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Linking Shareholder Returns to Financial Performance Indicators: Evidence from BSE Sensex Companies

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Abstract

Purpose: *This research is purposed to assess the relationship of various financial performance indicators with Total Shareholder Return within the context of listed companies in the BSE Sensex Index. This study intends to analyze conventional accounting-based measures such as Earnings Per Share, Return on Equity, Return on Assets and value-oriented performance metrics such as Economic Value Added, Cash Value Added, and Market Value Added as to their relative and incremental information content in explaining changes in TSR.*

Design/Methodology/Approach: *The study employs regression analysis on the panel data using static and dynamic models to assess the effect of financial performance indicators on TSR. A sample of 30 companies listed on the BSE Sensex Index for the years 2020 to 2024 was considered. The researcher specifies the regression models using single and multiple independent variables, with TSR as the dependent variable. The models assess the power of accounting-based and value-based performance measures in explaining variations in TSR.*

Findings: *The results indicate that traditional performance measures regarding accounting, specifically ROE and ROA, generate higher dividends on TSR. Moreover, other value-based dimensions such as EVA and CVA would also hone the additional explanatory capacity besides accounting-based dimensions. However, MVA would not add significant predictive power to the TSR. The dynamic panel regression results confirmed the robustness of these findings, especially concerning the importance of ROA and CVA in explaining returns to shareholder investments.*

Originality/Value: *This study aims to support current research by testing accounting-based and value-based performance measures related to TSR for companies on the BSE Sensex Index. This research provides fresh insight into the way different types of financial performance metrics explain shareholder returns, imparting useful information for investors, policymakers, and corporate managers in making investment and strategic decisions. Dynamic panel regression analysis adds to the strength of the analysis.*

Keywords: Total Shareholder Return, Financial Performance Indicators, Economic Value Added, Cash Value Added, Market Value Added, Return on Assets, Return on Equity, Earnings Per Share, BSE Sensex.

JEL classification: G10, G30, G32, M41, C33

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1. INTRODUCTION

In the fast-changing environment of present capital markets, the assessment of financial performance and subsequent conversion into shareholder wealth remain a vital area of interest for investors, analysts, and corporate strategists alike. One major concern of finance is to maximize the value of shareholders, which has come to form the very basis of strategic decision-making in publicly listed companies. Shareholder value is somehow intertwined with the overall financial health of a company and is represented through both accounting-based

performance indicators and value-based performance indicators. With the advancement of global market transparency and accountability to investors, the need to assess the relationship between financial performance and shareholder returns becomes inevitable, especially in emerging markets such as India, where the BSE Sensex Index serves as the principal barometer of economic and market activity.

Shareholder return, which consists of capital gains plus dividends, is the most direct measure of the advantages that equity investors have through a particular instrument. The Total Shareholder Return has gained momentum as a performance measure for corporations, investors, and regulators alike *(de Oliveira & Basso, 2024)*. However, the factors influencing Total Shareholder Return (TSR) are many and complicated, hence, their study has been neglected in favor of more traditional accounting measures such as Return on Equity (ROE), Return on Assets (ROA), and Earnings Per Share (EPS) in regard to measuring company performance. These measures provide insights into internal efficiency and profitability from the company's perspective but have been severely criticized for their disregard of the cost of capital and economic value creation *(Tripathi et al., 2022)*. Therefore, alternative value-based measures were suggested in the literature, such as Economic Value Added (EVA), Cash Value Added (CVA), and Market Value Added (MVA). These alternatives look at the issue from a more holistic standpoint by factoring in capital costs and aligning management interests with those of shareholders *(Chen et al., 2023)*. However, there is still considerable academic and professional debate around the relative strength of these measures in predicting shareholder returns, particularly in the context of India *(Oke & Ajeigbe, 2024)*. Previous studies have shown mixed results, indicating that value-based measures may be better than traditional accounting metrics at reflecting a company's worth, however, some experts believe that traditional ratios like ROE and ROA might still be the best indicators of TSR in developing markets.

The BSE Sensex Index is a collection or a composite of the thirty most actively traded and financially important companies across various sectors in the Indian financial ecosystem. These companies are often the leaders in terms of corporate governance, performance benchmarking, and investor engagement. Because these companies are very visible and influential in the marketplace, the implications of financial performance alone by such companies go very far and deep not only for retail investors but also for mutual funds, institutional investors, and regulatory authorities. Despite having the benefit of a wide range of financial disclosures, the gap between performance indicators and market capitalization or

shareholder wealth has yet to be identified on the Indian front, especially through robust analyses using econometric models such as dynamic panel regression. The current study has attempted to fill the gap in the literature by carrying out an empirical investigation on the relationship between shareholder return and financial performance indicators both accounting and value, using a sample of 30 BSE Sensex companies over a period spanning five years from 2020 to 2024. Static and dynamic panel data regression models were used to investigate the explanatory power and material contribution of different performance measures to the final outcome of the total shareholder return.

