A Comparative Study of BSE Listed Sectoral Indices of Real Estate and Banking Industry

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ABSTRACT

Purpose: *Shareholders are the real owners of the company. They provide capital to the business to get a better return on their investment. Maximizing shareholder wealth has become the primary goal of today's business world. No business entity can become profitable without producing a lot for various investors. There are some strategies to determine the organization productivity and valuation of investors. A cutting-edge form of top management, economic value added (EVA) is a way of valuing shareholder wealth. This helps ensure the true productivity of the organization at the expense of value and capital. The concept was first created by Stern Stewart and Co. The company proposed 164 changes in GAAP rules to calculate real economic profit and some changes in economic capital. MVA is another modern way of valuing shareholder wealth. It describes how efficiently a company uses shareholders' assets. The study made two corrections to the calculation of economic benefit and two corrections to the related population. Real estate and banking companies listed on the Bombay Stock Exchange were selected for the study. The purpose of the audit was to determine the value of investors in BSE-listed land and bank units based on EVA and MVA over a period of five years. Speculations were tested using ANOVA and T-TEST. The audit revealed that an organization like Legend Engine Corp expanded its EVA and MVA during this period.*
Design/Methodology/Approach: *Five BSE listed industries are considered for the present research work and analysed by using EVA and MVA.*
Findings/Result: *A profitable sector is identified. Opportunity is provided for the investors to buy, sell, or hold the stock to generate more profits in the selected sector. It has been observed that SBI has a high typical EVA unlike various banks but it has decreased in the long run. All financial organizations have a positive relationship between EVA and MVA.*
Originality/Value: *Among the organizations in the selected countries, Godrej Properties, and DLF are positively associated with MVA and investment wealth creation every 5 years. Choosing stocks from an industry is a big problem for investors because the market is unpredictable and offers more opportunities for traders and investors to buy sell or hold stocks and earn potential profits in the market. This study aims to compare EVA and MVA to provide some recommendations for stock and industry selection to all investors.*
Paper Type: Comparative research
Keywords: EVA, MVA, Shareholder's Value, NOPAT, WACC, Capital Employed.

1. INTRODUCTION :

There are many particular techniques to valuation; some are conventional approaches like return on equity and return on capital, DPS and EPS. These methods do not create value (Gujarati, D. N., & Porter, D. C., et al. (2009). [1]) The value-based measurement employs modern techniques. Market value added (MVA) (De Wet, J., et al. (2005), & Ali M Ghanbari& V S More., et al. (2007). [2, 3]) and economic value added (EVA) (Andrija Sabol and Filip Severer. 2017. et al. (2017), Lehn, K., &Makhija, A. K. et al. (1996), Biddle, G. C., Bowen, R. M., & Wallace, J. S. et al. (1997), Vijayakumar, A. et al. (2011), Banerjee, A. et al. (2000), Stewart, S. et al. (1990), Chari, Latha. et al. (2009), Phillips,

David M.et al. (2007) [4-11]) are two current measurement indicators. The financial outcome with respect to shareholder wealth is measured by these performance metrics (Bhadeshiya, Hardik.et al. (2018) [12]). When NOPAT exceeds the cost of capital, it indicates that an economic profit is being generated (Sirbu, A. et al. (2012) [13]); conversely, when NOPAT falls short of the capital cost, the value of the shareholders is decreased. The MVA is another technique for creating value; if the market value is higher than the book value, shareholders' wealth is generated; if market value is lower than the book value, shareholders' money is destroyed (Sandhar, S., Verma, S., & Nim, D. et al. (2014), Shil, N. C. et al. (2009), Sundaram, A. K., &Inkpen, A. C. et al. (2004), Chakraborty, S. A et al. (2019) [14-17]). This paper compares the sectoral indices of Real Estate industry and Banking Industry using MVA, EVA, and hypothesis testing (Kaur, M., &Narang, S. (2009) et al. [18]). The Indian real estate industry is a dynamic and ever-evolving sector that plays a pivotal role in the country's economic growth. With a burgeoning population and urbanization trend, the demand for residential, commercial, and industrial properties continues to soar. Over the years, the sector has witnessed a shift towards increased transparency and accountability, thanks to regulatory reforms like the Real Estate (Regulation and Development) Act, 2016 (RERA), which have instilled confidence among buyers and investors(Kleiman, R. T. et al. (1999), O'Byrne, S. F. et al. (1996), Ramana, D. V. et al. (2005), Shen, Y., Zou, L., & Chen, D. et al. (2015), Naqiyah, N., Pengestuti, I.D., &Mahfudz, M.A. et al. (2017) [19-23]). The industry has also seen a surge in the development of smart cities and affordable housing projects, as the government emphasizes affordable housing for all through initiatives like "Housing for All by 2022." Despite occasional market fluctuations, the Indian real estate industry remains a robust and attractive investment destination, offering ample opportunities for both domestic and international players. In the study, DLF Limited, Sobha Limited, Godrej Properties Limited, Prestige Group, and Oberoi Realty are considered.

