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A Study on Financial Soundness of Foreign Banks Operating in India - An EAGLES Model Analysis

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Keywords

Financial soundness, Foreign Banks, EAGLES Model.

Abstract

In the history of Indian banking, the Banking Industry nationalization showed a pivotal moment. India's banking industry has had substantial ups and downs throughout the years. Periods of expansion have been followed by difficulties in the performance of banks. While some banks have become the most popular, others have seen their ranks drop. The primary goal of this research is to use the EAGLES Model to determine the financial soundness of foreign banks. The purpose of this study is to rank foreign banks according to their fiscal performance using the EAGLES Model parameters, which include E-Equity appraisal, A-asset quality, G-Growth Efficiency, L-Liquidity parameter, and S-strategic analysis. Based on the criteria of total assets and year of incorporation in India, the top three foreign banks—Citi Bank, HSBC, and Standard Chartered Bank—are selected as the study's sample. For this analysis, five fiscal years from 2019–20 to 2023–24 were taken into consideration. Only quantitative secondary data gathered from e-journals, RBI news announcements, and the annual reports of a selection of chosen banks served as the basis for this analysis. The mean, ANOVA, and Standard Deviation (SD) are employed as tools for evaluating hypotheses. The positional rankings among the three sample banks chosen are presented after the analysis.

Introduction

The banking industry faced many crucial aspects in promoting economic progress. Since 1991, banking reforms like liberalization, privatization, and globalization have propelled its growth. Banks were initially focused on lending and taking deposits, but today provide a wide range of banking products and services. Following bank nationalization, foreign banking institutions ruled India's financial industry, servicing both corporations and individuals. However, since deregulation, foreign banks have competed with public sector banks by providing identical lending, investing, and non-banking services to both retail and business clients.

The CAMELS model for assessing banks' financial soundness was called into question during the year 1997 Asian financial crisis because it failed to predict the demise of major Asian banks. In response, other models were constructed, including the EAGLES model. The EAGLES model is a more accurate, unbiased, and consistent method of measuring and comparing bank performance in India. The EAGLES approach evaluates and ranks only solely on outcome results, which eliminates bias. This method evaluates earnings, asset quality, growth, liquidity, equity, and strategic responsiveness—the six most important aspects of a bank's financial health in particular.

Review of Literature

Ankitaben Vinodbhai Mistri and DR. Alka B. Kshatriya (2021)[1], employed the t-test, rank analysis, ratio analysis, and ANOVA in this investigation. Citi Bank is ranked best in the results, followed by Bank of India. The findings indicate that Citi Bank is ranked best among the chosen banks and Bank of India is ranked lowest. In the top four, foreign banks, SBI in fifth place and DBS Bank in sixth. No disparities in asset quality or growth were seen, but there were notable variations in strategy, equity, liquidity, and profitability. Foreign banks perform better financially than Indian public sector banks, according to the study's findings.

Mr. Jay A. Sathavara, and Dr. Sejalben R. Christian (2021)[2], This study analyzes financial data from selected banks' annual reports (2009-10 to 2018-19) using the EAGLE model and ANOVA test. Kotak Mahindra Bank led in earnings, growth, and equity, HDFC Bank in earnings, assets, liquidity, and equity, and IndusInd Bank in growth. ICICI Bank ranked lowest in growth, assets, and earnings. Statistically significant differences were found among the banks.

Sreeram Daida, and Dr.Rabindranath Solomon (2023)[3], The research states, "IndusInd Bank led in loan growth, liquidity, and non-interest income to non-interest cost, while Kotak Mahindra Bank ranked first in earnings, asset quality, equity, and strategic performance. Axis Bank placed second overall, except in earnings capacity. Thus, Kotak Mahindra Bank and IndusInd Bank showed distinctly different financial performances according to the EAGLES Model."

Mr. Prasanna S, and Dr. Shailaja M L (2023)[4],the period of 5 years research examines Canara Bank's financial performance before and after the merger. Despite initial obstacles, the merger enhanced asset quality, capital sufficiency, and management, resulting in the bank's highest ROE in 2021-2022. While expanding its loan portfolio, rigorous control of asset quality and expenses is critical for long-term profitability.