The very first objective of this study is to analyze the trend and variability in Total Shareholder Return of BSE Sensex companies during the study period, which ranges from 2020 to 2024. This period contains several economic phases, such as the pandemic-induced slump, rising up to periods of recovery and resilience. TSR, taking into account both dividend income and capital appreciation, has become a wholesome measure of gains made by the shareholders. The study makes an endeavor to evaluate the impact of external factors and internal company strategies on the shareholders' returns, hence conducting an analysis. These foundations are established for future studies that will look at the relationship between financial indicators and also consider both broader economic factors and specific company details that influence investor returns *(Sura et al., 2023; Chatterjee & Nag, 2022)*.

In doing so, the second objective is focused on determining the correlation between accounting-based measures of financial performance (such as Return on Equity, Return on Assets and Earnings Per Share) and Total Shareholder Return. Accounting-based indicators are probably the most extensively used measures of communication to investors, financial analysts, and managerial evaluators. Standardized statements serve as the basis for these indicators, ensuring excellent comparability and ease of interpretation. However, people often doubt whether these indicators truly show the real economic value because they have limitations like using historical cost accounting and not considering risk-adjusted capital costs *(Aggarwal & Garg, 2022; Desai, 2021)*. The purpose of correlating these measures with TSR is to check whether the earlier traditional ones lose relevance in predicting value for shareholders regarding large Indian Companies.

The third objective is to analyze the incremental explanatory power of value-based performance measures specifically Economic Value Added, Cash Value Added, and Market Value Added in explaining Total Shareholder Return, beyond what is provided by accounting-

based indicators. Value-based performance measures aim to overcome the limitations of traditional accounting by incorporating the cost of capital and highlighting real wealth creation for shareholders. Prior studies have suggested that EVA and its variants offer superior insights into firm valuation and long-term performance *(Kister et al., 2024; Vig & Datta, 2024)*. However, their effectiveness in emerging markets, particularly in India, remains underexplored. The study uses dynamic panel data regression models to test the relative and incremental information content of these value-based metrics, with a focus on robustness and model fit. Thus, the following research model is proposed:

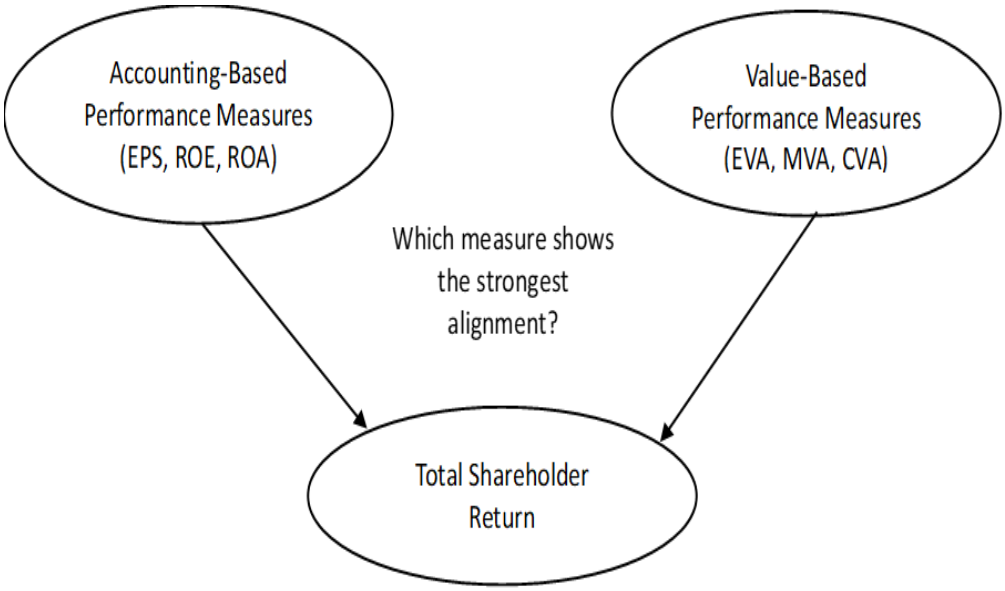

Figure 1: Research Framework

This study carries numerous implications. This study represents the first time that these disciplines have been integrated into an academic literature analysis, as previous studies have only focused on isolated variables, yielding only partial insights. The study uses different types of panel data regression methods: static (fixed-effect, random-effect) and dynamic (GMM) to reveal hidden differences, patterns over time, and issues with cause and effect, which are common in financial performance analysis (Mishra et al. 2021; Souder et al. 2024). This methodological depth added to its findings by being able to make them more credible and infer better. In line with the growing shareholder activism and corporate transparency within India as shown by *Shingade et al. (2022)*, the results in this study can serve as guidance for board-

related decisions and performance-based reward systems. Lastly, the study aims to make a valuable contribution to theory, practice, and policy by investigating this relationship through a comprehensive empirical framework with new data and robust statistical techniques.