The Indian financial area is an imperative part of the country's monetary framework and plays a crucial role in driving economic growth and financial stability (Bollempalli, Venkata Phani, and Bhattacharyya, Asish K. et al. (2000), Anderson, K., & Brooks, C. et al. (2006), Reddy, N.R., & Rajesh, M.J. et al. (2008), Rogerson, W.P. et al. (1997), Sharma, A., & Kumar, S. et al. (2010), Kurmi, M. K. et al. (2013), Hasani, S. M., &Fathi, Z. et al. (2012) [24-30]). It consists of a diverse mix of public sector banks, private sector banks, foreign banks, and cooperative banks, offering a variety range of financial services to individuals, businesses, and the government. The sector has undergone significant reforms and transformations over the years, including liberalization, the introduction of new banking technologies, and the expansion of financial inclusion initiatives. The Reserve Bank of India (RBI) serves as the central regulatory authority, overseeing and regulating the sector to maintain its stability and integrity. The sector's continued evolution has seen the adoption of digital banking, the growth of payment systems, and the expansion of innovative financial services and products, making it more accessible and efficient for the Indian population. Despite challenges and occasional financial disruptions, the Indian banking sector remains a critical pillar of the nation's economic infrastructure. In this paper, the nationalised banks considered for the study are UBI, BOB, PNB, BOB, and SBI.

2. REVIEW OF LITERATURE :

Gujarati, D. N., & Porter, D. C. (2009) [1] in his book, Basic Econometrics, provides an elementary but comprehensive introduction to econometrics without resorting to matrix algebra, calculus, or statistics that is useful for researchers of all the fields.

DeWet (2005) [2] investigates the consequences of organizations recorded on the JSE Protections Trade South Africa; the outcome does not uphold the alleged predominance of EVA. The outcomes suggest more grounded connections between MVA and income from activities. The concentrate likewise lays out tiny relationship amongst MVA and EPS, or between MVA and DPS, presuming that the unwavering quality of offer valuations in view of profit or profits should be addressed.

Ali &More (2007) [3] observationally assessed the development of EVA of Indian Car Organizations. The result determined that there was a critical expanding pattern during the time of study and the institutions in the vehicle business are moving towards the enhancement of their company's worth.

Sabol and Sverer (2017) [4] have depicted different methodologies and approaches to characterizing, estimating and utilizing the idea of Monetary Worth Added. EVA is a financial performance metric that places more emphasis on maximizing shareholder value than just maximizing net profit. They portrayed the paper with significant thoughts and research that have added to the improvement of the idea of EVA.

The paper was showed different changes in accordance with fiscal reports before bookkeeping benefits can be utilized to compute EVA like LIFO save, collected altruism amortization, awful obligation hold, promoted innovative work, and combined discounts of unique things. It was found that EVA as one of the most generally utilized and acknowledged proportions of largely firm execution, acquiring ubiquity when combined with the ideas of vital (monetary) executives. They portrayed a few cons of EVA that it should not totally supplant bookkeeping profit as a presentation measure. The paper was finishes up by deciding the job and spot of the idea of EVA during the time spent worth and execution the executives, as well as essential administration

Lehn & Makhija (1996) [5] investigated the size of relationship between various presentation measures and securities exchange returns. The outcomes determined that EVA is the most much related measure with stock returns. In addition, a number of studies demonstrate that EVA's incremental information content tests add significant expounding power to EPS in explaining stock returns. Peterson and Peterson (1996) investigated ordinary and worth added proportions of execution and their relationship with stock returns. Their outcome expresses that customary measures are not experimentally less connected with stock returns than return on esteem added measures.

Biddle et al. (1998) [6] achieved in their review that remaining pay based motivators plans show expanded pay. This study ropes that chiefs truly do respond to lingering pay based plans. Therefore, EVA and residual income may be effective in motivating managers to create shareholder wealth; however, the question of whether EVA and residual income-based incentives have actually been effective remains open for future research.

Vijayakumar (2010) [7], in his review chains the speculation of Harsh and Stewart's that MVA of firm was essentially emphatically connected with EVA in every one of the chose areas of Indian Auto industry. It come out that the idea of EVA, as a promising idea of monetary administration is genuinely clear in the personalities of practically every one of these explorers whose reviews have been checked on above. Investor-friendly financial performance measures may be crucial in today's rapidly shifting business environment.

Banerjee (2000) [8] has done an exact exploration to find the predominance of EVA over other standard monetary execution measures. A comparison of ROI and EVA for a sample of businesses demonstrates that EVA is superior to ROI.

Stewart S. (1990) [9] observed that the economic value-added method is an efficient measure that incarcerates the real economic profit of an organization. EVA-based financial management and incentive compensation schemes confer manager’s better quality information and greater motivation to make decision that will create the utmost shareholder wealth in an organization.

Latha, C. (1999) [10] explains the indication of EVA &assesses it with another standard proportion of corporate execution viz. ROE, ROCE, ROI, EPS, RONW, etc. The specialist utilized the coefficient of assurance to show that the traditional measures don't reproduce the genuine worth of the investors, and accordingly EVA must be considered to gauge the worth of investors' riches. He has further more completed the logic of the idea of EVA in the Indian situation with explicit reference to organizations like NIIT, Hindustan Switch, and ITC.

