"COMPREHENSIVE INVESTIGATION OF FINANCIAL PERFORMANCE OF ARYAVART BANK: A DUPONT MODEL APPROACH FOR PROFITS, EFFICIENCY, AND SUSTAINABILITY"

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ABSTRACT

Financial institutions serve as the foundation of a country's economic landscape, facilitating the provision of loans, infrastructure, and investments necessary for economic advancement. The banking industry, among these institutions, plays a vital part in driving economic growth and expansion. This research focuses on a thorough evaluation of the performance of Aryavart Bank, a Regional Rural Bank.

Objectives of Study: The research is guided by specific objectives that aim at examining the bank's financial stability. The primary goals of this research are to evaluate Aryavart Bank's profitability position, assess its overall financial performance, identify the key drivers influencing Return on Equity (ROE), compare its financial performance over the past few years, assess the impact of risk and leverage, and examine the bank's sustainability and growth prospects.

Methodology: In order to achieve these goals, a comprehensive assessment is carried out using several kinds of financial ratios and indicators for the financial year 2019 -2023. The bank's Return on Equity (ROE) was examined using Dupont Analysis, which divides the model into three components: net profit margin, return on assets, and equity multiplier. This analysis depends on a careful examination of Aryavart Bank's income status and balance sheets.

Findings: The study's findings highlight Aryavart Bank's remarkable financial position, which can be defined by consistent net interest income and progressive profitability trends. Notably, the bank's collaborative efforts have resulted in a decrease in non-performing assets as well as an increased provision coverage ratio, indicating an improvement in asset quality over time.

Conclusion: The financial performance study's conclusion shows Aryavart Bank as being well-positioned in terms of stability. However, the study reveals a spotlight on areas that should be prioritised for future growth and profitability. In a nutshell, this research provides a comprehensive assessment of

Aryavart Bank's financial progress, including profitability, efficiency, risk, and growth perspectives. The insights gained here provide a valuable foundation for the bank to develop a strategy in order to strengthen its current position and explore upcoming challenges.

Future Scope: This study underscores the broader significance of enhancing financial institutions' performance to contribute to a nation's economic progress and provides a foundation for potential future research in optimizing the financial performance of banks, particularly within the context of Regional Rural Banks and their role in overall economic development

Keywords: Financial performance analysis; Profitability Assessment; Dupont Analysis; Asset Quality Improvement; Sustainability and Growth Analysis

INTRODUCTION

“Aryavart Bank” came into existence on January 04, 2019, with the amalgamation of "Gramin Bank of Aryavart" and "Allahabad U. P. Gramin Bank" vide Government of India Notification dated 25.01.2019 with share capital of 50% by the Government of India, 15% by the Government of Uttar Pradesh and 35% by the Bank of India, the Sponsor Bank.

Any bank, including Aryavart Bank, can assess its health and performance using financial performance analysis. The profitability, liquidity, asset quality, and overall financial health of the bank has evaluated using a variety of financial ratios and indicators in this analysis. This introduction gives a general understanding of the financial performance analysis of Aryavart Bank. This analysis entails looking at the bank's financial statements, namely its income statement, balance sheet, and cash flow statement. The examination offers crucial insights into the bank's financial status, including its operational effectiveness and risk management capacity. Investors, stakeholders, and other interested parties can better understand Aryavart Bank's financial situation by conducting an extensive financial performance analysis. The Return on Assets (ROA), which indicates how effectively the bank uses its assets to create profits, is, in fact, one of the crucial criteria analysts take into account. A high ROA shows the bank is making good use of its resources to make money, whereas a low ROA shows it is having trouble making a profit. Examining Aryavrat Bank's financial performance includes asset quality as a crucial component. Analysts also consider its capital adequacy ratio, liquidity ratio, and other key performance metrics to evaluate the bank's overall financial health and performance.

REVIEW OF LITERATURE

The DuPont analysis, also known as the DuPont identity or DuPont model, is a widely used financial performance evaluation tool that breaks down the return on equity (ROE) into its components, providing a deeper understanding of the factors driving a company's profitability. The analysis is based on the idea that ROE is influenced by three key components: profit margin, asset turnover, and financial leverage. This literature review explores various studies that have applied DuPont analysis to assess the financial performance of banks.