2. BACKGROUND LITERATURE AND HYPOTHESIS DEVELOPMENT

The dynamic landscape pertaining to the assessment of financial performance is presently in flux, as attempts are made by scholars and practitioners to identify the best indicators for shareholder value. Total Shareholder Return (TSR) is at the heart of this debate and reflects the total return on investment for shareholders, encompassing dividends and capital gain. This chapter will look at the current research on traditional accounting views of financial performance measures and their value-based alternatives to create testable ideas about how each one and their combination affects TSR.

2.1 Traditional Accounting-Based Performance Measures and Shareholder Return

Long-standing measures for performance appraisal by traditional accounting include Return on Assets, Return on Equity, and Earnings Per Share. Financial statements provide the basis for all these indexes, which guide investment decision-making *(Bashir, Bansal, & Kumar, 2023)*. Despite their extensive use, significant debates have emerged regarding their ability to accurately represent the true economic performance of firms. This is primarily due to their backward-looking nature, which often incorporates the cost of capital. However, studies have indicated that there exists a significant association conditioned positively between accounting and shareholder value. *Chatterjee and Nag (2022)* say that higher ROE and ROA are linked to better stock returns for leading Indian companies, *Mishra et al. (2021)* used dynamic panel regression to demonstrate how accounting measures affect company value in India. Findings confirm even the most traditional indicators are still very relevant, especially concerning emerging markets, where both investor literacy and transparency are still evolving. Thus, the hypothesis proposed herein:

H1. Traditional accounting-based performance measures significantly influence Total Shareholder Return.

2.2 Economic Value Added (EVA) and Its Impact on Shareholder Returns

EVA has emerged as a paradigm shift in performance measurement that offers a value-based approach, with the capital cost of the firm being taken into account. It is net operating profit after tax (NOPAT) minus the capital cost employed in the time constant term. The intended use fairly closely approaches the reality of wealth creation by a firm for its shareholders *(Chen, Jin, & Qin, 2023)*. Empirical literature supports this assertion, demonstrating that EVA provides additional explanatory power compared to traditional accounting measures. According to *Tripathi, Kashiramka, and Jain (2022)*, EVA supersedes earnings-based measures for determining firm value. Similarly, *Oke and Ajeigbe (2024)* found that EVA, accompanied by ROE and ROA, steers the interpretation of firm performance concerning TSR. These studies validate the strategic role of EVA in aligning managerial decisions with the interests of shareholders, as well as the explanatory value. Furthermore, the study formulates the following hypothesis.

H2. Economic Value Added (EVA) provides additional explanatory power beyond accounting-based performance measures in relation to Total Shareholder Return (TSR).

2.3 The Role of Cash Value Added (CVA) in Explaining Shareholder Returns

Cash Value Added (CVA) is an alternative value-based performance measure that directs attention from profits to cash flows. In comparison to EVA, which seeks to adjust for accounting profits and capital costs, CVA instead focuses on after-tax cash being generated over the firm's cost of capital. This measure appears to be particularly useful for companies operating in capital-intensive industries where liquidity and cash management are of utmost importance *(Singla & Prakash, 2023)*. According to *Dewri (2022)*, CVA provides a more holistic view of firm value along with traditional performance metrics, especially in times of market turmoil. While empirical evidence is still growing, there has been a steady increase in research demonstrating CVA's capturing of operational performance from a cash flow perspective. This honors CVA for its straightforwardness and clarity, which are consistent with shareholder expectations regarding the likely distribution of value. Hence the hypothesis is framed as follows:

H3. Cash Value Added (CVA) enhances the explanatory capacity of accounting-based performance metrics in understanding variations in TSR.

2.4 Market Value Added (MVA) and Shareholder Wealth Creation

The difference between the market value of the company and its invested capital is known as Market Value Added (MVA). In fact, the idea behind it is that it showcases the extent to which the market perceives the company has efficiently utilized resources in creating wealth for shareholders. MVA is viewed as a long-term shareholder value measure that complements internal measures of performance with external market sentiment *(Sura, Panchal, & Lather, 2023)*. As MVA is perceived as an output rather than the input for performance-related studies, it would tend to be aptly correlated with TSR to allow validation of the firm's potential for long-term value creation. MVA is considered an important factor in the performance measurement systems being set up for medium- to large enterprises, especially in a transition economy, according to *Tamulevičienė and Androniceanu (2020)*. They also observe that MVA is likely to be important in revealing the contribution made by intangibles that escape the conventional financial definition. Based on the above, the following hypothesis has been developed:

H4. Market Value Added (MVA) provides additional explanatory power beyond accounting-based performance measures in relation to Total Shareholder Return (TSR).