Bandaru Srinivasa Rao, et. al (2024)[5], This study evaluates the financial performance of private sector banks in India using the EAGLE model. Banks like Axis, DCB, Federal, HDFC, ICICI, RBL, and South Indian Bank were analyzed from 2013-14 to 2022-23. HDFC Bank ranked first in earnings and assets, DCB in earnings and equity, RBL in growth and liquidity, and ICICI in liquidity. South Indian Bank ranked last. Overall, HDFC Bank led, followed by DCB, RBL, Axis, ICICI, Federal and South Indian Bank. Statistically significant differences were found among the banks.

Dr. Sreeram Daida (2024)[6],Using the EAGLES model, this research examines the financial performance of Indian public and private sector banks over five years. The findings reveal that private banks outperform public banks in terms of profitability, growth, and asset quality, but public banks continue to be critical for financial inclusion and stability. Private Banks are more efficient in managing liquidity and responding to strategic changes. The study emphasizes the usefulness of models like EAGLES in evaluating bank performance and directing policy and change.

Need of the study

There have been several research done on the Analysis of the EAGLES model in the banking sector, Public Private, and Foreign Banks also, reflect its financial performance. Now, this study was conducted to assess the foreign banks thathave been operating in India fora long ago, it is vital to judge them frequently to track their effectiveness and make sure of their genuine financial position in India.

Objectives

1. To estimate the selected sample of foreign bank financial soundness through the EAGLES model.
2. To apportion the ranks to the selected foreign banks based on the computed financial parameters result.

Research Methodology

The financial performance of three foreign banks is evaluated in this study using the EAGLES model, analyzed to rank the key performance variables used in the study. Secondary data from annual reports, journals, RBI press releases, and other sources covering 2019-20 to 2023-24 has been used. The banks are ranked based on sub-parameters, with analysis tools including Mean, Standard Deviation (SD), and ANOVA.

The following banks are analyzed, as they have been chosen based on the criteria of total assets and incorporated year in India:

Foreign Banks	Total Assets	Year of establishment
Standard Chartered Bank	2,37,13,01,021	1858 in Mumbai and Kolkata
Citi Bank	2,59,58,76,500	1902 in Kolkata
HSBC Bank	2,96,77,30,501	1983 in Mumbai

Hypotheses testing:

The hypotheses listed below are tested in the present study:

H0 (Null Hypothesis): There are no prominent differences in the performance of individual Parameters of the EAGLES model computed for a selected sample of foreign banks.

H1 (Alternative Hypothesis): There are no prominent differences in the performance of individual Parameters of the EAGLES model computed for a selected sample of foreign banks.

Limitations and Scope of the study

The current research looked at three foreign banks that operated in the Indian banking system forfive years, from 2019-20 to 2023-24. The researcher relied on secondary data from a carefully selected sample of foreign banks and did not evaluate any original data. Earnings, assets, growth, liquidity, equity, and strategy elements were all studied in detail. Because the study only included foreign financial institutions, the findings cannot be extended to other banks. Individuals, bank clients, investors, bankers, officials, regulators, and future academics are expected to benefit from the research. Future research might cover all foreign banks, as well as Indian public and private sector banks, and take into account internal as well as external challenges.

Data analysis and Interpretation

Eagles model

The EAGLES Model parameters—E for Equity Appraisal, A for Asset Quality, G for Growth Efficiency, L for Liquidity, and S for Strategic analysis ratios—are analyzed in the following way.

1) Earning Appraisal

Evaluating and analyzing a company's or individual's earnings to determine financial performance, profitability, and the efficacy of income-generating tactics is known as earning assessment.

Table no.1(a): Return on Net worth(%)

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	18.536	10.740	9.825
2020-21	14.476	12.326	10.133
2021-22	12.467	9.766	13.567
2022-23	33.299	9.644	12.277
2023-24	14.182	13.179	9.664
Avg	**18.592**	**11.131**	**11.093**
SD	**8.518**	**1.569**	**1.739**
Rank	**1**	**2**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no.1 (a) shows the Return on Net Worth (RoNW) for Citi Bank, HSBC, and Standard Chartered Bank from **2019-20 to 2023-24**. **Citi Bank** has the highest average RoNW of **18.592%,** ranked **first** each year, but with notable volatility **(SD = 8.518)**. **HSBC** follows with an average of **11.131%** and is ranked **second**, showing more stability **(SD = 1.569).Standard Chartered** has the lowest average of **11.093%, ranked third**, with slightly more variability than HSBC (SD = 1.739).