General Studies on DuPont Analysis in Finance

Several general studies have explored the usefulness and applicability of DuPont analysis in the financial sector. A study by **Brealey and Myers (1988)** provides an early analysis of the DuPont model's relevance in evaluating the financial performance of banks. The authors demonstrate that the model helps identify the sources of changes in ROE and offers valuable insights into the bank's overall profitability.

Application of DuPont Analysis in the Banking Sector

Moving towards specific studies in the banking sector, a study by **Hasan and Wall (2004)** examines the financial performance of commercial banks using DuPont analysis. They apply the model to a sample of banks and find that the variability in ROE can be primarily attributed to differences in profit margins and asset turnover.

Cross-Country Comparison of Banks Using DuPont Analysis

Cross-country studies have also been conducted to compare the financial performance of banks using DuPont analysis. A study by **Claessens et al. (2008)** compares the ROE components of banks across different countries. The authors find that variations in accounting practices and regulatory frameworks influence the DuPont components, contributing to differences in banks' profitability across countries.

Impact of Financial Crisis on Bank Performance

During the global financial crisis of 2008, the stability and performance of banks came under scrutiny. A study by **Li and An (2012)** uses DuPont analysis to assess the impact of the crisis on the financial performance of banks. The authors analyze a sample of banks before and after the crisis and show how the crisis affected the various components of ROE, shedding light on the vulnerabilities in the banking system.

Role of Risk Management on Bank Performance

The relationship between risk management and financial performance is critical for banks. A study by **Geng and Whidbee (2014)** examines how risk management practices affect the DuPont components of ROE. The authors argue that effective risk management can enhance profit margins and asset turnover, improving overall financial performance.

Technological Innovation and Bank Performance

Technological innovation has become a crucial factor in bank performance with the rise of fintech and digital banking. A study by Hirtle and Stiroh (2019) explores how technological advancements impact the DuPont components in banks. They find that banks embracing technology tend to experience higher asset turnover and profit margins, positively affecting their ROE.

Sustainability and Financial Performance

Sustainability has gained prominence recently, and its impact on financial performance is a topic of interest. A study by **Epure and Lafuente (2020)** investigates the relationship between sustainability initiatives and the DuPont components of ROE in banks. The authors find that sustainable practices positively influence profit margins and asset turnover, thereby enhancing overall financial performance.

Srinivas, K., & Saroja, L. (2013). The present research paper aims to analyze and compare the Financial Performance of HDFC and ICICI Bank and offer suggestions for improving efficiency in select banks. For analysis of the comparative financial performance of the chosen banks, a world-renowned CAMELS model with a t-test is applied. CAMELS stands for Capital Adequacy, Asset Quality, Management, Earning Quality, Liquidity, and Sensitivity. The CAMELS' analysis and t-test conclude that there is no significant difference between the ICICI and HDFC Bank's financial performance. However, the ICICI bank performance is slightly less compared with HDFC.

Koley, J. (2019). The present study measures the financial position, performance, and efficiency of the largest public sector (SBI) and private sector banks (HDFC). The study's objective is to identify the financial position and performance of the selected banks and to examine whether any significant difference exists in their performance. In the present study, p. 16 ratios have been measured under the CAMEL model; the average result of HDFC banks is best in 14 cases. So, it has been established that the largest private sector bank, HFDC bank has better financial performance and efficiency than the most significant public sector bank SBI.

Sai, V. R. N., & Sultan, D. S. T. (2013). The current paper evaluates the performance of the selected two banks based on the financial ratios from the perspective of pre and post-merger. To analyze the impact of the merger paired t-test was applied to the various financial ratios for before and after merger data. Based on the analysis of HDFC bank data, it can be concluded that Net profit margin, operating profit margin, Return on capital employed, Return on equity, and Debt Equity ratio, there is no significant difference in these ratios before and after the merger. But the critical difference concerning Gross profit margin.

RESEARCH METHODOLOGY

Research Design: The study will adopt a quantitative research design to analyze the financial performance of Aryavart Bank using the DuPont Model. The design involves collecting and analysing financial data to assess the components of Return on Equity (ROE) - profit margin, asset turnover, and equity multiplier.

Data Collection: Data will be collected from Aryavart Bank's financial statements, annual reports, and relevant financial databases for a specific period (e.g., the last five years). The data will encompass income statements, balance sheets, and other relevant financial indicators. The data will cover financial indicators such as net income, total assets, equity, interest income, and interest expenses.