2.5 The Combined Effect of Value-Based Performance Measures

While individual value-based indicators like EVA, CVA, and MVA each provide unique insights, their combined use is believed to offer a more comprehensive picture of a firm’s capacity to generate shareholder wealth. Value-based performance metrics adjust for capital costs and emphasize economic profitability, thereby enhancing alignment between managerial performance and investor expectations *(Feichter, Moers, & Timmermans, 2022)*. *Kister et al. (2024)* showed that firms using advanced value-based management systems outperform those relying solely on traditional metrics in terms of TSR and stakeholder value. *Vig and Datta (2024)* further noted that value-based metrics are critical to sustainable value creation and long-term investment decisions. Given their rising prominence, particularly in strategic and financial planning, it is pertinent to evaluate the significance of value-based measures in explaining shareholder returns. Thus, the fifth hypothesis is framed as:

H5. Value-based performance metrics have a significant effect on Total Shareholder Return.

2.6 Integrative Impact of Traditional and Value-Based Measures on Shareholder Return

Recent studies emphasize the synergistic role of traditional and value-based metrics in performance analysis. While accounting-based indicators offer a reliable measure of operational and financial efficiency, value-based measures provide deeper insight into economic performance and capital efficiency. Combined, they offer a holistic evaluation framework for firm performance and value creation *(Oke & Ajeigbe, 2024; Dewri, 2022). Souder et al. (2024)* advocate for integrated performance frameworks that bridge traditional financial metrics with strategic value-based indicators to drive shareholder value. Moreover, *Rossi and Harjoto (2020)* argue that in contexts with high agency costs or opaque reporting practices, combining both sets of measures ensures greater transparency and alignment of corporate actions with shareholder interests. Accordingly, the final hypothesis is formulated as:

H6. Traditional accounting-based performance metrics and value-based performance metrics have a significant effect on Total Shareholder Return.

This section has reviewed critical academic contributions surrounding both traditional and value-based performance measures, setting the stage for empirical validation. Six testable hypotheses have been developed to examine the individual and combined impact of these indicators on Total Shareholder Return among BSE Sensex companies. The following empirical section will evaluate these hypotheses using static and dynamic panel models are used to determine the relative and incremental information content of the different performance measures with respect to TSR. The models help answer the following questions:

- *Which financial performance indicators have the most significant influence on TSR?*
- *Do value-based metrics (EVA, MVA, CVA) provide additional explanatory power over traditional accounting-based metrics (EPS, ROE, ROA)?*
- *What is the combined effect of accounting-based and value-based performance metrics on TSR?*

In general, regression analysis is a statistical migration that estimates the relationship between one dependent variable and one or more independent variables. In this study, the main focus is on Total Shareholder Return, which relies on various financial performance indicators, including standard accounting measures like EPS, ROE, and ROA, as well as value-based

measures like EVA, CVA, and MVA, and combinations of these indicators. Here is an explanation of the regression models used in this study:

Single Independent Variable Models (Model 1 - Model 6)

These models analyze the individual relationship between TSR and each of the financial performance measures. The basic form of these models is:

$$TSR_{it}=\alpha+\beta X_{it}+\mu_{it}+\varepsilon_{it}$$

Where:

- TSR_{it} is the Total Shareholder Return for firm i at time t,
- α is the constant term,
- β represents the coefficient of the independent variable,
- X_{it} represents each of the individual financial performance measures (EPS, ROE, ROA, EVA, MVA, and CVA),
- μ_{it} is the firm-specific error term,
- ε_{it} is the residual (random error term).

$$Model\ 1:\ TSR_{it} = \alpha + \beta EPS_{it} + \mu_{it} + \varepsilon_{it}$$

This model examines the relationship between TSR and Earnings Per Share. EPS is a traditional accounting-based performance measure that indicates the profitability of a company on a per-share basis. This model helps determine if EPS alone can explain the variation in TSR.

$$Model\ 2:\ TSR_{it} = \alpha + \beta ROE_{it} + \mu_{it} + \varepsilon_{it}$$

This model investigates the impact of Return on Equity on TSR. ROE is a measure of financial performance that assesses the ability of a company to generate profits from its shareholders' equity.

$$Model\ 3: TSR_{it} = \alpha + \beta ROA_{it} + \mu_{it} + \varepsilon_{it}$$

This model focuses on Return on Assets, which shows how efficiently a company uses its assets to generate profit. By evaluating this model, the researcher assesses whether ROA has a significant impact on TSR.

$$Model\ 4: TSR_{it} = \alpha + \beta EVA_{it} + \mu_{it} + \varepsilon_{it}$$

Economic Value Added is a value-based measure that calculates a company's economic profit after deducting the cost of capital. This model examines whether EVA provides additional insights into TSR beyond traditional measures.

$$Model\ 5: TSR_{it} = \alpha + \beta MVA_{it} + \mu_{it} + \varepsilon_{it}$$

Market Value Added is another value-based measure that indicates the difference between the current market value of a company and the capital invested by shareholders. This model evaluates if MVA affects TSR.

$$Model\ 6: TSR_{it} = \alpha + \beta CVA_{it} + \mu_{it} + \varepsilon_{it}$$

Cash Value Added measures the cash-based performance of a company, assessing whether a company’s cash flow generates value above the cost of capital. This model assesses the relevance of CVA in explaining TSR.

