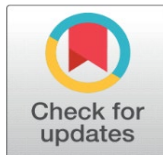# THE INFLUENCE OF CAPITAL GEARING ON THE PERFORMANCE OF PRIVATE SECTOR BANKS IN INDIA: EVIDENCE BASED ON EVA, MVA AND SVA

N. Anchana[1] ✉ , Dr. R. Azhagaiah[2] ✉

[1]Ph. D Research Scholar, Department of Commerce, Kanchi Mamunivar Government Institute for Postgraduate Studies and Research, Puducherry – 605 008
[2]Associate Professor, (Guide & Supervisor), Kanchi Mamunivar Government Institute for Postgraduate Studies and Research, Puducherry – 605 008

Corresponding Author
N. Anchana,
anchana.nadesan@gmail.com

ABSTRACT

This paper examines the influence of capital gearing on the performance of Private Sector Banks in India. Based on performance measures, viz, Economic Value Added, Market Value Added, and Social Value Added of the Private Sector Banks in India, for a period of five years ranging from 2018-19 to 2022-23. The data for the study were collected from the annual reports of the respective banks and the Statistica database. The sample for the study consists of 15 Private Sector Banks listed on the National Stock Exchange (NSE), which are divided into two categories viz. 'low capital gearing banks' and 'high capital gearing banks'.

The study used correlation and regression to analyse the influence of capital gearing on the performance of the selected banks and the results show that there is a positive significant influence of 'capital gearing' on the performance of both 'low capital gearing' and 'high capital gearing' private sector banks. Further, analysis of variance (ANOVA) is performed to study the difference between financial performance of the two categories of banks with reference to the modern performance measure and the results showed that EVA and SVA are the best measures for evaluating the performance of low capital gearing banks as well as high capital gearing banks.

Keywords: Performance Measurement, Capital Gearing, Economic Value Added, Market Value Added, Social Value Added.
JEL: L25, G32, B26, G14, A13.

1. INTRODUCTION
1.1 CAPITAL GEARING

The concept of capital gearing **(CG)** refers to the debt-to-equity ratio **(DER)** of a firm. The CG represents a firm's financial risk. Firms with high CG will have a large amount of debt than their equity. It is a measure of financial risk and expresses the amount of a firm's debt in terms of equity. Capital gearing ratios (CGR) are a series of financial measurement that compare shareholders' equity to business debt in various ways to determine the amount of leverage and financial health of a firm. The CGR of a firm may vary from industry to industry. In general, industries requiring significant capital expenditure may have a high CGR, while industries requiring low capital expenditure may have a low CGR. So, the CGR is one of the most important elements that lenders and investors examine when assessing a firm's performance. A high

CGR gives a poor impression in the minds of the lenders since the firm may have difficulty in making repayments, if its operations slow down.

The capital gearing is often expressed as the ratio of debt to equity. The CGR is computed using the following formula:

$$Capital\ Gearing\ (CG) = \frac{Debt}{Debt + Equity}$$

Debt refers to the total amount of the firm's long-term liabilities or outstanding debts, whereas equity is the sum of paid up equity capital, reserves and surpluses and current year undistributed profits, if any.

It is essential to note down, that although CG can boost profits, it also raises the possibility of financial risk, particularly if a firm can't pay its debts in full. Thus, determining a firm's risk profile and financial health requires monitoring and understanding the CGR.

1.2 PERFORMANCE MEASURES

In the present economic scenario, running a firm that is growing, requires a better financial performance. A lot of firms fail as a result of inefficient financial planning or management; therefore, establishing and setting into effect, strong financial and management systems are vital to the success of a firm.

A performance measure is the process used to assess the efficiency and effectiveness of projects, programmes, and initiatives of firms. Hence, there is a need to measure how well a firm can use assets from its primary mode of business and generate revenues. Both at the operational and strategic levels, finance managers will be able to take an efficient decision with the aid of performance measurement results **(Kosalathevi. T, 2013)**[1]. The term 'performance measure' is also used as a general measure of a firm's overall financial health over a given period. The performance measures can be classified into two viz. traditional measures and modern measures.

The traditional performance measure is based on the information and the procedures from financial accounting, cost accounting, and management accounting. Firms' traditional methodologies are essentially financial measures such as contribution margin, return on investment, net profit, and earnings per share. These measures are backward-looking i. e. they are more concerned with previous period's financial performance rather than with what the firm is doing to enhance the shareholder value in future. Earnings per share, return on investment, return on equity, return on capital employed etc. are the most prominent traditional measures that are used for measuring the financial performance of a firm.