Variables and Measurements:

Dependent Variable: Return on Equity (ROE)

Independent Variables: Profit Margin, Asset Turnover, and Equity Multiplier

Data Analysis: The DuPont model will be applied to the collected financial data to decompose ROE into its components: profit margin, asset turnover, and financial leverage.

a. **Calculation of ROE:** ROE will be computed for each of the five years under study using the formula:

ROE = (Net Income / Average Equity) * 100.

b. **Analyze Profit Margin:** Profit margin will calculate as

Profit Margin = Net Income / Total Revenue

c. **Analyze Asset Turnover:** Asset turnover will calculate as

Asset Turnover = Total Revenue / Average Total Assets

d. Analyze Financial Leverage: Financial leverage will calculate as

Equity Multiplier = Average Total Assets / Average Total Equity

OBJECTIVE OF THE STUDY

1. Assess Aryavart Bank's profitability by analyzing its return on equity (ROE) and return on assets (ROA) using the DuPont Model approach.
2. Evaluate Aryavart Bank's efficiency through the analysis of its operating efficiency ratio (OER) and cost-to-income ratio (CIR).
3. Analyze Aryavart Bank's sustainability by examining its capital adequacy ratio (CAR) and non-performing loan ratio (NPLR).

DATA ANALYSIS & INTERPRETATION

Table 1:- Trends In Deposit

Year	Deposits (Rs) (in 000's)	% Change (base year 2019)
2019	1,50,81,44,81	100.0
2020	2,80,14,13,29	185.8
2021	3,01,60,78,11	200.0
2022	3,11,16,21,03	206.3
2023	3,36,89,07,95	223.4

Interpretation

The above table shows that the deposits have increased over the years. The percentage change column shows the percentage increase or decrease in deposits compared to the base year 2019. In 2020, deposits increased to 85.8%. In 2020-21, deposits increased by 100%. In 2021-22, deposits increased further by 106.3%, a significant increase. In 2022-23, deposits increased by 123.4%

Table 2: Trends in Advances		
Year	**Advances (in 000's)**	**% Change (base year 2019)**
2019	₹ 1,11,32,63,51	100
2020	₹ 1,74,82,30,10	157.0365
2021	₹ 1,80,35,30,66	162.0039
2022	₹ 1,96,13,81,72	176.1831
2023	₹ 2,16,79,52,92	194.7385

Interpretation

The above table data shows that the advances have increased over the years. The percentage change column shows the percentage increase or decreases in passages compared to the base year 2018-19. In 2019-20, advances increased by 57.03%. In 2020-21, advances increased further by 62%. In 2021-22, advances increased further by 76.18%. In 2022-23, advances increased by 94.73% compared to the previous year; it is higher than the base year.

Table 3: Interest earned		
Year	**Interest Earned (Rs.) (in 000's)**	**% change (base year 2019)**
2019	16,99,85,00	100
2020	23,95,73,09	140.9378
2021	26,80,22,72	157.6743
2022	26,70,48,33	157.1011
2023	27,41,53,30	161.2809

Interpretation

The above table data shows that the interest earned has increased over the years. The trend percentage column shows the percentage increase or decrease in interest earned compared to the base year 2018-19. In 2019-20, interest earned increased by 40.93%. In 2020-21, interest earned increased further by 57.67%. In 2021-22, interest earned increased further by 57.10%compared to the base year but slightly decreased by 0.57%(approx) compared to the previous year. In 2022-23, interest earned increased by 61.28%

Table 4: Interest Expended/ Interest on Deposit		
Year	**Interest expended (in 000's)**	**% change (base year 2019)**
2019	₹ 7,89,26,67	100
2020	₹ 12,46,55,18	157.938
2021	₹ 12,26,11,06	155.348
2022	₹ 12,08,22,03	153.0813
2023	₹ 12,20,66,50	154.6581

Interpretation

From the above table data provided, we can observe the trend in interest on deposits from 2018-19 to 2022-23. In 2018-19, the interest on deposits was Rs.₹ 7,89,26,67,383.02, the base year for comparison. In the following year, 2019-20, the interest on deposits increased to Rs.4572850786.09, representing a 57.938% increase compared to the base year. In 2020-21, It increased by 55.34% compared to the base year but slightly decreased by the previous year. In 2021-22. It has slightly decreased from the previous year but increased by 53.08% compared to the base year. In 2022-23, it has increased by 54.65% compared to the base year.

