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## PERFORMANCE EVALUATION OF PRIVATE BANKS AND FOREIGN BANKS IN INDIA: AN ANALYSIS USING CAMELS AND GRA MODELS

**Mr. SIDDALINGESHWARA S.**

**Master of Business Administration,**

PES University,

Bangalore (Karnataka)

E-mail:[siddalingeshwaras94@gmail.com](mailto:siddalingeshwaras94@gmail.com)

**Mr. SUJAYA KUMAR S.**

Research Scholar,

Department of Studies and

Research in Commerce,

Vijayanagara Sri Krishnadevaraya

University, Ballari (Karnataka)

E-mail:[shivapursujay@gmail.com](mailto:shivapursujay@gmail.com)

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### **Abstract:**

*The Indian banking area has been the foundation of the Indian economy in the course of recent many years, assisting it with enduring Foreign and overall monetary stuns and emergencies. It is perhaps the best entertainer on the planet banking industry seeing huge seriousness, development, proficiency, productivity and sufficiency, particularly in the present days. Assessing Indian banks is certainly not a simple assignment. There are different variables which should be taken consideration, different models have been talked about for assessing the exhibition and nature of Banks and one such model are CAMELS and GRA. This paper focused selected private and foreign banks in India. This is study focused on Secondary data from 2015 to 2019 and data analyzed by using of SPSS-Regression Analysis.*

**Keywords:** CAMELS, Private, Banking, GRA, NPA, Economy etc.

### **INTRODUCTION:**

The financial area has been going through a complex, however far reaching period of rebuilding since 1991, so as to make it sound, effective, and simultaneously it is fashioning its connections solidly with the genuine area for advancement of reserve funds, speculation and development albeit a total turnaround in financial area execution isn't normal till the culmination of changes, indications of progress are apparent in certain pointers under CAMELS outline work. Under this, bank is needed to upgrade capital, fortify asset quality, improve the management, raising

earnings to different monetary problems. The practically synchronous nature of these advancements makes it hard to unravel the positive effect of change measures. During the 1980s, CAMELS rating framework was first presented by U.S administrative specialists as an arrangement of rating for without hesitation assessments of banking foundations. Under this framework, which banking organization subject to without hesitation assessment is assessed based on 6 basic measurements identifying with its tasks and execution, which are refer to segment factors. These are CAMEL factors used to mirror the monetary presentation, monetary condition, routineness protests of the banking finance.

In 1994, the RBI set up the leading body of monetary management, which works as unit of the RBI. The whole administrative component was realigned to suit the changing requirements of a solid and stable monetary framework. The administrative purview of the BFS was gradually reached out to the whole monetary framework bearing the capital market establishments and the protection area. Its order is to fortify management of the monetary framework by incorporating over sight of the exercises of monetary firms. The BFS has additionally settled a sub-council to regularly inspect reviewing practices, quality and inclusions.

In 1995, RBI had set up a functioning gathering under the chairmanship of Shri S. Padmanabhan to audit the financial oversight framework. The advisory group gave certain proposals and dependent on such ideas a rating framework for homegrown and unfamiliar banks dependent on the global CAMELS model consolidating monetary administration and affectability to showcase hazards component was presented for the investigation cycle starting from July 1998. Various huge changes have happened in the Indian Banking Sector. Changes achieved a hardened contest among various classes of banks both at Foreign and global level. It likewise expanded the productivity of Indian Banking Industry. A proficient and beneficial financial framework is likewise needed for supportable monetary turn of events. Consequently, analysis of monetary execution of banks involves incredible premium in the field of scholarly just as industrial examination.

#### **STATEMENT OF THE PROBLEM:**

Banks are the important element of the financial sector that facilitates the appropriatedeployment of the financial resources of a country. The banking industry is rapidly mounting and also witnessing a massive investment flow. To cope with risk exposure to the banking system, it is important to evaluate the performance of the banks by using a regulatory banking supervision model. In general, there are various ratings that are available to assess the financial performance of the banks. But no model is as scientific and evident as CAMELS and GRA model. It takes into account all the major factors which are responsible for the efficient performance of the banks. Based on the “CAMELS” and GRA model, in this paper we have made an effort to study the comparative financial performances among selected private and foreign banks.

**NEED OF THE STUDY:**

In the present era of rapid economic progress, it is important to know how banks are performing and contributing towards the economy. In India, after liberalization private banks have occupied most of the space. So here through this research an attempt will be made to study the comparative financial performance of private and Foreign Banks.

**OBJECTIVES OF THE STUDY:**

- To analyze the financial performance of selected private banks and foreign banks using CAMELS and GRA models.
- To suggest the necessary measures on improving financial performances of banks under this study.
- To rank the banks on the basis of CAMELS and GRA models.