Phillips, D. (2007) [11] elucidated the linking between EVA &MVA, and financial variables; however, the association between EVA and other financial variables is stronger w.r.t MVA. This study investigated the correlation between EVA and ROA. The principal reason is to explain the issue w.r.t irrespective of whether ROA can substitute EVA.

Bhadeshiya (2018) [12] tried to analyse real value of selected Indian IT companies by using contemporary tools like EVA, MVA and dividend paid. He used EVA and MVA formulas given by Stern Steward & Co. He established relationship between EVA, MVA and Dividend paid by using ANOVA and T- Test and to analyse.

Sirbu, A. (2012) [13] analyses that EVA is an effective way to manage shareholder value. It aligns management’s objectives with those of the shareholders’, improves accountability and enables better performance analysis.

Sandhar, S., Verma, S., & Nim, D. (2014) [14] explains that many businesses in the Indian market are wasting capital and reducing value as a result. The instrument to decide capital adequacy and financial worth is monetary worth added. Accepting EVA as a device of monetary execution HLL and ITC stand at the first spot on the list. Additionally significant is the connection between EVA and all out working capital utilized. This would show how much worth the organization has made according to the resources

it has introduced. It is contended that stock cost go up as an organization expects EVA as an inside execution basis.

Shil, N. C. (2009) [15] explains theoretical foundation of EVA with its origination, definition, ways to make it tailored, adjustments required. In the methodology, he used theoretical mining of logics resulting a step-by-step process required for EVA implementation. He concluded that when any corporation plans to move from traditional to value-based performance measures, EVA would yield good results.

Sundaram, A. K., & Inkpen, A. C. (2004) [16] observed all possible ways to obtain shareholder value maximization, even though they recognized certain boundary constraints they concluded that shareholder value maximization happens if the firm is managed on behalf of nonshared owning stakeholders.

3. RESEARCH METHODOLOGY :

3.1 Statement of the Problem:

Monetary worth added and advertise esteem have turned into the most famous instruments for administrators to quantify the monetary exhibition of organizations. Guidelines for making strategic and profitable investment decisions are supplied by these metrics. The significance of EVA and MVA for venture, profit, and funding choices and complete expense of capital has expanded. In this manner, EVA and MVA assume a key part in the esteem creation and monetary execution of organizations. Flow examination and writing just analyze the connection between EVA and MVA. This paper centers around the effect of EVA and MVA on financial exchange execution. It likewise recognizes these two best proportions of investor esteem creation utilizing a stepwise various relapse model. The paper also looks at how the market capitalizations of 20 selected Indian cement companies relate to the EVA and MVA values.

4. OBJECTIVES :

(1) To analyse EVA, MVA of selected five Indian Real estate companies
(2) To analyse EVA, MVA of selected five Nationalised Banks
(3) To rank the selected companies.

5. METHODOLOGY:

5.1 Sources of Data:

This study depends on the auxiliary information. To examine the pattern and significant expansion of EVA and MVA of the Indian Real and Banking industry, required monetary information of test organizations was gathered from Yearly reports of particular organizations; cash control site, CMIE Ability, and BSE site.

5.2 Sample Design:

The current study's sample consists of five leading Real Estate and Banking companies. In the concentrate land organizations (DLF Restricted, Sobha Restricted, Godrej Properties Restricted, Distinction Gathering, and Oberoi Realty) and nationalized banks State Bank of India (SBI), Punjab National Bank (PNB), Bank of Baroda, Canara Bank and Union Bank of India are considered based on their market capitalization.

5.3 Hypothesis:

- Ho: There is no substantial difference in the EVA among the selected Real estate companies of the Industry.
- Ho: There is no difference in the EVA among the selected Nationalised banks
- Ho: There is no difference in the MVA among the selected Real estate companies of the Industry.
- Ho: There is no difference in the MVA among the selected Nationalised banks

5.4 Research Gap:

This study reveals the relationship between traditional &modern performance indicators andalso highlights the significant difference between EVA and MVA by Real Estate companies and Nationalised banks of BSE-listed companies.

Implications of the Study:

The survey helps organizations assess their exposure. Using EVA as a performance tool is not like conventional productivity measures. This makes it easier for management and other employees to understand equity and costs. To some extent, in large open organizations that do not have great strengths in acquiring assets, investors are usually envisioned as a source of free wealth. Similarly, despite the fact that the group would have better investment opportunities elsewhere, business unit managers often seem to believe that they have the right to invest all their shares and accumulated profits. EVA could change the method in this sense because it emphasizes the need to get an adequate profit from the total capital employed.

5.5 Tools of Analysis:

Financial Tools: Economic Value Added (EVA), Market Value Added (MVA)

Economic Value Added (EVA): is one of the shareholder value techniques that evaluates the financial performance of the company and residual income. EVA is determined by subtracting the company's total cost of capital from deductions from the company's net profit after taxes (NOPAT). When calculated, EVA shows a positive value, which means it creates wealth for its shareholders, while a negative EVA shows a decrease in value for the shareholders and the company. Simply put, NOPAT should exceed the company's total cost of capital to have a positive EVA. This technique explains the organization's performance according to the goals defined by the company's management. The primary goal of any business is to maximize shareholder wealth and minimize costs. Therefore, EVA must evaluate the economic performance of companies.