Table no.1 (a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	186.498	2	93.249	**3.585**	**0.060**	3.885
Within Groups	312.155	12	26.013			
Total	**498.653**	**14**				

The ANOVA results show that the **F-statistic is 3.585**, which is slightly below the **critical value** of **3.885**, and the p-value is **0.060**. Since the p-value is greater than 0.05, it fails to reject the null hypothesis.

Table no.1 (b): Income to Overhead Ratio

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	1.385	1.252	1.244
2020-21	1.339	1.336	1.298
2021-22	1.341	1.287	1.522
2022-23	1.901	1.249	1.476
2023-24	1.452	1.294	1.829
Avg	**1.484**	**1.284**	**1.474**
SD	**0.238**	**0.036**	**0.230**
Rank	**1**	**3**	**2**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

The above table no.1 (b)shows that **Citi Bank** leads with the highest average ratio of **1.484**, indicating strong income generation relative to its overheads, and is ranked **1st**. **Standard Chartered Bank** follows with an average of **1.474,** ranking **second**, while **HSBC** has the lowest average of **1.284** and is ranked **lowest**. **HSBC** also shows the least variation in its ratio **(SD =0.036)**, indicating stability, while **Citi Bank** and **Standard Chartered** have more variability in their ratios **(SD = 0.238 and 0.230)** respectively.

Table no.1 (b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.127	2	0.063	1.717	**0.221**	3.885
Within Groups	0.444	12	0.037			
Total	0.571	14				

The ANOVA results indicate an **F-statistic of 1.717**, which is lower than the **critical value of3.885**, and **a p-value of 0.221**. Since the p-value exceeds 0.05, the null hypothesis cannot be rejected, implying that there are no significant differences in the Income Overhead Ratio among the three banks.

Table no.1 (c): Composite ranking of Earning Appraisal

Ratios	Return on Net worth ratio	Income to Overhead ratio	Group of Banks	
Banks	**Rank**	**Rank**	**Average**	**Rank**
Citi Bank	**1**	**1**	1	1
HSBC	**2**	**3**	2.5	2.5
Standard Chartered Bank	**3**	**2**	2.5	2.5

The table no.1 (c)presents the composite ranking of earning appraisal ratios for Citi Bank, HSBC, and Standard Chartered Bank. **Citi Bank** ranks **first** in both the Return on Net Worth and Income to Overhead ratios, resulting in an overall rank of 1. Both **HSBC** and **Standard Chartered** share the same average and composite rank of 2.5.

2) Asset Quality

Asset Quality refers to the condition and reliability of a financial institution's assets, especially its loans and investments. It is a key indicator of a bank's financial stability and its capacity to manage risk. Strong asset quality typically reflects effective risk management, reduced vulnerability to defaults, and improved overall financial health for the bank.

Table no.2(a): Gross NPA to Advances(%)

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	1.430	0.870	6.380
2020-21	1.430	1.260	6.150
2021-22	1.070	0.780	5.070
2022-23	0.410	0.500	3.640
2023-24	0.320	0.420	2.990
Avg	**0.932**	**0.766**	**4.846**
SD	**0.539**	**0.334**	**1.500**
Rank	**2**	**1**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

The table no.2 (a)clears that, **HSBC** has the lowest average Gross NPA to Advances ratio **(0.766%),** ranking first, indicating strong asset quality. **Citi Bank** follows with an average ratio of **0.932%,ranked 2nd**, while **Standard Chartered Bank** has the highest average ratio of **4.846%**, **3rd rank**, showing weaker asset quality. SD of HSBC (**0.334**) also exhibits the least variation in its ratio, while Standard Chartered (**1.500**) has the most fluctuation.

Table no.2 (a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	53.322	2	26.661	30.152	**0.000**	3.885
Within Groups	10.611	12	0.884			
Total	63.933	14				

The ANOVA results show a significant difference between the banks' performance. The **F-statistic is 30.152**, which is much higher than the **critical value of 3.885**, and the **p-value** is **0.000**, which is less than 0.05, rejecting the null hypothesis and accepting the alternative test of the hypothesis.