Multiple Independent Variable Models (Model 7 - Model 12)

In these models, multiple financial performance indicators are combined to explore their collective impact on TSR. These models allow for a more comprehensive understanding of how combinations of accounting-based and value-based measures affect TSR.

$$Model\ 7:\ TSR_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 ROE_{it} + \beta_3 ROA_{it} + \mu_{it} + \varepsilon_{it}$$

This model combines three accounting-based performance measures: EPS, ROE, and ROA. It aims to analyze how these indicators together influence TSR. The coefficients (β_1,β_2,β_3) represent the individual effect of each measure on TSR, and this model will show if their combined influence is stronger than when considered individually.

$$Model\ 8:\ TSR_{it} = \alpha + \beta_1 EVA_{it} + \beta_2 CVA_{it} + \beta_3 MVA_{it} + \mu_{it} + \varepsilon_{it}$$

This model includes the three value-based measures: EVA, CVA, and MVA. The goal is to determine if these value-based metrics collectively explain variations in TSR more effectively than individual measures alone.

$$Model\ 9:\ TSR_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 ROE_{it} + \beta_3 ROA_{it} + \beta_4 EVA_{it} + \mu_{it} + \varepsilon_{it}$$

By adding EVA to the accounting-based measures, this model evaluates the joint impact of both accounting-based and value-based performance measures (EPS, ROE, ROA, and EVA) on TSR. It helps understand whether EVA enhances the explanatory power of traditional performance metrics.

$$Model\ 10:\ TSR_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 ROE_{it} + \beta_3 ROA_{it} + \beta_4 CVA_{it} + \mu_{it} + \varepsilon_{it}$$

This model combines accounting-based measures (EPS, ROE, ROA) with CVA to explore whether the inclusion of cash-based value creation metrics adds to the understanding of TSR.

$$Model\ 11: TSR_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 ROE_{it} + \beta_3 ROA_{it} + \beta_4 MVA_{it} + \mu_{it} + \varepsilon_{it}$$

This model introduces MVA alongside the traditional accounting metrics (EPS, ROE, ROA). It assesses the impact of market-based value creation on TSR in conjunction with the more conventional performance measures.

$$Model\ 12: TSR_{it} = \alpha + \beta_1 EPS_{it} + \beta_2 ROE_{it} + \beta_3 ROA_{it} + \beta_4 EVA_{it} + \beta_5 CVA_{it} + \beta_6 MVA_{it} + \mu_{it} + \varepsilon_{it}$$

This final model combines all six financial performance measures (EPS, ROE, ROA, EVA, CVA, and MVA) to examine their collective effect on TSR. This model provides the most comprehensive view of how these indicators together influence shareholder returns.

The F-statistics were used with the models to check for the overall fit, and p-values were used for individual coefficient significance tests. The R-squares provided the extent to which the independent variables accounted for the variance in TSR, while Durbin-Watson assisted in checking the autocorrelation of the residuals. These regression models seek to assess the individual and conjoint effects of traditional and value-based performance measures on Total Shareholder Return (TSR). Such knowledge thus contributes to a more profound understanding of the key drivers of TSR decisions, equipping both investors and management to make well-informed decisions based on the relative importance of these performance indicators.

3. METHODOLOGY

The research adopts a quantitative approach involving panel data regression analysis to analyze the relationship between shareholder returns and financial measures across 30 Indian companies listed on the BSE Sensex Index for the period 2020 to 2024. BSE Sensex Index is computed using the free-float market capitalization method. Out of 30 companies in the original sample, 6 firms were removed because of different reporting patterns and unavailability of data required for the time frame captured. The researcher collected secondary data from annual company reports, stock exchange filings, share price and reliable financial databases such as CMIE Prowess. The dependent variable is Total Shareholder Return while the independent variables are both accounting-based such as Earnings per Share, Return on Assets, Return on

Equity as well as value-based measures such as Economic Value Added, Cash Value Added, and Market Value Added.

The study conducted static and dynamic panel regression models to test the relationships. Static models use fixed effects and random effects methods, while the dynamic model includes a previous value of the dependent variable to address the issue of endogeneity and to show how TSR changes over time. Dynamic estimation was accomplished by the Generalized Method of Moments (GMM). The study examined four main ideas to see how well value-based measures explain TSR compared to accounting-based measures. The statistical analyses carried out in this study were performed using various software, including Stata and EViews, and some diagnostic tests were run to ensure the validity and robustness of the regression model analysis.