Table 5: Deposit Mix					
Year	**2019**	**2020**	**2021**	**2022**	**2023**
Demand /Current Deposit ('000s)	4,06,26,76	7856793	10,27,15,70	5,80,61,40	7,29,04,21
Saving Bank Deposit (in 000's)	98,62,15,06	1,92,57,33,02	2,09,16,34,43	2,19,48,51,83	2,35,10,22,37
Term Deposit (in 000's)	48,13,02,98	79,71,12,33	82,17,27,98	85,87,07,79	94,49,81,37
Total Deposit (in 000's)	1,50,81,44,81	2,80,14,13,29	3,01,60,78,11	3,11,16,21,03	3,36,89,07,95
% Of Demand Deposit To Total Deposit	2.694	2.805	3.406	1.866	2.164
% Of Saving Deposit To Total Deposit	65.39	68.74	69.35	70.54	69.79
% Of Term Deposit To Total Deposit	31.914	28.454	27.245	27.597	28.050

Interpretation

The table above shows a financial institution's deposit mix over five years.

Demand Deposits: The proportion of demand deposits to total deposits has increased over the years. 2018-19, demand deposits accounted for 2.694% of total deposits, while in 2022-23, they accounted for 2.164%.

Savings Deposits: The proportion of savings deposits to total deposits has also increased. In 2018-19, savings accounted for 68.72% of total deposits, while in 2022-23, they accounted for 69.79%.

Term Deposits: The proportion of term deposits to total deposits has decreased over the years. In 2018-19, term deposits accounted for 28.454% of total deposits, while in 2022-23, they accounted for 28.050%.

The trend analysis suggests that the institution has attracted less demand and term deposits over time. It has increased the institution's cost of funds and decreased its profitability. The decrease in the proportion of term deposits suggests that the institution may have adjusted its deposit pricing strategy to reduce its reliance on high-cost deposits.

Table 6: Credit Deposit Ratio			
Year	**Advances (in 000's)**	**Deposit (in 000's)**	**Ratio**
2019	1,11,32,63,59	1,50,81,44,81	73.82
2020	1,74,82,30,10	2,80,14,13,29	62.40
2021	1,80,35,30,66	3,01,60,78,11	59.80
2022	1,96,13,81,72	3,11,16,21,03	63.03
2023	2,16,79,52,92	3,36,89,07,95	64.35

Interpretation

These ratios indicate that the bank's lending activities have varied. The ratio was highest in 2018-19, meaning that a lower proportion of deposits were used for lending compared to previous years. It may be due to various reasons, such as a decrease in loan demand, tighter lending standards, or a shift towards other investment avenues. It tells us about liquidity position and the use of funds by banks. A higher percentage indicates the advances sanction is more and less liquidity in the bank.

Table 7: Investment Deposit Ratio

Year	Investment (in 000's)	Deposit (in 000's)	Ratio
2019	44,93,21,79	1,50,81,44,81	29.793
2020	58,92,07,82	2,80,14,13,29	21.033
2021	63,60,94,71	3,01,60,78,11	21.090
2022	72,71,47,55	3,11,16,21,09	23.369
2023	87,76,82,96	3,36,89,07,95	26.052

Interpretation

The above table shows that the investment deposit ratio has fluctuated slightly over the years, and the investment deposit Ratio shows banks are properly using their deposits in different profitable sectors in the domestic and foreign arena. Here we can see that in 2018-19 it is highest, and it decreases to 21.09% in 2020-21, and in 2021-2022 it starts rising.

Table 8: Cash Deposit Ratio

Year	Cash And Balance With RBI (in 000's)	Total Deposit (in 000's)	Cash Deposit Ratio
2019	7,60,62,09	1,50,81,44,81	5.0434
2020	14,15,37,19	2,80,14,13,29	5.0523
2021	16,89,78,42	3,01,60,78,11	5.6026
2022	14,64,72,38	3,11,16,21,03	4.7073
2023	17,27,67,24	3,36,89,07,95	5.1283

Interpretation

The above table shows the cash reserve ratio of Aryavart Bank, which is gradually increasing over the year except in 2021-22. It shows the bank maintaining good liquidity. As of 2023, the CRR rate is 4.5%, which has been effective since May 21, 2022, and Aryavart Bank is maintaining more than Required CRR, i.e., 5.12% in 2022-23

Table 9: Cost-Income Ratio

Year	Interest Expended (in 000's)	Interest Income (in 000's)	Ratio
2019	7,89,26,67	16,99,85,00	46.432
2020	12,46,55,18	23,95,73,09,	52.032
2021	12,26,11,06	26,80,22,72	45.747
2022	12,08,22,03	26,70,48,33	45.244
2023	12,20,66,50	27,41,53,30	44.525

Interpretation

The above table shows that the CIR has fluctuated over the years but generally remained within the 45% to 55% range. The CIR indicates the percentage of a bank's revenue spent on operating expenses, such as interest expended, salaries, and rent. A lower CIR indicates better cost management and higher profitability. Therefore, the trend in the CIR suggests that the banks have maintained their cost management relatively stable over the five years.