**RESEARCH METHODOLOGY:**

This study is purely based on Secondary data collected from Foreign and Private Banks 10 each. The data is collected from 2015 to 2019. Following are the ratios used for evaluation of performance of Private and Foreign Banks. And rank is allotted to banks based on performance evaluation by using CAMELS and GRA models. And, the present study tested the following hypothesis:

H<sub>0</sub>: There is no significant difference in selected private banks and foreign banks.

H<sub>1</sub>: There is a significant difference in selected private banks and foreign banks.

**DATA ANALYSIS AND INTERPRETATION:****TABLE 2 COMPOSITE OF CAPITAL ADEQUACY**

NAME OF BANKS	CAR	DER	ADV TO TOTAL ASSETS	G-SEC TO TOTAL INVT	MEAN	RANK
AXIS BANK	13	15	9	19	14	19
CITY UNION BANK	10	14	1	2	6.75	4
FEDERAL BANK	15	16	5	14	12.5	16
HDFC BANK	12	12	7	15	11.5	11
ICICI BANK	7	10	12	20	12.25	14
INDUSIND BANK	16	11	6	12	11.25	9
KARNATAKA BANK	19	19	8	16	15.5	20
KARUR VYSYA BANK	17	17	2	6	10.5	7
LAKSHMI VILAS BANK	20	20	3	7	12.5	16
YES BANK	8	18	11	18	13.75	18

<b>AMERICAN EXPRESS BANKING CORPORATION</b>	4	3	10	1	4.5	2
<b>BANK OF AMERICA</b>	5	5	18	17	11.25	9
<b>BANK OF BAHRAIN AND KUWAIT</b>	3	4	4	3	3.5	1
<b>CITI BANK</b>	10	9	17	8	11	8
<b>DBS BANK LTD</b>	8	13	15	10	11.5	11
<b>DEUTSCHE BANK</b>	14	7	13	4	9.5	6
<b>DOHA BANK</b>	2	1	16	5	6	3
<b>HSBC BANK</b>	6	8	19	13	11.5	11
<b>ROYAL BANK OF SCOTLAND</b>	1	2	20	9	8	5
<b>STANDARD CHARTERED BANK</b>	18	6	14	11	12.25	14

#### INTERPRETATION:

Considering Capital adequacy parameter of CAMELS rating system Bank of Bahrain and Kuwait has been ranked first position and Karnataka Bank has been ranked last position. As this ratio reflects the overall financial position of the bank and it is important to maintain sufficient capital to overcome any possible losses Bank of Bahrain and Kuwait happens to maintain sufficient capital every year.

**TABLE 3 COMPOSITE OF ASSET QUALITY**

<b>NAME OF BANKS</b>	<b>NNPA's/ ADV Ratio</b>	<b>NPA's/ ADV RATIO</b>	<b>Tot INV / Tot ASS Ratio</b>	<b>MEAN</b>	<b>RANK</b>
<b>AXIS BANK</b>	19	16	9	14.67	18
<b>CITY UNION BANK</b>	9	11	2	7.33	5
<b>FEDERAL BANK</b>	12	12	11	11.67	10
<b>HDFC BANK</b>	15	15	10	13.33	16
<b>ICICI BANK</b>	16	19	8	14.33	17
<b>INDUSIND BANK</b>	13	20	4	12.33	11
<b>KARNATAKA BANK</b>	11	14	14	13.00	14
<b>KARUR VYSYA BANK</b>	20	17	7	14.67	18
<b>LAKSHMI VILAS BANK</b>	17	10	12	13.00	14
<b>YES BANK</b>	18	13	13	14.67	18

<b>AMERICAN EXPRESS BANKING CORPORATION</b>	5	5	6	5.33	3
<b>BANK OF AMERICA</b>	1	1	18	6.67	4
<b>BANK OF BAHRAIN AND KUWAIT</b>	14	18	5	12.33	11
<b>CITI BANK</b>	6	3	19	9.33	7
<b>DBS BANK LTD</b>	7	7	16	10.00	8
<b>DEUTSCHE BANK</b>	4	4	3	3.67	2
<b>DOHA BANK</b>	2	2	1	1.67	1
<b>HSBC BANK</b>	3	6	17	8.67	6
<b>ROYAL BANK OF SCOTLAND</b>	10	8	20	12.67	13
<b>STANDARD CHARTERED BANK</b>	8	9	15	10.67	9

#### INTERPRETATION:

Maintaining non-performing assets at lowest level should be the major concern of every bank. Keeping this in mind, ranking has been done twenty banks and the results says that Doha Bank has been ranked first position as its non-performing assets were low every year and Axis Bank, KarurVysya Bank and Yes Bank have been ranked last position since it is failed in managing non-performing assets which in turn affected its profitability.