As per Stewart, Financial Value added is a lingering return and measure by deducts the expenditure of contributed capital from net operating profit after tax
(NOPAT) and compute by following condition:

EVA= NOPAT - Capital Employed × WACC.

Where, NOPAT= net operating profit after tax, WACC=weighted average cost of capital and CE=capital employed.

(a) Net Operating Profit after Tax (NOPAT):

It is the difference between EBIT and adjusted tax. The adjusted tax indicates the cash taxes paid with tax advantage on interest. In additional words, NOPAT is a tool, which is, measured that part of the profit that excludes the costs and tax benefits of debt financing.

Adjusted Tax = Paid Cash Taxes + Tax Advantage on Interest

NOPAT= PAT (1-tax)

(b) Capital Employed:

The capital utilized is the mix of fixed as well as current resources, which are used in the organisation. Capital employed can be determined by two approaches one is asset approach and second is liability approach. Net current assets denote current assets net of non-interest bearing current liabilities. In the paper, net asset approach is considered and the formula of the capital employed is total assets - non-interest bearing liabilities or net fixed assets + Investments plus Net current assets. Stewart suggested some adjustment in CE too for calculating capital employed for EVA. In the paper revaluation reserve, capital work in progress adjustments are done in capital employed.

Adjusted Capital Employed = Total Assets - NIBCL - Revaluation Reserve - Capital Work In Progress - Miscellaneous Expanses

(c) Weighted Average Cost of Capital (WACC):

It includes mainly four costs: Equity, Preference share capital, Debt and retained earnings. Retained earnings is a fragment of equity so in this research work mainly three costs considered cost of equity, debt and preference share capital

Cost of Equity (Ke):

Stern Stewart suggested CAPM amid all the other method of calculation of cost of equity. As per CAPM the calculation of cost of equity is….

$Ke = Rf + \beta (Rm – Rf)$

Where Rf means Risk free rate of return, for the study 364 days treasury bills rate has been taken as Rf and single common rate for the period is 7.48%

β = Beta can be determined by the statistical technique of regression.

For this research work Beta value has been taken from Capitaline software which is an authentic source of information providing information online.

R means expected stock market return. With the help of this formula, average market return is found which is at 13.509% so 13.51% has been taken for entire study period

Cost of Debt (Kd):

It can be calculated as $K_d = \frac{Total\ Interest\ Expenses\ (1-tax)}{Total\ Borrowing} \times 100$

Cost of Preference Share Capital (Kp):

It can be calculated as $Kp = \frac{Total\ Preference\ Share\ Dividend}{Preference\ Share\ Capital} \times 100$

Finally, WACC can be calculated using$WACC = \frac{\Sigma XW}{\Sigma W}$, where X is Cost of specific resource (K_d, Ke or Kp) and W is proportion of specific source (Equity, Debt, Preference Dividend).

According to Stewart, if Economic value added is positive, then the company has created shareholder value and if economic value added is negative then the company has destroyed the shareholder value. The following steps consider in the paper for calculation of EVA.

Economic Value Added (EVA) is a monetary performance metric that focuses on a company's capacity to generate returns above its cost of capital in order to evaluate its profitability and efficiency. EVA is a significant instrument for surveying an organization's monetary presentation and directing venture choices. EVA is a method for deciding if a business is making an incentive for its investors or dissolving it. It is determined by subtracting the company's net operating profit after taxes (NOPAT) from its total capital costs, which include the cost of debt and equity. Fundamentally, EVA addresses the excess profit produced by an organization subsequent to considering the capital expected to support its tasks. A company with a positive EVA is generating value for its shareholders, whereas an organisation with a negative EVA is not generating returns above the cost of its capital. EVA is a significant instrument for surveying an organization's monetary presentation and directing venture choices.

MVA:

Market Value Added (MVA) is a monetary metric that assesses the worth an organization has made for its financial backers and investors over the long run. It estimates the contrast between an organization's all-out market esteem, which incorporates the market capitalization of its remarkable offers, and the all-out capital put resources into the business. In straightforward terms, MVA evaluates the degree to which the organization's financial exchange esteem surpasses the capital contributed by both value financial backers and loan specialists. A positive MVA demonstrates that an organization has made incentives for its financial backers past their underlying speculations, while a negative MVA proposes that it has not had the option to do so. MVA is a valuable measure to survey an organization's drawn-out presentation and its capacity to convey gets back to its financial backers in overabundance of the capital they have given.

MVA= Companies Market Value – Capital Employed

Market Value of Company Total market value of equity+ Book value of debt.

6. DATA ANALYSIS AND INTERPRETATION :

Net Operating Profit after Tax (NOPAT) for selected BSE Listed Indian Real estate companies (Amount in Rs. Crores) is given in Table 1.