4. EMPIRICAL FINDINGS

Table 1. Relative information content

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	EPS	ROE	ROA	EVA	MVA	CVA
R^2	0.002	0.165	0.036	0.006	0.011	0.003
Adjusted R^2	-0.005	0.159	0.029	0.001	0.004	-0.004
F	5.78***	1.38***	14.62***	1.510	4.67***	1.200
Significance	0.015	0.031	0.000	0.218	0.032	0.270

*Note(s): ***Significance at 5% level*

Source: Primary Data

Table 1 evidently shows the comparative power of explaining the total shareholder return (TSR) of different financial performance measures. Among the accounting measures, ROE shows the highest explanatory power of 0.165, followed by ROA with 0.036. Both of these measures were statistically significant at the 5% level, which confirms their use with TSR, whereas ROA has an exceptionally strong F-statistic of 14.62 and a significance level of $p = 0.000$. These results indicate that traditional accounting-based performance measures, especially ROA and ROE, are still good indicators of shareholders' wealth, supporting earlier findings by Banerjee and Majumdar (2020), who highlighted the importance of these measures in predicting outcomes in India. EPS, while being significant statistically ($p = 0.015$), has a

very low R^2 of 0.002, which means it has a very low power of explanation, albeit a much-cited one in financial analysis.

In contrast, value-based metrics such as Economic Value Added (EVA), Market Value Added (MVA), and Cash Value Added (CVA) exhibit lower R^2 values and are statistically insignificant at the 5% level (except MVA, marginally significant at $p = 0.032$), suggesting weaker relative information content when compared individually to accounting measures. EVA and CVA, in particular, show minimal explanatory power with R^2 values of 0.006 and 0.003, respectively, indicating their limited standalone ability to explain variations in TSR. These findings corroborate with studies such as Tripathi et al. (2022) and Sura et al. (2023), which questioned the incremental value of EVA over traditional metrics in the Indian market context. Therefore, while value-based measures offer conceptual appeal, their practical significance in predicting TSR within the BSE Sensex companies appears limited when assessed individually. However, their contribution in combination models (as tested later through dynamic regression) may still provide valuable insights.

Table 2. Incremental information content

	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
R^2	0.044	0.021	0.045	0.043	0.048	0.049
Adjusted R^2	0.034	0.012	0.033	0.032	0.037	0.035
F	4.910***	2.105	4.002***	3.950***	4.401***	3.715***
Durbin–Watson	1.674	1.603	1.672	1.675	1.668	1.670

*Note(s): t statistics in parentheses; *p<0.05; **p<0.01; ***p<0.001*

Source: Primary Data

Table 2 presents the results of the incremental information content models, where traditional accounting-based performance metrics (such as ROA, ROE, and EPS) are combined with value-based measures (EVA, MVA, CVA) to assess their joint explanatory power on Total Shareholder Return (TSR). The inclusion of both types of indicators results in a moderate improvement in explanatory capacity, with R^2 values ranging from 0.021 to 0.049. Among the models, Model 12 (likely including a combination of ROE, ROA, and CVA or MVA) yields the highest R^2 (0.049), indicating that the combined metrics account for approximately 4.9% of the variation in TSR. Although this percentage remains modest, it represents an improvement over individual models, particularly when compared to value-based measures used in isolation (as

seen in Table 1). The adjusted R^2 values, which account for the number of predictors, also indicate marginal gains, reinforcing the notion that integrated models offer a slightly enhanced but still limited prediction of TSR.

Furthermore, the F-statistics in Models 7, 9, 10, 11, and 12 are statistically significant at the 5% level or better, suggesting that the models, as a whole, are meaningful. This supports the inference that incorporating value-based metrics alongside accounting-based measures contributes to the overall model fit. These findings resonate with prior research by Dewri (2022) and Oke and Ajeigbe (2024), who found that while value-based indicators like EVA and MVA do not strongly outperform traditional metrics, they can marginally enhance the explanatory framework when used together. The Durbin–Watson statistics in all models range between 1.603 and 1.675, indicating no major concerns of autocorrelation in the residuals, thereby lending robustness to the regression estimates. Therefore, it may be inferred that while traditional metrics drive TSR predictions more significantly, value-based measures can offer incremental value when integrated judiciously.