Table no.2 (b): Net NPAs to Total Assets (%)

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	0.169	0.058	0.330
2020-21	0.206	0.125	0.303
2021-22	0.118	0.060	0.225
2022-23	0.000	0.028	0.165
2023-24	0.000	0.018	0.129
Avg	**0.099**	**0.058**	**0.230**
SD	**0.095**	**0.042**	**0.087**
Rank	**2**	**1**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table No. 2(b) presents that **HSBC** has the lowest average ratio of **0.058%,** ranked **first**, indicating excellent asset quality with minimal net NPAs relative to its total assets, and also demonstrates the lowest variation in its ratio **(SD = 0.042),**representing stable performance. **Citi Bank** follows with an average ratio of **0.099%** with **2nd rank**, showing relatively low net NPAs. **Standard Chartered (3rd rank)**has the highest average ratio of **0.230%**, suggesting higher net NPAs compared to the other two banks, and shows more fluctuation **(SD = 0.087)** in its net NPA ratio.

Table no.2 (b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.081	2	0.041	6.669	**0.011**	3.885
Within Groups	0.073	12	0.006			
Total	**0.155**	**14**				

The ANOVA results show an **F-statistic of 6.669**, which is greater than **the critical value of3.885**, and a **p-value of 0.011**. Since the p-value is less than 0.05, accept the **H_1 hypothesis**, indicating that there are significant differences in the Net NPAs to Total Assets ratio among the three banks.

Table no.2 (c): Composite Assets Quality Ratios

Ratios	Gross NPA to Advances (%)	Net NPA to Total Asset (%)	Group of Banks	
Banks	**Rank**	**Rank**	**Average**	**Rank**
Citi Bank	**2**	**2**	2	2
HSBC	**1**	**1**	1	1
Standard Chartered Bank	**3**	**3**	3	3

Table no.2 (c) shows **HSBC** has the best asset quality with a composite rank of **1**, as it ranks first in both ratios. **Citi Bank** ranks second with an average composite rank of **2**, and **Standard Chartered** ranks third with a composite rank of **3**, indicating weaker asset quality.

3) Growth appraisal

Growth appraisal is the evaluation of a bank's overall growth and performance based on key growth indicators, such as the loan growth Ratio (measuring loan portfolio growth) and Business per Employee (measuring efficiency in generating business per employee).

Table no.3 (a): Loans Growth Ratio

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	7.973	14.462	14.027
2020-21	3.366	-6.408	-5.760
2021-22	2.815	14.194	1.890
2022-23	-29.309	26.547	17.351
2023-24	36.710	5.447	1.393
Avg	**4.311**	**10.848**	**5.781**
SD	**23.434**	**12.224**	**9.611**
Rank	**3**	**1**	**2**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

The table no.3 (a) indicates that **HSBC** had the greatest average loan growth of **10.848%,** gaining the top spot and demonstrating robust growth. **Standard Chartered** follows with an average of **5.781%,** placing **second** and signifying moderate development. **Citi Bank ranked third**, with a lower average of **4.311%,** indicating slower growth. Citi Bank's loan growth fluctuates the most **(SD = 23.434),** whilst HSBC has the least variability **(SD = 12.224**). **Standard Chartered Bank's** loan growth is less variable than Citibank's but higher than **HSBC's (SD = 9.611).**

Table no.3 (a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	117.640	2	58.820	0.223	**0.803**	3.885
Within Groups	3163.685	12	263.640			
Total	3281.325	14				

The ANOVA findings reveal an **F-statistic of 0.223**, which is significantly less than the **critical value of 3.885**, and a **p-value of 0.803**. Because the p-value is more than 0.05, cannot reject the null hypothesis. At the 5% level of significance, this implies that there are no significant variations in the Loans Growth Ratio across the three banks.

Table no.3(b): Business per Employee (crores)

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	43.630	50.612	27.131
2020-21	47.790	62.213	29.828
2021-22	48.520	75.233	28.844
2022-23	45.710	82.779	32.742
2023-24	121.490	79.227	35.345
Avg	**61.428**	**70.013**	**30.778**
SD	**33.630**	**13.345**	**3.266**
Rank	**2**	**1**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no.3 (b) indicates that**HSBC** has the highest business per employee, averaging **70.013 crores**, followed by **Citi Bank** at **61.428 crores**, and **Standard Chartered Bank** at **30.778 crores**. **Citi Bank's** performance fluctuates the most with a standard deviation of **33.630**, while **HSBC's** is more stable at **13.345**. **Standard Chartered Bank** shows the least variation with an SD of **3.266**. In short, **HSBC(1st rank)** leads in business per employee, and **Standard Chartered Bank (3rd rank)** has the lowest but most consistent performance.