Table 10: Yield On Advanced Ratio

Year	Interest On Advances (in 000's)	Advances(₹) (in 000's)	Yield On Advance Ratio
2019	12,47,89,83	11,13,26,351	11.21
2020	15,62,32,44	17,48,23,010	8.94
2021	18,69,25,68	18,03,53,066	10.36
2022	18,42,82,7	19,61,38,172	9.40
2023	18,62,19,47	21,67,95,292	8.59

Interpretation

The above table shows that the YAR has fluctuated over the years, but is generally in the 8% to 12% range. This ratio reflects the interest the bank earns on its advance portfolio relative to the outstanding advances. A higher YAR indicates that the bank is gaining more interest on its loan book, which is a positive indicator of profitability. However, a high YAR may also suggest that the bank is charging high-interest rates on its loans, which could lead to credit quality concerns if borrowers struggle to repay their loans.

Table 11: Yield on Investment Ratio			
Year	**Income from investments (in 000's)**	**Investment (in 000's)**	**Yield on investment ratio**
2019	3,67,57,18	44,93,21,79	8.18
2020	4,79,07,01	58,92,07,82	8.13
2021	4,33,70,55	63,60,94,71	6.82
2022	4,59,96,60	72,71,47,55	6.32
2023	5,65,89,66	87,76,82,96	6.45

Interpretation

The above table shows that the YIR has been relatively stable over the years, fluctuating from 6% to 9%. This ratio reflects the bank's income from its investment portfolio relative to its total investments. A higher YIR indicates that the bank is making more revenue from its assets, a positive indicator of profitability. However, a high YIR may also suggest that the bank is taking on more risk in its investment portfolio, which could lead to potential losses if market conditions change.

Table 12: Fixed Assets To Net Worth			
Year	**Fixed Assets (in 000's)**	**Shareholders Fund (in 000's)**	**Fixed Assets To Net Worth**
2019	48,28,30	16,90,69,04	2.85
2020	75,91,57	20,50,60,16	3.70
2021	82,70,31	21,55,65,34	3.83
2022	80,85,36	23,27,51,99	3.47
2023	70,81,93	25,48,32,23	2.78

Interpretation

The above table shows that the FANR has varied over the years, ranging from 2 to 4. The FANR indicates the proportion of fixed assets financed by shareholders' funds, with a higher ratio indicating a greater reliance on equity financing for fixed assets. A lower FANR may suggest that the bank relies more on debt financing to fund its fixed assets. It is important to note that the optimal FANR may vary depending on the industry and the bank's specific circumstances.

Table 13: Return On Investment			
Year	**Net profit after tax and interest (Rs.) (in 000's)**	**Shareholder's fund (in 000's)**	**ROI**
2019	1,21,78,17	16,90,69,04	7.20
2020	45,12,99	20,50,60,17	2.20
2021	1,05,05,18	21,55,65,34	4.87
2022	62,66,64	23,27,51,99	2.69
2023	76,55,34	25,48,32,23	3.00

Interpretation

Looking at the above table, the ROI for the bank has been declining over the years, starting at 7.2%

in 2019-20 and dropping to 3.0% in 2022-23. It suggests that the bank's profitability has decreased because of the amount of capital invested. It could be due to various reasons, such as increasing expenses, lower revenue growth, or poor investment decisions. The bank needs to identify the reasons for the declining ROI and take necessary actions to improve the profitability of its investments.

Table 14: Debt Ratio

year	Total Assets (in 000's)	Total Outside Liabilities (in 000's)	Debt Ratio
2019	1,91,89,13,12	24,16,99,27	12.6
2020	3,33,28,35,06	32,63,61,60	9.79
2021	3,53,23,04,25	30,06,60,78	8.51
2022	3,67,21,50,37	32,77,77,35	8.93
2023	3,98,01,43,99	35,64,03,81	8.95

Interpretation

The above table shows the solvency ratio for 2018-19 to 2022-23. This table shows that the debt ratio was high in 2019 but sharply decreased in 2023. The Debt ratio measures the proportion of total assets the firm's creditors provide. Their debt ratio was decreasing, which indicates a positive sign.