Though the traditional performance measures are doing well in measuring the performance of a firm in the past and the modern eras, these measures fail to predict the true results due to various reasons viz. income statement alterations by the firm, etc.

To set off the drawbacks in the traditional performance measures, the modern performance measures came into light, which include 'Economic Value Added' (EVA), which measures the profit of the firm, 'Market Value Added' (MVA), which measures the wealth of the equity shareholders the firm, and 'Social Value Added' (SVA), which measures the environmental and the social impact of the firm.

1.3 ECONOMIC VALUE ADDED (EVA), MARKET VALUE ADDED (MVA), AND SOCIAL VALUE ADDED (SVA)

1.3.1 ECONOMIC VALUE ADDED (EVA)

Economic value added **(EVA)** is a measure used to assess a firm's profitability that is based on residual wealth. The EVA aims to quantify the significant financial gain of a firm. Its main purpose is to quantify the value that is created for the money that is invested in a firm **(Mahesh, U. Daree, 2016)**[2]. The EVA is considered to be a better measure to evaluate a firm's performance and to determine whether it is creating or destroying wealth **(Babli Dhiman** and **Shipra Pruthi, 2012)**[3]. The EVA takes the opportunity cost of capital (k) into account, making it a complete financial performance assessment than the traditional measures. Investors often perceive firms that routinely generate high positive EVA since those firms are successfully generating money for shareholders, hence managers widely use EVA as a measure to evaluate the performance and guide investment choices for the investors. In traditional management accounting theory, the EVA is regarded as one of the innovations with an extensive background, but it also assumes broader implications for society **(Chiwamit *et al*, 2014)**[4].

According to the previous studies, there are significant variations in the application of EVA across different firms. These variations are caused by differences in the regulatory contexts and industry-specific factors **(McLaren *et al*, 2016)**[5]. Further, the use of EVA could construct an effective incentive compensation structure, combining operating success with

EVA to alleviate the agency problem and motivate managers to focus solely on the firm's capital appreciation and long-term economic benefit **(Worthington** and **West, 2001)**[6].

In comparison to several internationally recognized firms such as Coca-Cola, IKEA and Wal-Mart, the use of EVA in the banking industry began comparatively. Centaur Bank of the United States was the first to include EVA into its performance evaluation system in 1994, and since then, several internationally known banks, like Citibank, have joined the ranks of EVA users. The EVA indicator was initially used by China Construction Bank (CCB) in the Chinese Banking Sector in 2002. Commencing with the objective of optimising bank value, the CCB confirmed the significant part that EVA plays a significant role in assessing the performance of commercial banks. Following that, the other significant state-owned commercial banks and joint-stock commercial banks, such as Industrial banks etc. began to experiment with incorporating EVA into their performance management system. As a result, the adoption of EVA, as a measure of financial performance, has become popular in the banking sector **(Jie Zhang** and **Ahmed Aboud, 2019)**[7].

According to **Stewart's (1991)**[8] research, EVA provides a more comprehensive explanation of changes in shareholders' wealth than the traditional performance measures such as 'return on asset', 'return on equity' and 'earnings per share'. Similar conclusions were also drawn by **Lefkowitz (1999)**[9], revealing that the Indian firms back up the Stern-Stewart hypothesis, which states that when it comes to stock returns, EVA is superior to traditional performance measures **(Sirkarwar and Gupta, 2016)**[10]. Based on the study by **Uyemura, Kantor and Petit (1996)**[11], EVA provides more meaningful and incremental information than the classic measurements such as 'net income' (NI), 'return on equity' (ROE), 'return on asset' (ROA) and 'earnings per share' (EPS). **Lehn and Makhija (1996)**[12] found a strong link between EVA and stock return. According to the findings, traditional accounting-based financial performance measures are inferior to EVA as a long-term performance measure **(Chen and Dodd, 2001)**[13].

Stern Stewart and Company (1991)[14] defined EVA as an excess of 'net operating profit after tax' (NOPAT) less capital invested. They created and promoted the idea of EVA as a basic variation on residual income; also developed the residual income computation methodically using a series of 164 accounting changes. The formula for computing EVA can be expressed as follows:

$$Economic\ Value\ Added\ (EVA) = NOPAT - (WACC \times Capital\ Invested)$$

The EVA is therefore primarily made up of three components viz. weighted average cost of capital (WACC), capital invested, which is composed of equity and long term debt at the beginning of the period and net operating profit after taxes (NOPAT), which represents the net profit after tax operation of the firm **(Sharma and Kumar, 2010)**[15].