Table 3. Dynamic panel regression results

Variable	Coefficient	Standard Error	z-value	p-value
TSR_{it-1}	0.198	0.031	6.240	0.000*
EPS	0.001	0.001	0.060	0.952
ROE	0.712	0.308	2.310	0.021*
ROA	2.325	0.398	5.840	0.000***
EVA	0.002	0.001	2.420	0.015*
MVA	0.001	0.001	1.080	0.281
CVA	0.004	0.000	8.720	0.000***
Sargan			21.102	0.41
Autoregressive order 1			2.702	0.007
Autoregressive order 2			0.527	0.598

*Note(s): *p<0.05; **p<0.01; ***p<0.001*

Source: Primary Data

The results in Table 3 from the dynamic panel regression analysis looked at how Total Shareholder Return (TSR) relates to financial performance indicators, including the previous TSR (TSRit-1), to understand how past performance impacts future results. The coefficient of lagged TSR is positive (0.198) and very significant (p = 0.000), showing that past TSR has a

strong effect on future TSR. The coefficient of lagged TSR is positive (0.198) and highly significant (p = 0.000), indicating that past TSR greatly affects future TSR. The result is consistent with previous studies (e.g., Mishra et al., 2021), implying that the investor base tends to weigh past returns when placing subsequent decisions, which emphasizes the extent of TSR persistence over time. Among the financial performance measures, Return on Assets (ROA) (coefficient = 2.325, p = 0.000) and Cash Value Added (CVA) (coefficient = 0.004, p = 0.000) exert the highest positive influence on TSR. This result indicates that both accounting-based (ROA) and value-based (CVA) measures have a strong impact on shareholder returns, which agrees with the findings of Banerjee and Majumdar (2020), who suggested that these measures can predict performance in the Indian market.

EVA shows a small but statistically significant positive relationship to TSR (coefficient = 0.002, p = 0.015), thus suggesting that EVA contributes some understanding of shareholder returns, albeit less than ROA and CVA do. MVA, however, is not significant (p = 0.281), meaning it doesn't explain much variation in this sample because it focuses more on how the market views the company rather than its specific financial performance *(Sura et al., 2023)*. The autoregressive terms show that the first-order effect is important (p = 0.007), meaning that past values help explain the relationship over time, but the second-order effect is not significant (p = 0.598), which means there's no proof of additional correlation after the first lag. The over-identifying restrictions in the Sargan test (p = 0.41) support the validity of the instruments in the model and are hence robust in the regression estimates. The results highlight the importance of using both accounting-based measures and value-based metrics to explain TSR, especially for ROA and CVA.

Hypothesis 1 (H_1) asserts that traditional accounting-based performance measures significantly influence TSR. This assumption is proved by the significant coefficients of Return on Equity (ROE) and Return on Assets (ROA) in the dynamic panel regression, with ROE having a p-value of 0.021 and ROA having a highly significant p-value of 0.000. These results indicated that profitability-based indicators are still relevant in explaining shareholder value creation. Hypothesis 2 (H_2) assumes that EVA has some additional explanatory power beyond traditional accounting measures. The assumption is supported because the regression results showed a significant positive link (p = 0.015) between EVA and TSR, demonstrating that EVA is important for expanding how the researcher measure a company's performance using cost of capital accounting *(Chen et al., 2023)*. Furthermore, Hypothesis 3 (H_3), through which Cash

Value Added (CVA) is predicted to extend the ability of accounting measures in describing TSR, was accepted, and CVA indicates a strong and highly significant positive impact (p = 0.000) on TSR. This finding confirms the importance of the incorporation of cash-based measures for capturing the true wealth creation of shareholders. On the contrary, Hypothesis 4 (H_4), which suggests that Market Value Added (MVA) enhances the explanatory power beyond accounting-based measures, is rejected. MVA was insignificant in the regression model (p = 0.281), suggesting that its reliance on perceptions by the market and volatility influences an apparently less strong direct explanatory link to TSR in the short run *(Tripathi et al., 2022)*. Hypothesis 5 relates to the overall impact of value-based measures on TSR and is matched because both EVA and CVA contribute significantly to shareholder returns. Hypothesis 6, thus, is accepted too: it illustrates that the weight of a combination of traditional versus value-based measures affects TSR significantly. This is demonstrated not only through the improvement in the explanation (R^2 values) of regression models combining these measures but also through their joint significance in the dynamic panel model. This supports the idea that using both sets of measures together leads to a better overall assessment of how well a company performs and aligns with shareholder value *(Lueg & Toft, 2022)*.

5. DISCUSSION

The insights gained from this study have, therefore, opened up avenues for further study on the relationship between the several performance measures and Total Shareholder Return among the companies that constitute the BSE Sensex Index. The results from the dynamic panel regression show that traditional accounting measures like Return on Assets and Return on Equity positively impact Total Shareholder Return, supporting previous research. The present study emphasizes the continued importance of accounting-based measures while explaining shareholder returns, as these reflect the operational efficiency and profitability of firms. ROA, in particular, emerges as the most powerful accounting measure, corroborating literature that highlights asset use as crucial in value creation for shareholders *(Desai, 2021)*.