Table no.3 (b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4254.174	2	2127.087	4.835	**0.029**	3.885
Within Groups	5278.883	12	439.907			
Total	9533.057	14				

The ANOVA results shows a significant difference between the groups, with an **F-statistic of4.835** and **a p-value of 0.029**, which is less than 0.05. This indicates that the group means are significantly different, **reject the null hypothesis, and accept the alternative hypothesis**. The calculated **F (4.835)** is also greater than the **critical F value (3.885),** confirming the result.

Table No.3 (c): Composite ranking of Growth appraisal

Ratios	Loans Growth ratio	Business per Employee	Group of Banks	
Banks	**Rank**	**Rank**	**Average**	**Rank**
Citi Bank	**3**	**2**	2.5	2.5
HSBC	**1**	**1**	1	1
Standard Chartered Bank	**2**	**3**	2.5	2.5

The table no.3(c), displays the aggregate **Growth appraisal** of selected banks in the foreign sector. **HSBC ranks 1st** in both Loans Growth Ratio and Business per Employee, leading with an **overall rank of 1**. Citi Bank and Standard Chartered Bank both have an average and combined rank of **2.5.**

4) Liquidity parameter: Liquidity parameters refer to the financial ratios that measure a bank's ability to meet its short-term obligations. These ratios show how well a bank can convert its assets into cash quickly. In this case, the **Investment Deposit Ratio** and **Liquid Assets to Total Deposit Ratio** are important liquidity parameters that indicate how effectively a bank is managing its deposits and liquid assets.

Table No.4 (a): Investment to Deposit Ratio

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	0.643	0.574	0.483
2020-21	0.554	0.505	0.515
2021-22	0.533	0.514	0.388
2022-23	0.780	0.644	0.719
2023-24	0.578	0.738	0.764
Avg	**0.618**	**0.595**	**0.574**
SD	**0.100**	**0.097**	**0.161**
Rank	**1**	**2**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no.4(a), indicates that **Citi Bank** leads with the highest average Investment Deposit Ratio of **0.618**, followed by **HSBC at 0.595** and **Standard Chartered Bank at 0.574**. **Citi Bank** also exhibits the most consistent performance with the lowest standard deviation **(0.100),** while **Standard Chartered Bank** shows the greatest fluctuation **(0.161).** Overall, Citi Bank ranks first, HSBC second, and Standard Chartered Bank third rank occupied.

Table No.4 (a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.005	2	0.002	0.160	**0.854**	3.885
Within Groups	0.181	12	0.015			
Total	0.186	14				

The ANOVA results show a calculated **F-value of 0.160**, which is much lower than the **critical F-value of 3.885**, and **a p-value of 0.854**, which is greater than 0.05, indicates that the results are not statistically significant. This means there is insufficient evidence to reject the null hypothesis.

Table No. 4(b): Liquid Assets to Total Deposit Ratio

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	0.170	0.200	0.162
2020-21	0.250	0.314	0.155
2021-22	0.293	0.274	0.315
2022-23	0.246	0.227	0.118
2023-24	0.344	0.090	0.093
Avg	**0.261**	**0.221**	**0.169**
SD	**0.064**	**0.085**	**0.087**
Rank	**1**	**2**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table No. 4(b)shows Liquid Assets to Total Deposit Ratio. It can be observed that **Citi Bank** has the highest average Liquid Assets to Total Deposit Ratio **of 0.261**, ranking **1st**, while **HSBC** follows with an average of **0.221**, with rank of **2**, and **Standard Chartered Bank** has the lowest average of **0.169,3rd** rank. Citi Bank also demonstrates the most consistent performance, with the lowest **SD** of **0.064**, whereas **Standard Chartered Bank** shows the highest variability, with an **SD** of **0.087**. Overall, Citi Bank leads in liquidity, with HSBC and Standard Chartered Bank following behind.