1.3.2 MARKET VALUE ADDED (MVA)

In the same context, **Stewart and Company**[16] developed a different performance standard, called Market Value Added **(MVA)**, which serves as a gauge of the firm's external performance indicators and a representation of the firm's capacity to create shareholders' wealth by raising the market value of equity **(Abu Wadi and Saqif al-Hait, 2016)** [17]. The MVA is seen as a measure as to how efficiently a firm has used its resources to create value for its equity shareholders. A positive MVA signifies that the firm has outperformed the capital invested, whereas a negative MVA implies that the firm has not maximised value to offset the capital invested. It is one of the measures that investors and financial analysts can use to evaluate a firm's performance and capacity to create value over time. When compared with the other financial measures, it offers insights into whether a firm's market value is in line with the capital invested and allows for a more thorough analysis of the financial performance and financial health of the firm.

The MVA has been determined to be the better and most accurate measure of the shareholders' value **(Khan *et al*, 2012)**[18]. The variation between the market value of the firm and the money that investors have contributed throughout the period is called as MVA. The MVA is considered by the investors to be the most appropriate indicator of a firm's performance. While the MVA is computed for a specific period, it can also be evaluated across a number of periods to ascertain changes or variations in value added and if improvements or reversals have occurred **(Bognarova, 2017)**[19]. The positive MVA denotes an addition or growth in the firm's value, whereas the negative MVA denotes a reduction or decline in the same. If the firm had generated a return equal to the cost of its capital; then in this scenario, the MVA would be negative; on the other hand, if the firm had generated revenues more than the cost of capital invested, then the MVA would be positive.

The quantity of wealth created from capital is represented by the MVA, which also reflects the evaluation of the firm's performance in managing its resources and maintaining its edge in the marketplace **(Jado, S. K., 2007)**[20].

The MVA can be calculated by using the following formula:

$$Market\ Value\ Added\ (MVA) = Market\ Value\ of\ Equity - Book\ Value\ of\ Equity$$

Market value of equity is computed by multiplying the number of outstanding equity shares and market price per share, which can also be referred to as market capitalisation. Book value of the equity is the sum of paid up equity capital, reserves and surpluses and any undistributed earnings of the current year. The relationship between market value and EVA can be ascertained by considering the MVA as equal to the total current value of the future EVA of the firm, as this reflects the investors' expectation of the future revenues that will be gained by the firm **(Bognarova, 2017)**[21].

As a result, there is a strong correlation between the two measurements when it comes to the change in MVA and change in EVA over a given period of time. Some believe that, while the MVA is thought to be an exterior and complete assessment or performance, the EVA is an internal one **(Kiwan, 2010)**[22].

1.3.3 SOCIAL VALUE ADDED (SVA)

Besides the two basic modern performance measures, a new measurement called Social Value Added **(SVA)** has emerged recently. The SVA is considered as an adaption of EVA that can be used in firms that participate in social or cultural events to help management confirm that the chosen course of action is objective **(Pawet Wnuczak, 2018)**[23]. In general, the SVA refers to the beneficial influence or contribution that a person, group or activity contributes to society outside the realm of finance or economic consideration. It highlights the notion that besides profits, the firms should also prioritize addition in value to the community, the environment and society at large. This idea goes beyond conventional financial measures to evaluate success and performance in light of social and environmental factors.

The idea of SVA is consistent with more general concept of sustainable development, which highlights the necessity of socially and environmentally inclusive economic growth. In order to have a more positive and long lasting impact on the world, a growing number of firms are realising the fact that how important it is to integrate social value into their operations. The SVA incorporates a more thorough assessment of a firm's effects on the environment and society in addition to financial perspective of EVA. It reflects a changing conception of firm success that encompasses a wider range of values and obligations in addition to financial accomplishment.

The objective of starting a business can be divided into two viz. 'economic goals' and 'social goals', the SVA is becoming more important for assessing a firm's performance to achieve its social goals. Furthe, the SVA is split into two parts, in which the first part deals with the tangible factors of production, that includes wages or salary, interest, dividend paid, tax and retained earnings **(Riahi Belkaoui, 2003)**[24] and the second part deals with the intangible factors of production, which consists of environmental impact, social impact and intellectual impact. The second part is clubbed to the first part and thus the SVA is defined as "the sum of tangible value and intangible value, which is made by the firm and is carried onto the general public with the change and headway of innovation and furthermore through the information on Director's and creation Engineers" **(Hemmati *et al.,* 2018)**[25]**.** The SVA is the aggregate of tangible and intangible value that a firm creates in the society due to the technological advances or changes in knowledge of process engineers and managers **(Clair Krizov** and **Brad Allenby, 2004)**[26].