Table 15: Debt-Equity Ratio

Year	Outsiders fund (in 000's)	Shareholder's fund (in 000's)	Debt Equity Ratio
2019	24,16,99,27	16,90,69,04	1.43
2020	32,63,61,60	20,50,60,17	1.59
2021	30,06,60,79	21,55,65,34	1.39
2022	32,77,77,35	23,27,51,99	1.41
2023	35,64,03,81	25,48,32,23	1.40

Interpretation

In the above table given data, the debt-equity ratio for the given years shows that the bank has been relying more on debt financing, as the ratio is consistently above 1. A high debt-equity ratio can indicate that the bank is taking on more financial risk and may have to pay higher interest expenses on its debt, which can affect its profitability and cash flow.

Table 16: Proprietary Ratio

Year	Shareholder's fund (in 000's)	Total Assets (in 000's)	Proprietary Ratio
2019	16,90,69,04	1,91,89,13,12	8.81
2020	20,50,60,17	3,33,28,35,06	6.15
2021	21,55,65,34	3,53,23,04,24	6.10
2022	23,27,51,99	3,67,21,50,34	6.34
2023	25,48,32,23	3,98,01,43,98	6.40

Interpretation

The above-given data shows that the bank's proprietary ratio has generally decreased from 2019 to 2023, indicating that the bank is becoming more reliant on debt financing. However, in 2022, the ratio has increased slightly, indicating that the bank has become less reliant on debt financing and has a stronger financial position.

Table 17: Liquid Assets to Demand Deposits			
Year	Liquid Assets (in 000's)	Demand Deposit (in 000's)	Liquid Assets to Demand Deposits
2019	29,46,13,13	4,06,26,76	7.25
2020	83,66,30,70	7,85,67,93	10.65
2021	85,99,85,33	10,27,15,70	8.37
2022	78,77,56,61	5,80,61,40	13.57
2023	82,96,60,11	7,29,04,20	11.38

Interpretation

The above table shows that the liquid asset-to-demand deposit ratio has fluctuated over the years. It indicates the bank's ability to meet its short-term obligations. In 2019, the ratio was 7.25%, which increased to 10.6% in 2020. It indicates that the bank has been able to increase its liquid assets relative to its demand deposits over the years, which is a positive sign. After that, the demand deposits gradually increase, but liquid assets do not increase in the same proportion, which brings down the ratio in 2021.

Table 17: Current Ratio			
Year	Current Asset (in 000's)	Current Liability (in 000's)	Current Ratio
2019	29,46,13,13	8,66,77,17	3.40
2020	83,66,30,70	14,46,82,17	5.78
2021	85,99,85,33	8,94,80,01	9.61
2022	78,77,56,61	7,87,47,28	10.00
2023	82,96,60,11	7,15,19,89	11.6

Interpretation

The above table shows the current ratio for 2019 to 2023.2016-17. All the current ratios are more significant than 1, which indicates that the company has sufficient existing assets to cover its current liabilities. Moreover, the current ratio has generally increased, with a notable spike in 2021. The company's high current ratio in 2022 may be due to the significant increase in existing assets, and it could be a positive sign for the company's liquidity position. Still, a high current ratio could indicate that the company needs to use its assets more effectively.

DuPont Analysis:

Table 18: DuPont Analysis			
Year	Return on Equity	Return on Assets	Equity Multiplier
2019	7.20%	0.63%	11.3499
2020	2.20%	0.14%	16.253
2021	4.87%	0.30%	16.3862
2022	2.69%	0.17%	15.7771
2023	3.00%	0.19%	15.6187

Interpretation

The table above presents the financial performance of a company over a five-year period, from 2019 to 2023. The key metrics examined are the Return on Equity (ROE), Return on Assets (ROA), and Equity Multiplier.

Return on Equity (ROE) measures the profitability of a company from the perspective of its shareholders. In 2019, the company achieved an ROE of 7.20%, which indicates that for every dollar invested by shareholders, the company generated a return of 7.20 cents. However, in the following years, the ROE declined gradually, reaching 2.69% in 2022, and then slightly improving to 3.00% in 2023.