Table 1: Net Operating Profit after Tax (NOPAT) for selected BSE Listed Indian Real estate companies

Real Estate Company	2018	2019	2020	2021	2022
DLF Limited	1000	1100	1200	1300	1400
Sobha Limited	800	900	1000	1100	1200
Godrej Properties Limited	700	800	900	1000	1100
Prestige Group	600	700	800	900	1000
Oberoi Realty	500	600	700	800	900

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

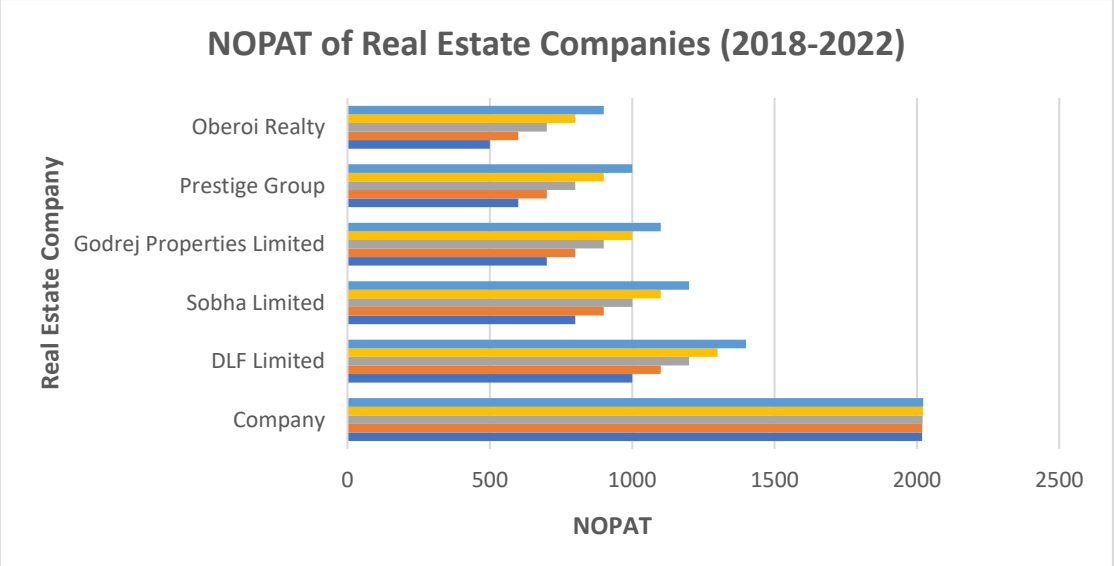

Fig.1: NOPAT of Real Estate Companies (2018 – 2022).

Inference: Table no 1 depicts that the Net Operating Profit of the selected real estate companies has been increasing during the years selected from 2018 – 2022. This clearly tells us that the companies are generating more revenues than the expenses. Highest NOPAT is recorded by DLF Ltd., whereas the lowest is recorded by Oberoi Realty.

6.1 Capital Employed for selected Indian Real estate companies:

(Amount in Rs-Crores)

Table 2: Capital Employed for selected Indian Real estate companies

Real Estate Company	2018	2019	2020	2021	2022
DLF Limited	10000	11000	12000	13000	14000
Sobha Limited	8000	9000	10000	11000	12000
Godrej Properties Limited	7000	8000	9000	10000	11000
Prestige Group	6000	7000	8000	9000	10000
Oberoi Realty	5000	6000	7000	8000	9000

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

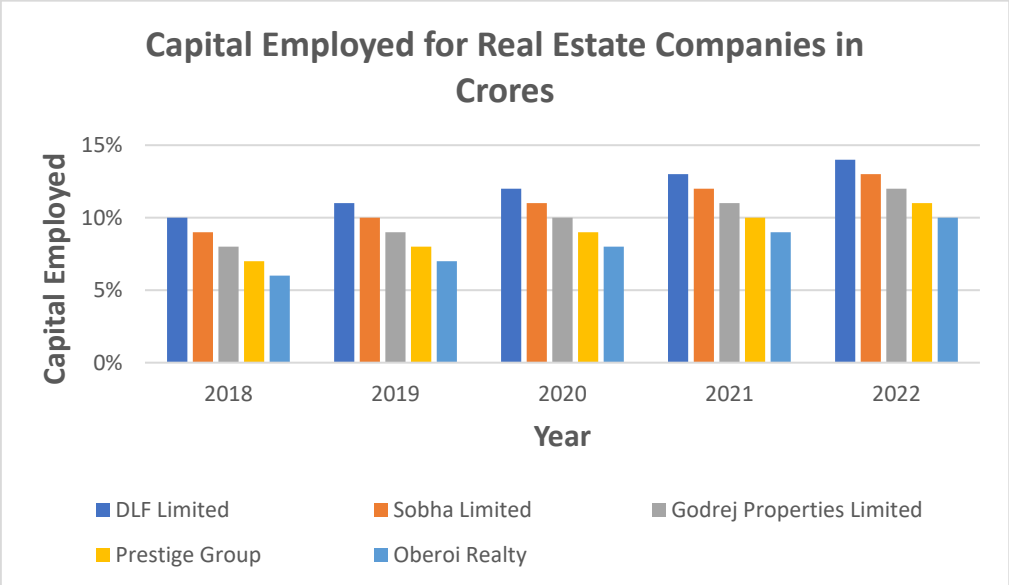

Fig. 2: Capital employed for Real estate companies

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: The above table tells us about the capital employed by the selected real estate companies. The capital employed by the companies are increasing from 2018 – 2022. This proves that the company is more efficient in managing the capital, though there is higher amount of risk involved due to increase in the capital employed. Highest Capital Employed is recorded by DLF Ltd., whereas lowest is recorded by Oberoi Realty