Therefore, the SVA can be computed by using the following formula:

$$Social\ Value\ Added\ (SVA) = Tangible\ Value\ Added\ (TVA) + Intangible\ Value\ Added\ (ITVA)$$

The TVA consists of employee wages or salaries, which are paid as a result of the value they create for the firm, interest paid, paid and unallocated dividends and taxes. The latter part of ITVA includes environmental impact, social impact and intellectual impact of the firm.

2. LITERATURE REVIEW

Mohsen Hemmati *et al.* (2018)[27] provided a framework for measuring corporate social responsibility (CSR) in terms of value addition. The study initially developed a model based on CSR, and later, in order to test the model, 'social value added' (SVA) was studied. Nano-Engine oil was selected as the sample for the study and the data was analysed through pairwise comparison. The study has categorised the SVA into three levels viz. the first level as 'SVA = 0' (weak); second level as '0<SVA≤50' (average); and third level as 'SVA>50' (strong). The results of the study on the SVA showed a 38 times increase in the SVA when compared to its 'economic value added', further it indicated an economic efficiency of 40% and a social efficiency of 8%.

Maduru Musa and **Kithae. P. Peter (2019)**[28] attempted to ascertain how capital gearing influences Small and Medium-sized Enterprises (SME's) adoption of venture capital and how owner or manager entrepreneurial skills influence the SMEs adoption of venture capital. The study used a descriptive research design, with a population of 300 SMEs, who have benefited from venture financing in Kenya through KCB Lions' Den and KCB 2 Jiajiri, out of which 90 respondents were selected using the random sampling method. The data for the study were collected using questionnaire. The variables

used for the study included 'capital gearing' and 'entrepreneurial competencies of manager or owner' as independent variables and 'uptake of venture capital by SMEs' as the dependent variable. Correlation and regression were used for analysing the data and concluded that 'capital gearing' has a significant positive impact on the uptake of venture capital by SMEs.

Juniarta, I. Wayan and I. B. A. Purbawangsa (2020)[29] examined the effect of traditional performance measures and modern performance measures towards stock returns for a period of five years i.e. from 2005-06 to 2009-10. A sample of 11 manufacturing firms listed on the Indonesia Stock Exchange were selected based on purposive sampling method. The variables used for the study included 'return on investment', 'earnings per share', 'operational cash flow' from the traditional performance measure; and 'economic value added' and 'market value added' from the modern performance measure. 'Stock return' was considered as the dependent variable. Regression was used for analysing the data and the study concluded that 'operational cash flow' and 'economic value added' had a significant impact on 'stock returns'.

Cahyo Indraswono (2021)[30] attempted to determine the stock performance indicators on the New York Stock Exchange (NYSE) using traditional and modern financial performance measures. The study used a sample of Dow Jones indexed firms on the NYSE for a period of four years i. e. from 2015-16 to 2018-19. The dependent variable used for the study was 'stock return' and the independent variables included were 'economic value added', 'return on assets', 'return on equity', 'earnings per share' and 'dividend per share'. The study used descriptive statistics, classical assumption test and regression for analysis. The results of the study showed that 'economic value added' had an insignificant and negative effect on the stock return, whereas the other traditional measures viz. return on asset', 'return on equity', 'earnings per share' and 'dividend per share' had a significant and positive impact on 'stock return'.

Talebnia, K. *et al.* (2022)[31] investigated the interrelationship between management ability and market value added, on a sample of 105 manufacturing firms listed on the Tehran Stock Exchange (TSE) for a period of five years i. e. from 2014-15 to 2018-19. The variables used for the study included 'management ability', 'firm size', 'financial leverage', 'market to book value of stocks', 'company growth' and 'market value added'. Correlation, regression and Granger causality test were used for analysing the data. The results of the study showed that there was a significant relationship between 'market value added' and 'management ability'.

Faiteh, A., and **Mohammed Rachid Aasri (2023)**[32] attempted to demonstrate 'economic value added' as an indicator of value creation. The sample consisted of 32 firms, which were traded on the Moroccan Stock Exchange for a period of five years i. e. from 2014-15 to 2018-19. 'Market Value Added' (MVA) was considered as the dependent variable and the independent variables included were 'return on assets', 'return on equity', 'earnings per share'; and 'economic value added'. Regression was used for analysing the data and the study concluded that 'economic value added' only had a positive impact on 'market value added'.

While the previous research studies reviewed addressed the applications, effectiveness and uses of the modern performance measures, the present study attempts to analyse the impact of capital gearing on the financial performance of Private Sector Banks in India by dividing the samples into two categories viz. the low capital gearing banks and high capital gearing banks.