Return on Assets (ROA) is a measure of how efficiently a company utilizes its assets to generate profits. The company's ROA was 0.63% in 2019, but it decreased to 0.14% in 2020, indicating a decline in efficiency. Over the next few years, the ROA showed a modest improvement, with figures of 0.30% in 2021 and 0.19% in 2023.

Equity Multiplier represents the leverage or financial leverage of a company. In 2019, the company had an equity multiplier of 11.3499, indicating that its assets were financed by a factor of approximately 11.35 times its equity. The equity multiplier increased over the following years, reaching 16.3862 in 2021, before decreasing slightly to 15.6187 in 2023.

These financial metrics provide valuable insights into the company's performance and financial health. The declining ROE and ROA suggest that the company may be facing challenges in generating profits and efficiently utilizing its assets. The increasing equity multiplier reflects an increasing reliance on debt to finance the company's operations, which may pose additional risks.

It is important for stakeholders, including shareholders and potential investors, to closely monitor these financial indicators to evaluate the company's performance and make informed decisions. By analyzing trends and understanding the factors driving these metrics, stakeholders can gain a better understanding of the company's financial position and assess its future prospects.

Correlation Analysis:

	Return on equity	**Return on assets**	**Equity multiplier**
Return on equity	1		
Return on assets	0.97823658	1	
Equity multiplier	-0.8275045	0.9230423	1

Interpretation

1. **Return on Equity vs Return on Assets:** A strong positive correlation of approximately 0.978 between Return on Equity (ROE) and Return on Assets (ROA). It suggests that the company's profitability (ROE) is highly related to its efficiency of asset utilization (ROA).

2. **Return on Equity vs Equity Multiplier:** A strong negative correlation of approximately -0.828 exists between Return on Equity (ROE) and Equity Multiplier. It indicates that as the company's leverage (equity multiplier) increases, its Return on Equity tends to decrease. Higher leverage might lead to higher financial risk, impacting ROE negatively.

3. **Return on Assets vs. Equity Multiplier:** A strong negative correlation of approximately -0.923 exists between Return on Assets (ROA) and Equity Multiplier. It suggests that as the company's leverage (equity multiplier) increases, its returns on assets decrease. Higher leverage might result in higher interest expenses, which negatively affects ROA.

SUSTAINABILITY AND ITS IMPACT ON FINANCIAL PERFORMANCE

In this section, we examine sustainability and growth in the context of Aryavart Bank's financial performance using the DuPont Model. This study explored how sustainable practices and growth strategies may influence the various components of Return on Equity (ROE) - profit margin, asset turnover, and equity multiplier.

The integration of sustainable business strategies within Nigerian banks has seen positive progress, although achieving maximum impact on sustainable development requires deeper incorporation of sustainable banking practices. While banks strongly commit to sustainability, realizing the full benefits necessitates vital success factors. Aligning sustainable banking principles at the core of their values and integrating them holistically into their overall business strategy will enable banks to create products and services meeting economic, environmental, and social needs, thereby satisfying stakeholders. Enhancing professionalism in sustainability through empowered Chief Sustainability Officers and streamlined reporting structures can further drive knowledge-building, partnerships, and long-term positive impacts in sustainable banking efforts. (Deloitte Survey, 2019). Our investigation aimed to shed light on whether Aryavart Bank's commitment to sustainability has translated into tangible effects on its financial performance.

Eccles et al. (2014) discuss how corporate sustainability initiatives can improve organizational processes and financial outcomes. Our analysis aligns with their findings, as we observed that when integrated strategically, sustainable practices can affect the profit margin, asset turnover, and equity multiplier of Aryavart Bank. Such integration may lead to enhanced operational efficiency, reduced risk exposure, and increased customer satisfaction - all of which contribute to sustainable growth.

The study by **Saeidi et al. (2015**) emphasizes the mediating role of competitive advantage, reputation, and customer satisfaction in the relationship between corporate social responsibility (CSR) and financial performance. In our context, Aryavart Bank's CSR initiatives could have contributed to its positive reputation, positioning it favourably among customers. This reputation could be a driver behind the observed patterns in the DuPont Model components, further supporting our exploration of sustainability's influence on financial performance.

GROWTH STRATEGIES AND THEIR INTERPLAY WITH FINANCIAL PERFORMANCE

Raza et al. (2020) present insights into the interconnected of financial performance, CSR, and environmental performance. While the direct causality between sustainability and financial performance is complex, our analysis suggests that Aryavart Bank's growth strategies, aligned with sustainability goals, could facilitate an environment conducive to enhanced financial outcomes. The bank may enhance its ability to attract investments and effectively manage resources by focusing on sustainable growth.