6.2 Weighted Average cost of capital for selected Indian Real estate companies:

Table 3: Weighted Average cost of capital for selected Indian Real estate companies

Company	2018	2019	2020	2021	2022
DLF Limited	10%	11%	12%	13%	14%
Sobha Limited	9%	10%	11%	12%	13%
Godrej Properties Limited	8%	9%	10%	11%	12%
Prestige Group	7%	8%	9%	10%	11%
Oberoi Realty	6%	7%	8%	9%	10%

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: The above table tells us about the WACC by the selected real estate companies. The capital employed by the companies are increasing from 2018 – 2022. This proves that the company is using more debt and equity financing.

6.3 EVA for selected Indian Real estate companies:

(Amount in Rs. Crores)

Table 4: EVA for selected Indian Real estate companies

Real Estate Company	2018	2019	2020	2021	2022
DLF Limited	98	110	240	390	560
Sobha Limited	80	92	100	220	360
Godrej Properties Limited	140	80	95	100	220
Prestige Group	180	140	80	91	100
Oberoi Realty	200	180	140	80	75

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: From the above table, it can be understood that DLF Limited, in 2018, EVA was 98 crore. In 2022, it increased to 560 crores. There is a continuous increase in its Valve. This proves that the economic value of the company is increasing. Sobha Ltd, in 2018, its EVA is 80. It's value increased to 360 crore in 2022. There is a continuous increase in its Valve. Godrej Properties, Prestige group, EVA is fluctuating from 2018 – 2022. This proves that the company is not efficiently managing its profits to increase the value of the company. The EVA of Oberoi Realty is decreasing, which shows that the value of the company is decreasing.

Table 5: Net Operating Profit after tax for selected Indian Nationalised Banks

(Amount in Rs. Crores)

Nationalised Bank	2018	2019	2020	2021	2022
State Bank of India (SBI)	25,072	34,569	20,216	336	-9,975
Punjab National Bank (PNB)	14,094	17,796	14,705	5,208	-5,604
Bank of Baroda (BOB)	12,012	14,319	13,087	4,840	-5,148
Canara Bank	10,099	12,219	11,468	4,472	-4,742
Union Bank of India	8,187	10,119	9,850	3,704	-4,346

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: The above table depicts that the Net Operating Profit of the selected Nationalised Banks has been decreasing during the years selected from 2018 – 2022. This clearly tells us that the Banks are

having more expenses than the Revenues. The highest NOPAT is recorded by SBI in 2018, whereas the lowest is recorded by SBI in 2022.

Table 6: Capital Employed for Selected Indian Nationalised Banks

(Amount in Rs. Crores)

Name of the Bank	2018	2019	2020	2021	2022
State Bank of India (SBI)	35,65,314	39,90,158	42,84,748	48,85,590	55,60,138
Punjab National Bank (PNB)	9,26,386	11,59,518	13,35,538	15,00,177	17,12,023
Bank of Baroda (BOB)	10,22,996	12,58,961	14,78,909	16,72,878	19,14,360
Canara Bank	8,86,187	10,95,221	12,89,684	14,69,362	16,84,888
Union Bank of India	6,93,865	8,60,531	10,18,532	11,87,650	13,79,331

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: The above table tells us about the capital employed by the selected Nationalised Banks. The capital employed by the Banks are increasing from 2018 – 2022. This proves that the Banks is more efficient in managing the capital, though there is higher amount of risk involved due to an increase in the capital employed. Highest Capital employed is recorded by SBI in 2022, whereas lowest is recorded by Union Bank of India in 2018.

Table 7: WACC for selected Indian Nationalised Banks

Name of the Bank	2018	2019	2020	2021	2022
State Bank of India (SBI)	11.80%	12.10%	12.40%	12.70%	13.00%
Punjab National Bank (PNB)	12.30%	12.60%	12.90%	13.20%	13.50%
Bank of Baroda (BOB)	12.80%	13.10%	13.40%	13.70%	14.00%
Canara Bank	13.30%	13.60%	13.90%	14.20%	14.50%
Union Bank of India	13.80%	14.10%	14.40%	14.70%	15.00%

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: The above table tells us about the WACC by the selected Nationalised Banks. The WACC of the selected Banks are increasing from 2018 – 2022. This proves that the selected banks are using more debt and equity financing. The highest WACC was recorded by Union Bank of India in 2022, and where Lowest by SBI in 2018.