3. OBJECTIVES OF THE STUDY
3.1 GENERAL OBJECTIVE
The study is objectively to analyse the influence of capital gearing on the financial performance of private sector banks in India.

3. 2 Specific objectives
1. To study the relationship between the capital gearing and the financial performance of low capital gearing and high capital gearing private sector banks in India.
2. To study the impact of capital gearing on the financial performance of the low capital gearing and high capital gearing private sector banks in India.
3. To study the significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in respect of the modern performance measures.

4. HYPOTHESES DEVELOPED FOR THE STUDY
$H_0{}^1$: There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of EVA.

$H_0 2$: There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of MVA.

$H_0 3$: There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of SVA.

5. METHODOLOGY OF THE STUDY
5.1 SOURCES OF DATA AND PERIOD OF THE STUDY
The study is based on the secondary data, which are collected from the annual reports of the selected banks and from Statistica database, for a period of five years i. e. from 2018-19 to 2022-23.

5. 2 PERFORMANCE MEASURES USED
In the present study, the following performance measures are used viz. 'economic value added', 'market value added' and 'social value added' as dependent variables and 'capital gearing' as the control variable.

5.3 RESEARCH TOOLS
In this study, appropriate statistical tools viz. correlation, regression and ANOVA are used for analysis

5.4 SAMPLING TECHNIQUE
The study used multi-stage sampling technique as given below:

Figure V.A

STAGE I: There are totally 162 scheduled banks in India *(As on May 30, 2023)*

STAGE II: Out of 162 scheduled banks, (12 public sector banks, 22 private sector banks, 11 small finance banks, 4 Scheduled Payment Banks, 24 State Co-operative Banks, 43 Regional Rural Banks and 46 Foreign Banks) Private Sector Banks only are considered

STAGE III: From the 22 Private Sector Banks, 15 banks only were listed on National Stock Exchange and hence those 15 banks constitute the ultimate sample size of the study

Source: https://www.rbi.org.in/

Table V.1: Sample Banks Selected for the Study

S. No.	Name of the Bank
1	Axis Bank
2	City Union Bank
3	DCB Bank
4	Dhanlaxmi Bank
5	Federal Bank
6	HDFC Bank
7	ICICI Bank
8	IDFC First Bank
9	J&K Bank

10	Karnataka Bank
11	Karur Vysya Bank
12	Kotak Mahindra Bank
13	RBL Bank
14	South Ind Bank
15	Yes Bank

Source: https://www.nseindia.com

5.5 PLAN OF ANALYSIS

The selected Private Sector Banks are divided into two distinct categories viz. 'low capital gearing banks' and 'high capital gearing banks' based on 'capital gearing'. The overall computed mean of CG of the banks i. e. $\bar{\bar{X}}$ = 11.096 and the banks having a lower mean than the $\bar{\bar{X}}$ are considered as 'low capital gearing' banks and on the other hand, those banks having higher mean than the $\bar{\bar{X}}$ are considered as 'high capital gearing' banks.

Table V.2: List of Low Capital Gearing Private Sector Banks

S. No.	Name of the Bank	Overall computed $\bar{\bar{X}}$ of Capital Gearing	$\bar{x}$ of CG	Status of CG
1	City Union Bank	11.096	9.360	$\bar{x} < \bar{\bar{X}}$
2	DCB Bank	11.096	11.023	$\bar{x} < \bar{\bar{X}}$
3	HDFC Bank	11.096	8.898	$\bar{x} < \bar{\bar{X}}$
4	ICICI Bank	11.096	8.661	$\bar{x} < \bar{\bar{X}}$
5	IDFC Bank	11.096	1.006	$\bar{x} < \bar{\bar{X}}$
6	Karur Vysya Bank	11.096	10.617	$\bar{x} < \bar{\bar{X}}$
7	Kotak Mahindra Bank	11.096	6.727	$\bar{x} < \bar{\bar{X}}$
8	RBL Bank	11.096	9.937	$\bar{x} < \bar{\bar{X}}$

Source: Computed from the data collected from the annual reports and Statistica database

Table V. 3: List of High Capital Gearing Private Sector Banks

S. No.	Name of the Bank	Overall computed $\bar{\bar{X}}$ of Capital Gearing	$\bar{x}$ of CG	Status of CG
1	Axis Bank	11.096	15.326	$\bar{x} > \bar{\bar{X}}$
2	Dhanlaxmi Bank	11.096	15.443	$\bar{x} > \bar{\bar{X}}$
3	Federal Bank	11.096	12.004	$\bar{x} > \bar{\bar{X}}$
4	J&K Bank	11.096	16.162	$\bar{x} > \bar{\bar{X}}$
5	Karnataka Bank	11.096	13.297	$\bar{x} > \bar{\bar{X}}$
6	South Ind Bank	11.096	16.815	$\bar{x} > \bar{\bar{X}}$
7	Yes Bank	11.096	11.165	$\bar{x} > \bar{\bar{X}}$

Source: Computed from the data collected from the annual reports and Statistica database

Table V.4 and V.5 represents the computed mean values of the modern performance measures viz. EVA, MVA and SVA for low capital gearing banks and high capital gearing banks.