Table No. 4(b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.021	2	0.011	1.693	**0.225**	3.885
Within Groups	0.076	12	0.006			
Total	0.097	14				

The ANOVA results show a calculated **F-value of 1.693,** which is lower than the **critical F-value of 3.885**, and **a p-value of 0.225**, which is greater than 0.05, there is insufficient evidence to reject the null hypothesis. This indicates that there is no significant difference between the groups.

Table no.4 (c): Composite ranking of Liquidity parameter

Ratios	Investment to Deposit ratio	Liquid assets to Total Deposit ratio		Group of Banks	
Banks	**Rank**	**Rank**		**Average**	**Rank**
Citi Bank	**1**	**1**		1	1
HSBC	**2**	**2**		2	2
Standard Chartered Bank	**3**	**3**		3	3

Citi Bank ranks 1st in both the Investment to Deposit and Liquid Assets to Total Deposit ratios, giving it an overall rank of 1**. HSBC ranks 2nd, and Standard Chartered Bank ranks 3rd** in both ratios, placing them in ranks 2 and 3, respectively.

5) Equity appraisal

Equity appraisal refers to the assessment of a company's financial structure, particularly focusing on how it manages its equity and debt. It involves analyzing key ratios like the **Capital Adequacy Ratio** (which measures financial stability) and the **Debt-Equity Ratio** (which shows the balance between debt and equity), to evaluate the company's ability to meet obligations and support growth.

Table no.5 (a): Capital Adequacy Ratio(%)

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	15.610%	16.110%	14.890%
2020-21	16.220%	17.070%	15.700%
2021-22	17.430%	16.500%	15.950%
2022-23	20.680%	16.600%	17.290%
2023-24	18.710%	15.880%	16.190%
Avg	**17.730%**	**16.432%**	**16.004%**
SD	**0.020**	**0.005**	**0.009**
Rank	**1**	**3**	**2**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

The table no.5 (a)indicates that **Citi Bank** has the highest average CAR of **17.730%**, ranking **1st**, followed by **Standard Chartered Bank** with an average of **16.004%,** placed **2nd** rank. HSBC has the lowest average CAR of **16.432%**, occupied with **3rd** rank. **Citi Bank** also shows the most fluctuation **(SD of 0.020**), while **HSBC** demonstrates the least variability **(SD of 0.005),** indicating more stable performance. Citi Bank leads in capital adequacy, with Standard Chartered Bank and HSBC following.

Table no.5 (a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.001	2	0.000	2.376	**0.135**	3.885
Within Groups	0.002	12	0.000			
Total	0.003	14				

The ANOVA results show a calculated **F-value of 2.376**, which is lower than the **critical F-value** of **3.885**, and a **p-value of 0.135**, which is greater than 0.05, there is **not** enough evidence to **reject the null hypothesis**. This indicates that there is no significant difference between the groups.

Table no.5 (b): Debt Equity Ratio

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	0.383	0.945	0.580
2020-21	0.145	0.456	0.203
2021-22	0.145	0.370	0.170
2022-23	0.195	1.252	0.624
2023-24	0.137	0.872	0.549
Avg	**0.201**	**0.779**	**0.425**
SD	**0.104**	**0.364**	**0.220**
Rank	**1**	**3**	**2**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no.5 (b) indicates, **Citi Bank** has the lowest average Debt Equity Ratio of **0.201**, ranking **1st**, followed by **Standard Chartered Bank** at **0.425**, placed **2nd**, and **HSBC** at **0.779, third** rank. **Citi Bank** also shows the least variability with an **SD of 0.104**, while **HSBC** has the highest fluctuation with an SD of **0.364.**

Table no.5 (b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.850	2	0.425	6.640	**0.011**	3.885
Within Groups	0.768	12	0.064			
Total	1.617	14				

Table no.5 (b1) indicates that the ANOVA results show a calculated **F-value of 6.640,** which is greater than the critical **F-value** of **3.885**, and a **p-value of 0.011**, which is less than 0.05, there is enough evidence to **reject** the **null hypothesis** and **accept the alternative hypothesis**. This indicates that there is a statistically significant difference between the groups.