Table 8: EVA of Nationalised Banks **(Amount in Rs. Crores)**

Nationalised Bank	2018	2019	2020	2021	2022
State Bank of India (SBI)	395635	448240	511093	620134	732793
Punjab National Bank (PNB)	99851.5	128303	157579	192815	236727
Bank of Baroda (BOB)	118931	150605	185087	224344	273158
Canara Bank	107764	136731	167798	204177	249051
Union Bank of India	87566.4	111216	136819	170881	211246

Source: Calculation is based on Annual reports of Real estate companies and BSE Website

Inference: From the above table, we can understand that SBI, in 2018, EVA was 395635 crores. In 2022, it increased to 732793 crores. There is a continuous increase in its Valve. This proves that the economic value of the SBI is increasing. PNB, in 2018, its EVA is 99851.5 crore. It's value increased to 236727 crore in 2022. There is a continuous increase in its Valve. BOB, in 2018, its EVA is 118931crore. It's value increased to 273158 crore in 2022. There is a continuous increase in its Valve. Canara Bank, in 2018, its EVA is 107764 crores. It's value increased to 249051 crore in 2022. There is a continuous increase in its Valve. Union Bank of India, in 2018, its EVA is 87566.4 crore. It's value

increased to 211246 crore in 2022. There is a continuous increase in its Valve. Highest EVA is recorded by SBI in 2022, whereas lowest is depicted by Union Bank of India in 2018.

Table 9: MVA of Selected Indian Real Estate companies

Real Estate Company	2018	2019	2020	2021	2022
DLF Limited	7345	8342	9123	9002	10004
Sobha Limited	6543	7543	8765	8900	9432
Godrej Properties Limited	8765	9876	10067	10789	11346
Prestige Group	8732	8900	9200	9500	10000
Oberoi Realty	9321	9500	9900	10987	11097

Table10: MVA of Selected Nationalised Banks in India

Nationalised Bank	2018	2019	2020	2021	2022
State Bank of India (SBI)	10213	10500	10900	11234	11500
Punjab National Bank (PNB)	8129	8200	8345	8900	9200
Bank of Baroda (BOB)	7329	7434	7987	8123	8234
Canara Bank	6312	6532	6902	7234	7532
Union Bank of India	5389	5602	5923	6435	6892

Inference: From the above table, in the last 5 years, Godrej Properties Limited added more market value; it is 11346 Cr in the year 2022. This may be due to the boom in the construction of houses, and apartments. In the Banking sector, it is achieved by SBI, in the year 2022 (11500 Cr). This may be due to growth in advances and more loan demand.

6.4 Descriptive Statistics:

Table 11: EVA of Nationalised Banks

Statistic/National Bank	SBI	PNB	BOB	Canara	Union Bank
Mean	541579	163055.1	190425	173104.2	143545.7
Standard Error	60693.86	24026.64	27130.03	24853.51	21857.14
Median	511093	157579	185087	167798	136819
Standard Deviation	135715.6	53725.21	60664.58	55574.15	48874.05
Sample Variance	1.84E+10	2.89E+09	3.68E+09	3.09E+09	2.39E+09
Kurtosis	-0.97951	-0.84929	-0.91045	-0.90007	-0.88444
Skewness	0.587735	0.353601	0.329561	0.341862	0.432577
Range	337158	136875.5	154227	141287	123679.6
Minimum	395635	99851.5	118931	107764	87566.4
Maximum	732793	236727	273158	249051	211246
Sum	2707895	815275.5	952125	865521	717728.4
Rank	1	4	2	3	5

Table 12: MVA of Nationalised Banks

Statistic/National Bank	SBI	PNB	BOB	Canara	Union Bank
Mean	7200	8200	9200	10200	11200
Standard Error	860.2325	860.2325	860.2325	860.2325	860.2325
Median	7000	8000	9000	10000	11000
Standard Deviation	1923.538	1923.538	1923.538	1923.538	1923.538
Sample Variance	3700000	3700000	3700000	3700000	3700000
Kurtosis	-0.02191	-0.02191	-0.02191	-0.02191	-0.02191
Skewness	0.590129	0.590129	0.590129	0.590129	0.590129
Range	5000	5000	5000	5000	5000
Minimum	5000	6000	7000	8000	9000
Maximum	10000	11000	12000	13000	14000

Sum	36000	41000	46000	51000	56000
Rank	5	4	3	2	1

Table 13: MVA of Real Estate Companies

Statistic/Real Estate Company	DLF	Sobha	Godrej	Prestige	Oberoi
Mean	8763.2	8236.6	10168.6	9266.4	10161
Standard Error	442.4233	524.2923	438.0181	225.4971	372.0896
Median	9002	8765	10067	9200	9900
Standard Deviation	989.2885	1172.353	979.4383	504.2269	832.0177
Sample Variance	978691.7	1374412	959299.3	254244.8	692253.5
Kurtosis	0.439713	-0.87185	0.093672	-0.41566	-2.97497
Skewness	-0.41168	-0.78707	-0.40814	0.667757	0.350351
Range	2659	2889	2581	1268	1776
Minimum	7345	6543	8765	8732	9321
Maximum	10004	9432	11346	10000	11097
Sum	43816	41183	50843	46332	50805
Rank	4	5	1	3	2

Table 14: EVA of BSE Listed Real Estate Companies:

Statistic/National Bank	DLF	Sobha	Godrej	Prestige	Oberoi
Mean	279.6	170.4	127	118.2	135
Standard Error	87.78474	53.70438	25.27845	18.47268	25.39685
Median	240	100	100	100	140
Standard Deviation	196.2926	120.0866	56.52433	41.30617	56.78908
Sample Variance	38530.8	14420.8	3195	1706.2	3225
Kurtosis	-1.0557	0.5801	1.954602	-0.44323	-2.70434
Skewness	0.686559	1.291623	1.500316	0.97251	-0.03754
Range	462	280	140	100	125
Minimum	98	80	80	80	75
Maximum	560	360	220	180	200
Sum	1398	852	635	591	675
Rank	1	2	4	5	3

Inference: From the tables it is inferred that, in the Nationalised Banks, SBI mean and median EVA is highest and Punjab National Bank stood at last. For all five banks, Kurtosis is negative, which indicates it is platy kurtic. The entire bank EVA values are positively skewed. In the real estate segment, maximum and minimum mean and median EVA are maintained by DLF and Prestige. DLF and Prestige EVA values are platy kurtic and others are peaked in distribution. In the last 5 years, Union Bank added more market value with an average 11200 Cr and least was SBI with an average value of 7200 Cr. In the real estate segment, Godrej Properties added more value and the least was by Sobha Limited.

7. HYPOTHESIS TESTING :

7.1 ANOVA Table to test EVA for Banking companies:

Table 15: ANOVA Test for EVA for Banking Companies

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	P-Value	F-Critic
Between Groups	5.65E+11	4	1.41E+11	23.2005	2.83E-07	2.866081
Within Groups	1.22E+11	20	6.09E+09	-	-	-
Total	6.87E+11	24	-	-	-	-

This table shows that the p-value is much smaller than the level of 5% significance. F value is also beyond the critical value. Hence, we reject the null hypothesis and accept the alternate hypothesis that there is a significant difference in the EVA of selected banking companies.

7.2 ANOVA Test for EVA for Real Estate Companies:

Table 16: ANOVA Table to test EVA for Real Estate companies

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	P-Value	F-Critic
Between Groups	88455.76	4	2 2113.94	1.810309	0.166455	2.866081
Within Groups	244311.2	20	12215.56	-	-	-
Total	332767	24	-	-	-	-

This table shows that p value is much smaller than the level of 5% significance. F value is below the critical value. Hence, we accept the null hypothesis and reject the alternate hypothesis that there is NO significant difference in the EVA of selected real estate companies.

7.3 ANOVA Test FOR MVA for Banking Companies:

Table 17: ANOVA Table to test MVA for Banking companies

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	P-Value	F-Critic
Between Groups	67898537	4	16974634	65.66964	3.24E-11	2.866081
Within Groups	5169705	20	258485.3	-	-	-
Total	73068243	24	-	-	-	-

This table shows that the p-value is much smaller than the level of 5% significance. F value is also beyond the critical value. Hence, we reject the null hypothesis and accept the alternate hypothesis that there is a significant difference in the MVA of selected banking companies.

7.4 ANOVA Test for MVA for Real Estate Companies :

Table 18: ANOVA Table to test MVA for Real Estate companies

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	P-Value	F-Critic
Between Groups	14570271	4	3642568	4.276417	0.011611	2.866081
Within Groups	17035606	20	851780.3	-	-	-
Total	31605877	24	-	-	-	-

This table shows that p-value is much smaller than the level of 5% significance. F value is more than the critical value. Hence, we accept the null hypothesis and reject the alternate hypothesis that there is NO significant difference in the MVA of selected real estate companies.

8. RANKING OF THE SELECTED COMPANIES BASED ON STUDY :

Table 19: Ranking of the Nationalised Banks

Nationalised Banks	EVA	MVA
SBI	1	5
PNB	4	4
BOB	2	3
Canara	3	2
Union Bank of India	5	1

Table 20: Ranking of the Real estate companies

Real Estate companies	EVA	MVA
DLF Limited	4	1
Sobha Limited	5	2
Godrej Properties Limited	1	4
Prestige Group	3	5
Oberoi Realty	2	3

Inference: From the above tables it is inferred that SBI ranked No 1 in the Economic Value added due to its better utilisation of resources and good revenues and Union Bank of India stood at the last, 5th. In Real estate segment, Godrej Properties Limited is No 1 as year-by-year, Godrej increased its investors and Sobha limited stood at 5th. In the MVA, Union Bank ranked No 1 and SBI positioned at 5th. In the real estate segment, DLF limited at 1st and Prestige group limited stood at 5th.

9. CONCLUSION :

The study was to analyse EVA and MVA of selected BSE listed Indian real estate companies and Nationalised Banks. From the analysis made on two BSE listed selected segments- Banking and Real Estate in India during the last 5 years i.e. since 2017-1028 to 2021-2022. Both EVA and MVA now recognized as a modern tool of performance measurement. From the above research, it can be summarised that the companies like SBI, DLF limited increased value economically and Godrej properties and SBI increased their market value continuously in the last 5 years, hence investors are advised to invest in these companies.

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