Table V. 4: Mean Values of EVA, MVA and SVA of Low Capital Gearing Private Sector Banks
Source: Computed from the data collected from the annual reports and Statistica database

S. No	Name of the Bank	EVA	MVA	SVA
1	City Union Bank	1078.949	2862403.548	12639.047
2	DCB Bank	384.951	9875.566	10237.243
3	HDFC Bank	29703.732	595771.422	574303.915
4	ICICI Bank	11946.886	424696.798	669034.608
5	IDFC Bank	-1198.647	323741.678	621669.261
6	Karur Vysya Bank	302.416	180546.958	15637.404
7	Kotak Mahindra Bank	6586.008	187798.810	117159.239
8	RBL Bank	445.356	85438.842	14210.460

Table V. 5: Mean Values of EVA, MVA and SVA of High Capital Gearing Private Sector Banks

S. No	Name of the Bank	EVA	MVA	SVA

1	Axis Bank	102.020	108932.604	154948.794
2	Dhanlaxmi Bank	-330.273	755993.880	1955.806
3	Federal Bank	1427.698	111656.286	14407.702
4	J&K Bank	131.809	218440.586	53395.683
5	Karnataka Bank	106.713	105301.092	16874.184
6	South Ind Bank	1.781	22269.526	15872.436
7	Yes Bank	-4183.433	854007.910	8876.270

Source: Computed from the data collected from the annual reports and Statistica database

6. ANALYSIS AND INTERPRETATION

6.1 Descriptive Statistics of Low Capital Gearing Banks

Table VI.1 shows the descriptive statistics of the low capital gearing banks for the period from 2018-19 to 2022-23. The mean of 'CG' is 0.866 with standard deviation 0.548 and the minimum of 'CG' is 0.018. The mean of 'EVA' is 0.931 with standard deviation of 0.857. The maximum and minimum of 'EVA' are 0.221 and 0.028 respectively. The mean of 'MVA' is 0.885 with standard deviation 0.698, the maximum of 'MVA' is 0.375 and the minimum is 0.043. The mean of 'SVA' is 0.922; the maximum and minimum of 'SVA' are 0.473 and 0.071 respectively. The co-efficient of variation is 63.27% for 'CG'; 92.05% for 'EVA'; 78.87% for 'MVA'; and 97.07% for 'SVA'.

Table VI. 1: Descriptive Statistics of Low Capital Gearing Banks

Variables/ Performance Measures	N	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
CG	8	0.018	0.394	0.866	0.548	63.27%
EVA	8	0.028	0.221	0.931	0.857	92.05%
MVA	8	0.043	0.375	0.885	0.698	78.87%
SVA	8	0.071	0.473	0.922	0.895	97.07%

Source: Computed from the data collected from the annual reports and Statistica database

6.2 CORRELATION ANALYSIS

Table VI. 2: Correlation between CG and Performance Measures of Low Capital Gearing Banks

Variables/ Performance Measures	CG	EVA	MVA	SVA
CG	1			
EVA	0.787* (0.020)	1		
MVA	0.543 (0.164)	0.914** (0.001)	1	
SVA	0.691 (0.058)	0.986** (0.000)	0.944** (0.000)	1

Source: Computed from the data collected from the annual reports and Statistica database
Correlation is significant at 5% (2-tailed)
**Correlation is significant at 1% (2- tailed)*

Table VI.2 shows the correlation matrix of the low capital gearing banks for the period from 2018-19 to 2022-23. It indicates that 'EVA' is significantly positively correlated with 'CG' with correlation of 0.78 at 5% level of significance, while the other two measures viz. 'MVA' and 'SVA' don't have significant correlation with 'CG'. Hence, the results of this correlation matrix shows that there is a significant relationship between 'EVA' and 'CG' of the low capital gearing private sector banks in India.