The contrast in value-based performance metrics shows some washouts in Economic Value Added, Cash Value Added, and Market Value Added. While EVA and CVA exert significant positive effects on TSR, MVA shows no meaningful impact on the model. This means the explanation provided by the value-based measures EVA and CVA shown and stated

measures deals somewhat with understanding shareholder returns, albeit with a smaller level of understanding as contrasted with conventional accounting measures. Prior research *(Sura et al., 2023; Tripathi et al., 2022)* has recognized that while EVA and CVA are appropriate for long-term performance evaluation, there may be conditions under which they tend to signal quite differently about performance under varying market conditions and the special characteristics exerted by the Indian market. The influence is thus marginal for MVA, which backs the observations made by *Banerjee and Majumdar (2020)* that market-based measures can have low reliability in predicting shareholder returns, especially when the market valuations show volatility and are subjected to outside influences.

Furthermore, this positive and significant effect of lagged TSR (TSR_{it-1}) in the regression model indicates that the past has an important role in determining future shareholder returns. Such persistence in TSR upholds the notion that investors tend to assign significant weight to historical performance in decision-making for investment in the Indian stock market *(Aggarwal & Garg, 2022)*. These findings emphasize the aspect of short-term financial indicators and long-term trends in the evaluation of a company's ability to generate returns for its shareholders.

6. IMPLICATIONS

This study provides useful insights for researchers, business leaders, investors, and policymakers by looking at the relationship between shareholder returns and financial performance indicators, such as accounting-based (ROA, ROE) and value-based (EVA, CVA, and MVA) measures, among companies listed on the BSE Sensex. On a theoretical level, the study underscores the increasing utility of value-based measures in determining firm performance and shareholder wealth creation, especially in the emerging market of India. The utilization of dynamic panel regression ensures even more reliable results by controlling for time-dependent effects and firm-specific effects.

In practical application, managers may find themselves in a better position if they implement an integrated framework for performance measurement that incorporates value-based indicators for a more strategic evaluation of firm success. Investors should consider EVA and CVA indicators while selecting firms for investment, as these capture real long-term value creation. Policymakers, especially regulatory bodies such as SEBI, can use this research to

promote standardized and transparent reporting guidelines so as to create a more educated and reasonable decision-making environment within the financial ecosystem.

7. LIMITATIONS

Despite having innovative findings to its credit, our study suffers a few limitations. The study mainly includes data from the top 30 companies on the BSE Sensex, omitting mid-sized, small, and unlisted companies, which limits how widely the results can be applied. In addition, the 2020-2024 study period would have also been hampered by the pandemic, thereby possibly distorting the financial performance and shareholder returns on account of abnormal economic conditions.

Moreover, focusing only on quantitative financial measures ignores other matters that influence firm value, such as ESG activities or managerial quality. Value measures based on EVA and CVA also imply certain assumptions that might be inconsistent from firm to firm. While the dynamic panel regression used here attempts to mitigate some of the econometric problems, it is quite likely that the omission of certain unobserved variables has confounded the results. Therefore, the researcher needs to conduct further research using larger data sets and more robust approaches.

8. CONCLUSION

The study contributes to the existing literature through empirical investigation into the relative and incremental information content of accounting- versus value-based performance metrics with respect to Total Shareholder Return in BSE Sensex companies. The findings indicate that traditional accounting-based measures, especially ROA and ROE, are strong predictors of shareholder return, while value-based metrics EVA and CVA fit in with incremental explanatory power. However, MVA, a mostly applied market-based measure, adds little to the predictive ability of the model, arguing that market perception and investor sentiment do not always translate into realizable shareholder value in the Indian context.

The empirical findings suggest that while both ROA and ROE are traditional indicators and continue to maintain their relevance, they were found to have a statistically significant impact on TSR. Of the value-based metrics, EVA and CVA show stronger and steadier powers

of explanation. This finding would imply that measures of value-based performance that consider the cost of capital and economic profit provide a more refined and realistic measure for shareholder value creation. The study also revealed that MVA does not have a strong correlation with TSR, likely due to market volatility and investor sentiments that are not accounted for in the assessment of firm financial performance. The study further proves the advantages of using dynamic panel regression techniques to capture time-dependent and firm-specific effects and thus achieve a greater understanding of the performance-return relationship. The incorporation of lagged dependent variables into the model might be regarded as acknowledging the inertia that shareholder returns may have, hence providing a corrosive critique to the endogeneity concerns of static models, which are typically ignored.

In conclusion, the research supports the view that a balanced perspective using accounting-based and value-based performance measures gives the most holistic assessment of shareholder wealth creation. The researcher needs to shift the focus to management and investors, prioritizing long-term value creation over short-term earnings. The ramifications of the study are more catered toward emerging economies like India, where financial reporting procedures are less standardized and where attention is increasingly turning toward value-based management and systems of performance evaluation. Considering these factors, it may be beneficial for future investigations to conduct sector-specific analyses by increasing the sample sizes and examining both qualitative variables and macroeconomic factors that influence shareholder value.

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