	0.52	0.51	0.38	
ROE	1.78	3.79	2.43	
EPS	0.49	0.34	0.26	
DPS	2.71	2.23	1.71	
t-ratio				
EVA	-1.07	4.80	5.54	
ROE	-3.01	0.20	-0.54	
EPS	1.45	5.04	6.33	
DPS	3.47	3.70	4.86	
P-ratio				
EVA	0.29	0.00	0.00	
ROE	0.00	0.84	0.59	
EPS	0.15	0.00	0.00	
DPS	0.00	0.00	0.00	
R squared				
EVA	0.51	0.17	0.21	
ROE	0.53	0.10	0.16	
EPS	0.51	0.17	0.22	
DPS	0.53	0.14	0.20	
Adjusted R squared				
EVA	0.47	0.10	0.15	
ROE	0.49	0.03	0.10	
EPS	0.47	0.11	0.16	
DPS	0.49	0.07	0.13	
P-value(F)				
EVA	0.00	0.00	0.00	
ROE	0.00	0.13	0.00	
EPS	0.00	0.00	0.00	
DPS	0.00	0.01	0.00	
Durbin-Watson				
EVA	0.57	0.85	0.83	
ROE	0.65	0.73	0.72	
EPS	0.67	0.87	0.85	
DPS	0.79	0.81	0.80	

In panel regression study of Impact of Bank Internal Performance Measure (EVA, ROE, EPS and DPS) on MVA, it was found that all models applied in all the cases were found except for ROE in case of public sector banks was not found significant model.

In case of private sector banks EVA has negative significant coefficient relation whereas in Public and overall it has positive significant relation with MVA. Most of Traditional measures also significant coefficient relation except in case of ROE of public banks, ROE of Indian banks and EPS of private banks.

In case of private Sector Bank, regression models of ROE and DPS had highest R squared of 53% each and Adjusted R Squared of 49% as compared to other bank performance measure. In case of Public Sector Bank, regression models of EVA and EPS had highest R squared of 17% each and Adjusted R Squared of 10% and 11% as compared to other bank performance measure. In case of Indian banks, regression models of EVA and EPS had highest R squared of 21% and 22%, Adjusted R Squared of 15% and 16% as compared to other bank performance measure. As per the study in case of Public Sector Bank and Indian banks it was found that EVA and EPS describe the highest variation in MVA as compared to the other measure, but in case of private limited ROE and DPS describe the highest variation in MVA.

The value of Durbin Watson of all the model in all the cases showed that there is very minimum autocorrelation in residuals. All the models in all above case is found good fit as p value (F) is 0.000 which indicates the variation in dependent variable is explained by independent variables except So by above analysis, we interpret that Modern measure that is EVA has less impact factor on MVA as compared to traditional measures such as ROE and DPS in case of private Sector Bank. In case of Public and Indian banks EVA has higher impact factor on MVA but one of the traditional measure EPS also have higher impact factor on MVA, other two traditional have very less impact factor in measuring MVA.

So from overall study it can interpreted that modern measure EVA and traditional measure EPS is useful measure for predicting shareholder value creation of Banks.



Distribution of EVA by group



# **Private Sector Banks**







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# Indian Banks





From the above Graphs of Private, Public and Indian banks it can be seen that variation of MVA, EVA and EPS is similar in case of Public and Indian banks but in case of private Sector Bank variation of ROE and MVA is similar.

By this study it can be interpreted that EVA can be an important tool that bankers can use to measure and improve the financial performance of their bank. Since EVA takes the interest of the bank's shareholders into consideration, the use of EVA by bank mmanagement may lead to different decisions than if management relied solely on other measures.

# 6. Conclusions and Recommendations

Thus, it was found in the study when comparing the economic measure (EVA) and traditional measures (EPS, ROE, DPS) utilized in this study to investigate their influence on MVA, economic measure is more accurate to create shareholders value. In case of Public limited banks and overall Indian Banks more the managers produce EVA, the more shareholders' wealth maximization will be created but in case of private banks more the DPS better is shareholder holder value created. The finding shows significant support for EVA and DPS, but majorly EVA should be preferred as it impact larger portion of the sample. Thus it is recommended for the Indian banks to focus more attention to the criteria of EVA in evaluating shareholder's value. The finding also showed that EPS for public limited banks as a traditional measure is still enables to measure shareholder's value creation. Thus it is highly recommended to perform a comparative investigation between EVA, DPS and EPS towards created shareholder's value in case of Indian banks.

This research has been investigated in the selected listed private and public limited banks in India .Further research can be tested separately in different financial and non-financial industries and sector and in different country in order to make this issue practical and validate the result depicted from this study.

Empirical implication on the industry is that, Value is the best metric of performance as it is the only measure that is comprehensive and hence is useful for decision-making. By increasing shareholder value, companies can maximize the value for other stakeholders (customers, labor and government (through taxes paid) and suppliers of capital). Selection of proper internal shareholder value creation measures will help to improve and strengthen the competitive position of

banks and help them to focus on wealth creation. It provides an objective and consistent framework of evaluation and decision-making across all functions, departments and units of the firm. Wealth creation refers to changes in the wealth of shareholders on a periodic (annual) basis. Applicable to exchange-listed firms, changes in shareholder wealth are inferred mostly from changes in stock prices, dividends paid, and equity rose during the period. So study of comparison on modern internal performance measure versus traditional performance measure was conducted so as to find which performance measure is appropriate for Indian banks.

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