6.3 REGRESSION ANALYSIS

Table VI. 3: Impact of Capital Gearing on the EVA, MVA and SVA of Low Capital Gearing Banks

Variables	Coefficients	Std. Error	t value	p value
(constant)	0.697	0.886	1.789	0.148
EVA	0.734	0.205	3.576	0.023**
MVA	-0.055	0.06	-0.925	0.407

SVA	-0.226	0.116	-2.361	0.124
R	0.949			
R²	0.901			
Adjusted R²	0.827			
F-Stat	0.018**			

Source: Computed from the data collected from the annual reports and Statistica database
**. Significant at 5% level

The result of regression has been summarized in table VI.4, which shows that the CG has significant positive influence on 'EVA' at 5% level of significance with the p value 0.023. While the other performance measures viz. 'MVA' and 'SVA' are not influenced by CG.

In simpler term, it is estimated that if CG rises, the 'EVA' also rises positively.

The adjusted R^2 (82.7%) indicates the impact of capital gearing on 'EVA', 'MVA' and 'SVA', while the remaining 17.3% is explained by the other unobserved variables. The F-statistics shows a significant positive result (0.01) at 5% level of significance, which means there is a good fit. It is, therefore, concluded that there is a significant positive impact of CG on 'EVA' of low capital gearing private sector banks at 5% level.

6.4. DESCRIPTIVE STATISTICS OF HIGH CAPITAL GEARING BANKS

Table VI. 4 shows the descriptive statistics of the high capital gearing private sector banks for the period from 2018-19 to 2022-23. The mean of 'CG' is 1.922 with standard deviation 1.765 and the minimum of 'CG' is 0.035. The mean of 'EVA' is 1.822 with standard deviation of 1.694. The maximum and minimum of 'EVA' are 4.432 and 0.049 respectively. The mean of 'MVA' is 2.987 with standard deviation 2.043, the maximum of 'MVA' is 4.552 and the minimum is 0.056. The mean of 'SVA' is 2.979; the maximum and minimum of 'SVA' are 5.394 and 0.045 respectively. The co-efficient of variation is 91.83% for CG; 92.97% for 'EVA'; 68.39% for 'MVA'; and 79.28% for 'SVA'.

Table VI.4: Descriptive Statistics of High Capital Gearing Banks

Variables/ Performance Measures	N	Minimum	Maximum	Mean	Standard Deviation	Co-efficient of Variation
CG	7	0.035	4.321	1.922	1.765	91.83%
EVA	7	0.049	4.432	1.822	1.694	92.97%
MVA	7	0.036	4.552	2.987	2.043	68.39%
SVA	7	0.045	5.394	2.979	2.362	79.28%

Source: Computed from the data collected from the annual reports and Statistica database

6.5 CORRELATION ANALYSIS

Table VI.5: Correlation between CG and Performance Measures of High Capital Gearing Banks

Variables/ Performance Measures	CG	EVA	MVA	SVA
CG	1			
EVA	0.963** (0.001)	1		
MVA	0.861* (0.013)	0.771* (0.043)	1	
SVA	0.783* (0.037)	0.677 (0.095)	0.990** (0.000)	1

Source: Computed from the data collected from the annual reports and Statistica database
**Correlation is significant at 1% level (2-tailed)
*Correlation is significant at 5% level (2-tailed)

Table VI.5 shows the correlation matrix of the high CG banks for the period from 2018-19 to 2022-23. The results indicate that 'EVA' is significantly positively correlated with 'CG' with correlation of 0.96 at 1% level of significance. While the

other two measures viz. 'MVA' and 'SVA' are significantly positively correlated with 'CG' with correlation of 0.86 and 0.78 respectively at 5% level of significance.

Therefore, the analysis shows that there is a significant relationship between 'CG' and 'EVA', 'CG' and 'MVA' 'CG' and 'SVA' of the high capital gearing banks in India*.*

6.6. REGRESSION ANALYSIS

Table VI.6: Impact of Capital Gearing on the EVA, MVA and SVA of High Capital Gearing Banks

Variables/ Performance Measures	Coefficients	Std. Error	t value	p value
(constant)	-0.039	0.081	-0.482	0.663
EVA	-0.466	0.223	-2.088	0.128
MVA	5.821	0.978	5.952	0.009*
SVA	-4.175	0.732	-5.789	0.011**
R	0.998			
R²	0.997			
Adjusted R²	0.993			
F-Stat	0.026**			

Source: Computed from the data collected from the annual reports and Statistica database
*** Significant at 5% level *.Significant at 1% level*

The results of regression has been summarized in table VI.6, which shows that the CG has influenced significantly positively at 1% and 5% level of significance respectively the 'MVA' and 'SVA'. While the influence of 'CG' on 'EVA' is found to be insignificant.