**TABLE 4 COMPOSITE OF MANAGEMENT EFFICIENCY**

<b>NAME OF BANKS</b>	<b>EXP TO INC</b>	<b>ADV TO DEP</b>	<b>ATR</b>	<b>PPE</b>	<b>BPE</b>	<b>MEAN</b>	<b>RANK</b>
<b>AXIS BANK</b>	11	5	11	7	4	7.6	7
<b>CITY UNION BANK</b>	19	12	6	6	12	11	10
<b>FEDERAL BANK</b>	10	14	12	8	7	10.2	9
<b>HDFC BANK</b>	5	9	2	2	3	4.2	1
<b>ICICI BANK</b>	9	2	1	5	5	4.4	2
<b>INDUSIND BANK</b>	7	4	4	4	9	5.6	3
<b>KARNATAKA BANK</b>	12	16	8	11	10	11.4	11
<b>KARUR VYSYA BANK</b>	13	13	5	10	8	9.8	8

<b>LAKSHMI VILAS BANK</b>	16	15	7	20	11	13.8	16
<b>YES BANK</b>	8	3	9	15	2	7.4	6
<b>AMERICAN EXPRESS BANKING CORPORATION</b>	15	1	3	18	20	11.4	11
<b>BANK OF AMERICA</b>	1	8	19	13	18	11.8	14
<b>BANK OF BAHRAIN AND KUWAIT</b>	20	10	16	14	15	15	18
<b>CITI BANK</b>	2	19	10	12	17	12	15
<b>DBS BANK LTD</b>	17	7	17	19	14	14.8	17
<b>DEUTSCHE BANK</b>	4	6	14	3	6	6.6	5
<b>DOHA BANK</b>	14	17	18	17	19	17	19
<b>HSBC BANK</b>	3	18	15	9	13	11.6	13
<b>ROYAL BANK OF SCOTLAND</b>	18	20	20	16	16	18	20
<b>STANDARD CHARTERED BANK</b>	6	11	13	1	1	6.4	4

#### INTERPRETATION:

Judging a bank's soundness just by analyzing its financial statements might lead to false conclusions. Hence under Management efficiency parameter of CAMELS model every bank's management efficiency has been verified with the help of few ratios and ranks has been given accordingly. HDFC Bank has taken up the first rank and Royal Bank of Scotland has been given last rank based on their management efficiency.

**TABLE 5 COMPOSITE OF EARNINGSABILITY**

<b>NAME OF BANKS</b>	<b>NP MARGIN</b>	<b>ROE/ROI</b>	<b>INT INC TO TINC</b>	<b>INTEREST SPREAD</b>	<b>MEAN</b>	<b>RANK</b>
<b>AXIS BANK</b>	11	2	15	11	9.75	8
<b>CITY UNION BANK</b>	8	3	7	6	6	2
<b>FEDERAL BANK</b>	12	7	2	14	8.75	5
<b>HDFC BANK</b>	5	1	10	3	4.75	1
<b>ICICI BANK</b>	9	4	17	12	10.5	11

<b>INDUSIND BANK</b>	7	8	16	8	9.75	8
<b>KARNATAKA BANK</b>	13	9	6	16	11	14
<b>KARUR VYSYA BANK</b>	14	6	5	1	6.5	3
<b>LAKSHMI VILAS BANK</b>	18	10	3	19	12.5	16
<b>YES BANK</b>	16	5	11	15	11.75	15
<b>AMERICAN EXPRESS BANKING CORPORATION</b>	17	17	20	18	18	20
<b>BANK OF AMERICA</b>	1	14	19	9	10.75	12
<b>BANK OF BAHRAIN AND KUWAIT</b>	10	19	8	13	12.5	16
<b>CITI BANK</b>	2	11	18	2	8.25	4
<b>DBS BANK LTD</b>	19	18	4	20	15.25	18
<b>DEUTSCHE BANK</b>	4	16	13	5	9.5	7
<b>DOHA BANK</b>	15	20	9	17	15.25	18
<b>HSBC BANK</b>	3	13	12	7	8.75	5
<b>ROYAL BANK OF SCOTLAND</b>	20	12	1	10	10.75	12
<b>STANDARD CHARTERED BANK</b>	6	15	14	4	9.75	8

**INTERPRETATION:**

Taking earnings ability parameter into consideration, HDFC Bank has occupied first rank as its profitability is consistent over years and American Express Banking Corporation occupied the last place as it couldn't cope up with good earnings.