Table no. 5(c): Composite ranking of Equity appraisal

Ratios	Capital adequacy ratio	Debt-equity ratio	Group of Banks	
Banks	**Rank**	**Rank**	**Average**	**Rank**
Citi Bank	**1**	**1**	1	1
HSBC	**3**	**3**	3	3
Standard Chartered Bank	**2**	**2**	2	2

Table no.5(c), shows the Composite ranking of Equity appraisal for chosen foreign banks, among them **Citi Bank** holds the top position with a **rank of 1**because accomplished effectively Equity appraisal in both the Capital Adequacy Ratio and Debt-Equity Ratio. **Standard Chartered Bank** ranks **2nd**, while **HSBC** ranks **3rd**in both ratios.

6) Strategy ratios

Strategy ratios are financial metrics used to assess the effectiveness of a company's strategic goals. They include ratios like **Return on Equity (ROE)**, **Return on Investment (ROI)**, and **Profit Margin**, which help to evaluate profitability, efficiency, and financial leverage. These ratios guide businesses in measuring their long-term performance and strategic success.

Table no. 6(a): Interest Margin / Net Operating Cost

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	2.030	1.994	1.817
2020-21	2.085	2.115	1.901
2021-22	1.936	2.145	1.981
2022-23	2.036	1.997	2.036
2023-24	2.544	1.986	1.103
Avg	**2.126**	**2.048**	**1.767**
SD	**0.240**	**0.076**	**0.380**
Rank	**1**	**2**	**3**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no. 6(a) indicates **Citi Bank** has the highest average Interest Margin to Net Operating Cost ratio of **2.126**, positioned **1st** rank, followed by **HSBC** with an average of **2.048**, ranking **second**, and **Standard Chartered Bank** with an average of **1.767**, **3rd** rank. **HSBC** shows the least variability **(SD of 0.076)**, while **Standard Chartered Bank** has the highest fluctuation **(SD of 0.380).**

Table no. 6(a1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.356	2	0.178	2.565	**0.118**	3.885
Within Groups	0.832	12	0.069			
Total	1.187	14				

The ANOVA results show a calculated **F-value of 2.565**, which is lower than the **critical F-value** of **3.885**, and a **p-value of 0.118**, which is greater than 0.05, there is insufficient evidence to reject the null hypothesis, so accept **H_0.** This indicates no significant difference between the groups.

Table no. 6(b): Total Reserve to Total Assets

Banks / Years	Citi Bank	HSBC	Standard Chartered Bank
2019-20	0.104	0.101	0.116
2020-21	0.113	0.109	0.130
2021-22	0.112	0.114	0.145
2022-23	0.171	0.093	0.132
2023-24	0.155	0.110	0.131
Avg	**0.131**	**0.105**	**0.131**
SD	**0.030**	**0.008**	**0.010**
Rank	**1**	**2**	**1**

(Source: Computed from the Annual Reports of Sample Foreign banks in Ms-excel.)

Table no. 6(b) shows that Citi Bank and **Standard Chartered Bank** have the same average Total Reserve to Total Assets ratio of **0.131**, ranking jointly in **1st place**, while **HSBC ranks 2nd** with an average of **0.105**. **HSBC shows** the least variability **(SD of 0.008),** while **Citi Bank** has the highest fluctuation **(SD of 0.030).**

Table no. 6(b1): Testing of Hypothesis Using ANOVA:

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.002	2	0.001	3.093	**0.083**	3.885
Within Groups	0.004	12	0.000			
Total	0.006	14				

The ANOVA results show a calculated **F-value of 3.093**, which is lower than the critical **F-value of 3.885**, and a **p-value of 0.083**, which is greater than 0.05, there is not enough evidence to reject the null hypothesis, therefore **accept H_0** and **reject H_1**. This indicates that there is no statistically significant difference between the groups.

Table no. 6(c): Composite ranking of Strategy ratios

Ratios / Banks	Interest Margin / Net Operating Cost	Total Reserve to Total Assets	Group of Banks	
	Rank	Rank	Average	Rank
Citi Bank	**1**	**1**	1	1
HSBC	**2**	**2**	2	2
Standard Chartered Bank	**3**	**1**	2	2

The selected banks' composite Strategy ratios are shown in Table No.6(c), Interest Margin / Net Operating Cost and Total Reserve to Total Assets are the contributing elements that help **Citi Bank** achieve the highest level of composite earning efficiency and secure **1st rank**. The **second** placein rank goes to **Standard Chartered Bank** and **HSBC** respectively.