The adjusted R^2 (99.3%) indicates the impact of capital gearing on 'EVA', 'MVA' and 'SVA' while the remaining 0.7% is explained by the other unobserved variables. The F-statistics (0.026) shows a good fit of regression at 5% level of significance. And the results conclude that there is a significant impact of 'CG' on 'MVA' and 'SVA' of high capital gearing banks.

6.7. ANOVA

Table VI.7: Comparison of Performance Measures between Low and High Capital Gearing Banks

Performance Measure	Categories	N	Mean	SD	F Value	P Value
EVA	Low Capital Gearing Banks	8	8.281	3.493	2.663	0.035*
	High Capital Gearing Banks	7	10.393	2.258		
MVA	Low Capital Gearing Banks	8	5.238	1.146	3.065	0.146
	High Capital Gearing Banks	7	8.854	2.061		
SVA	Low Capital Gearing Banks	8	6.891	2.762	2.883	0.048*
	High Capital Gearing Banks	7	8.561	2.581		

Source: Computed from the data collected from the annual reports and Statistica database
 *Significant at 5% level

Table VI. 7 presents the results of ANOVA on three performance measures (EVA, MVA and SVA) across two categories viz. low capital gearing banks and high capital gearing banks.

The ANOVA for **EVA** resulted in an F-value of 2.66 and a corresponding P-value of 0.035. The F-value (2.66) indicates the ratio of the variance between the groups to the variance within the groups. The P-value (0.035) suggests that there is a significant difference in EVA between the two categories of banks at a significance level of 0.05 (since, 0.035< 0.05). Therefore, H_0^1: *"There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of EVA"* is rejected.

In case of **MVA,** the F-value is 3.065 with a P-value of 0.146, which indicates that there is no significant difference in MVA between low capital gearing banks and high capital gearing banks. Hence, H_0^2: *"There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of MVA",* is accepted.

The F-value of **SVA** is 2.883 with a corresponding P-value of 0.048, therefore the results of ANOVA for SVA shows that there is a significant difference in SVA between low capital gearing banks and high capital gearing banks. Consequently, H_0^3: *"There is no significant difference between the financial performance of low capital gearing private sector banks and high capital gearing private sector banks in terms of SVA"* is rejected.

The overall conclusion in regard with ANOVA is that there are significant differences in both EVA and SVA between low capital gearing banks and high capital gearing banks, therefore the level of capital gearing appears to have an impact on the financial performance measures viz. EVA and SVA, but not on MVA.

7. SUMMARY OF FINDINGS AND CONCLUSION

Rather than using the conventional methods for evaluating the performance, measuring the performance of any firm using modern performance measures viz. EVA for measuring the profit, MVA for measuring the wealth and SVA for measuring the environmental benefits gives a paradigm shift in the performance measurement. These measures are referred as the modern performance measures because these measures overcome the drawbacks in the traditional performance measures.

Considering the **CG** as a base, the present study divided the selected sample banks into two distinct categories as 'low capital gearing' banks and 'high capital gearing' banks using the average of the mean CG. The study analysed the relationship and the impact of **CG** on the modern performance measures. The results of the study show that there is a significant correlation between CG and **EVA** at 5% level of significance for 'low capital gearing' banks and at 1% level of significance for 'high capital gearing' banks. While **CG** had no correlation with **MVA** in case of 'low capital gearing' banks, it had a significant positive correlation at 5% level of significance for 'high capital gearing' banks. In the case of **SVA**, it had no correlation with **CG** in 'low capital gearing' banks, however it showed a positive significant correlation at 5% level with **CG** for 'high capital gearing' banks.

The study reveals that there is a significant impact of **CG** on the modern performance measures at 5% level in case of both 'low capital gearing' banks and 'high capital gearing' banks.

In addition, ANOVA is conducted to compare the financial performance of the two categories of banks using modern performance measures. The results indicate that **EVA** and **SVA** are the most suitable measures for evaluating the performance of 'low capital gearing' and 'high capital gearing' banks. This further suggests that **CG** plays an important role in determining the performance measure of private sector banks in India.

8. LIMITATIONS

- The study includes 15 Private Sector Banks only, which are listed in the NSE.
- The study covers only a period of five years i.e. short-run only.
- The findings of the study are industry specific apply to private sector banks in India and may not be applicable to the other types of banks and any other financial institutions.

9. SCOPE FOR FURTHER STUDIES

- Further, the study can be compared with the performance of Private Sector Banks and other types of banks.
- The role of risk management practices in moderating relationship between capital gearing and bank performance can be explored.
- Investigate how advancements in financial technology and digitalization influence the relationship between capital gearing and the bank performance.

CONFLICT OF INTERESTS

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