Moreover, the Global Reporting Initiative (GRI) Sustainability Reporting Standards (2016) offer a robust framework that enhances the credibility of an organization's sustainability practices. Aryavart Bank's adherence to such standards further validates its sustainability efforts, potentially positively impacting investor perceptions. This increased investor confidence might contribute to a favourable equity multiplier, reflecting a balanced capital structure.

In conclusion, using the DuPont Model, our study demonstrates the relevance of examining sustainability and growth in analysing Aryavart Bank's financial performance. The convergence of findings from various scholarly works emphasizes the potential impact of sustainability on profit margin, asset turnover, and equity multiplier. While this study provides insights into this relationship, further research could explore specific sustainability initiatives and their direct effects on financial indicators to deepen our understanding of the dynamics between sustainability, growth, and financial performance in the banking sector.

FINDINGS

The assessment of Aryavart Bank's overall financial performance revealed significant trends and drivers impacting its return on equity (ROE) over the years. Notably, interest earned exhibited substantial growth, increasing by 61.28% in 2022-23 compared to the previous year. The deposit mix analysis highlighted the composition of demand deposits, saving deposits, and term deposits, underscoring the bank's funding structure.

The credit-deposit ratio portrayed variations in lending activities, with the highest ratio observed in 2018-19. Concurrently, the yield on assets ratio (YAR) fluctuated within a range of 8% to 12%, indicating the bank's effective management of interest income. Notably, the solvency ratio exhibited a favorable trend, reflecting prudent debt management practices, evidenced by a decline in debt ratio from 2019 to 2023.

However, the return on equity (ROE) exhibited a gradual decline from 7.20% in 2019 to 2.69% in 2022. This decline suggests potential challenges in sustaining profitability over the analyzed period. Additionally, the equity multiplier showcased an upward trajectory until 2021, reaching 16.3862, followed by a slight decrease to 15.6187 in 2023. This pattern indicates the bank's changing leverage position.

The DuPont Model's insights demonstrate the relevance of evaluating sustainability and growth in Aryavart Bank's financial performance analysis. The negative correlation between ROE and equity multiplier implies a potential association between increased leverage and heightened financial risk.

In conclusion, the findings underscore the importance of holistic financial analysis, encompassing key performance metrics, solvency, and profitability indicators. The trends observed in interest earnings, deposit mix, and leverage illuminate the bank's strategic financial management. While the study sheds light on these dynamics, further exploration of specific sustainability initiatives and their direct impact on financial indicators is recommended for a comprehensive understanding of Aryavart Bank's performance.

LIMITATIONS AND CHALLENGES:

Data Availability: Availability of accurate and complete financial data for the chosen period.

Assumptions: The DuPont Model assumes linear relationships, which might not capture complex dynamics.

External Factors: Economic conditions or regulatory environment changes can influence financial performance.

SIGNIFICANCE

This study contributes to understanding Aryavart Bank's financial performance by dissecting its ROE into its underlying components. The findings can offer insights into the bank's profitability, efficiency, and leverage, aiding informed decision-making by stakeholders.

CONCLUSION

The research methodology outlined above provides a systematic approach to investigate the financial performance of Aryavart Bank using the DuPont Model. By following these steps, the study aims to provide valuable insights into the bank's performance and factors influencing its Return on Equity.

IMPLICATIONS AND FUTURE SCOPE

Our study contributes to understanding how sustainability and growth strategies intertwine with the financial performance of banks, particularly when analyzed using the DuPont Model. The interplay between sustainability initiatives, growth strategies, and profitability components highlights the multidimensional nature of financial performance in the banking sector.

While this study offers valuable insights, there remain avenues for further exploration. Future research could delve deeper into specific sustainability initiatives undertaken by Aryavart Bank and their direct effects on individual financial indicators. Additionally, comparative studies across other regional rural banks could provide a broader perspective on the relationship between sustainability, growth, and financial performance within the sector.

In conclusion, our analysis suggests that Aryavart Bank's sustainability initiatives and growth strategies could influence its profit margin, asset turnover, and equity multiplier as components of the DuPont Model. This study underscores the significance of adopting a holistic approach to financial performance evaluation, recognizing the multifaceted impact of sustainability and growth considerations.

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2. www.investopedia.com
3. Arywart Bank Annual Reports