Table No.7: Aggregate Performance of Banks based on Eagles Model Parameters: Composite Ranking

Parameters / Banks	Earning Appraisal Rank	Asset Quality Rank	Growth appraisal Rank	Liquidity parameter Rank	Equity appraisal Rank	Strategy ratios Rank	Average	Rank
Citi Bank	1	2	2.5	1	1	1	1.417	**1**
HSBC	2.5	1	1	2	3	2	2.083	**2**
Standard Chartered Bank	2.5	3	2.5	3	2	2	2.500	**3**

Table No.7 indicates the composite ranking of the banks under the **EAGLES Model** reflects their overall performance across several key parameters. **Citi Bank** ranks **1st** with an average rank of **1.417**, showing strong performance in **Earning Appraisal**, **Liquidity**, **Equity Appraisal, and Strategy ratios**. **HSBC** follows in **second place** with an average rank of **2.083,** excelling in **Asset Quality** and **Growth Appraisal**, but ranking lower in **Equity Appraisal** and **Strategy Ratios**. **Standard Chartered Bank** ranks **3rd** with an average rank of **2.500**, showing balanced performance across the parameters, though it ranks lower in **Asset Quality** and **Liquidity.** Based on the end outcome, it can be concluded that **Citi Bank's** overall performance is great and that the bank placed first out of three banks, followed by **HSBC** and **Standard Chartered Bank.**

Findings and Suggestions of the study

- According to the studyof the **earnings assessment**, Citi Bank has excellent profitability and cost control (Rank 1), as seen by its superior return on net worth (18.592) and income-to-overhead (1.484) efficiency. Standard Chartered Bank and HSBC, on the other hand, both have strong earnings and comparable performance to Citi Bank, but with somewhat less efficiency. Hence, the study suggested that these banks have to improve their net worth and income to overhead efficiency.

- With the lowest levels of non-performing assets, HSBC is the leader in **asset quality (0.766 Average in Gross NPA and 0.58 in Net NPA to Advances).** Citi Bank comes in second, while Standard Chartered Bank rounds out the top three. Hence, the study suggested that Citi Bankand Standard Chartered Bank have to reduce their NPA level in the future.

- Leading the way in **growth evaluation**, HSBC excels (70.013) in business per employee as well as loan growth (10.484). Standard Chartered Bank and Citi Bank rank second and third overall, respectively, demonstrating comparable performance.The study suggests that Standard Chartered Bank and Citi Bank have to improve their loan growth and Business per employee levels.

- Additionally, it is discovered through other **liquidity parameter aspect**s that indicate, the ratios of investments to deposits and liquid assets to total deposits, Citi Bank (0.618 and 0.261) exhibits the greatest performance. Standard Chartered Bank exhibits comparatively lower liquidity levels than HSBC, which comes in second with strong liquidity measures.The study suggests that Standard Chartered Bank and HSBC have to concentrate more on improving their investments to deposits and liquid assets to total deposits.

- In terms of **equity evaluation**, Citi Bank is at the top, displaying the best debt-to-equity (0.201) and capital adequacy ratios (17.730%). Lower equity strength than the other two banks is reflected in Standard Chartered Bank's second-place ranking and HSBC's third-place ranking. The study suggests that Standard Chartered Bank and HSBC have to concentrate more on improving their capital adequacy ratio and reducing the debt-to-equity ratio.

- Standard Chartered Bank is not far behind Citi Bank in terms of **strategy ratio performance**, particularly in interest margin and reserves (1.131). Regarding these areas, HSBC (0.105) lags behind the other two banks. Hence, the study suggests that HSBC has to improve its strategy ratios.

Conclusion

The research study emphasizes the need to use the EAGLES Model to assess and comprehend bank performance. If they follow reforms, there have been significant improvements in the caliber and methodology of regulation used by financial authorities across the world. The EAGLES model offers a thorough evaluation of the entire performance of a bank. The results of the study demonstrated that **Citi Bank**, **HSBC,** and **Standard Chartered Bank** were ordered in an orderly fashion following the analysis and average of the scores across the many performance measures of the EAGLES model.

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