**TABLE 6 COMPOSITE OF LIQUIDITY**

<b>NAME OF BANKS</b>	<b>C D RATIO</b>	<b>G-SEC TO TOTAL ASSET</b>	<b>INVT TO DEP</b>	<b>INT EXP TO INT EARN</b>	<b>MEAN</b>	<b>RANK</b>
<b>AXIS BANK</b>	13	18	9	12	13	19
<b>CITY UNION BANK</b>	4	15	1	14	8.5	3

FEDERAL BANK	2	13	5	16	9	7
HDFC BANK	14	14	8	8	11	13
ICICI BANK	10	19	11	10	12.5	15
INDUSIND BANK	9	17	7	13	11.5	14
KARNATAKA BANK	6	11	6	19	10.5	10
KARUR VYSYA BANK	7	10	2	15	8.5	3
LAKSHMI VILAS BANK	3	8	4	20	8.75	6
YES BANK	5	16	12	17	12.5	15
AMERICAN EXPRESS BANKING CORPORATION	17	7	17	9	12.5	15
BANK OF AMERICA	11	5	18	3	9.25	8
BANK OF BAHRAIN AND KUWAIT	8	9	3	11	7.75	2
CITI BANK	16	2	15	1	8.5	3
DBS BANK LTD	12	4	16	18	12.5	15
DEUTSCHE BANK	15	12	10	5	10.5	10
DOHA BANK	19	20	19	7	16.25	20
HSBC BANK	1	3	14	6	6	1
ROYAL BANK OF SCOTLAND	20	1	20	2	10.75	12
STANDARD CHARTERED BANK	18	6	13	4	10.25	9

**INTERPRETATION:**

After analysing the liquidity position of above selected commercial banks by using certain ratios it is found out that HSBC Bank has good records of maintaining its liquidity and has been ranked first position and Doha Bank has ranked last position.

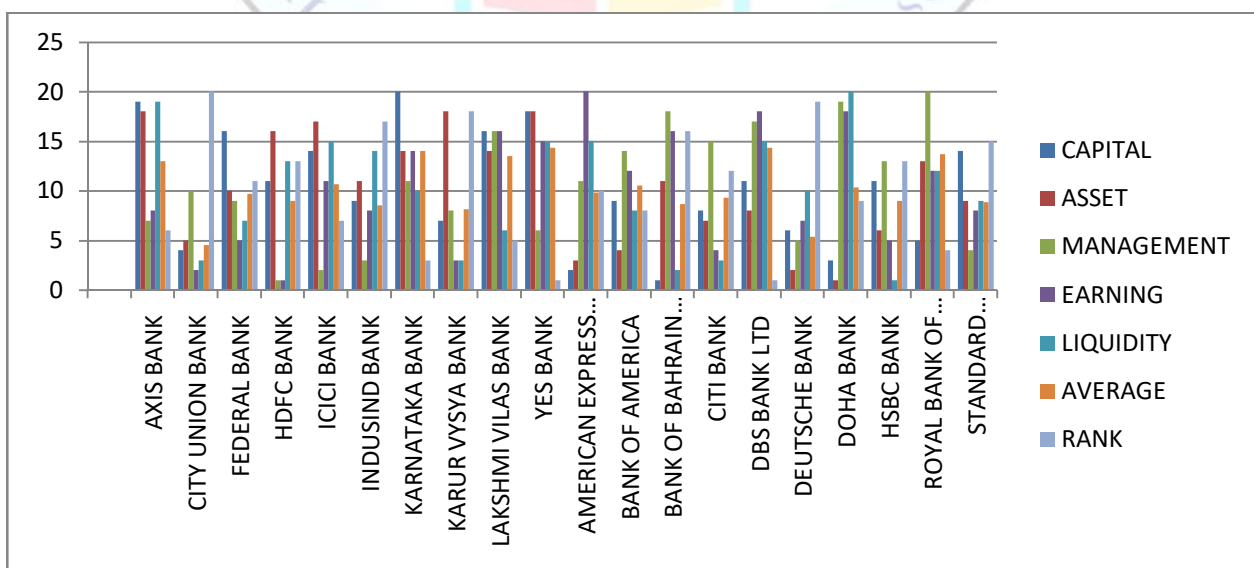
**TABLE 7 OVERALL PERFORMANCES OF BANKS**

NAME OF BANKS	C	A	M	E	L	MEAN	RANK
AXIS BANK	19	18	7	8	19	14.20	2
CITY UNION BANK	4	5	10	2	3	4.80	20
FEDERAL BANK	16	10	9	5	7	9.40	11
HDFC BANK	11	16	1	1	13	8.40	15
ICICI BANK	14	17	2	11	15	11.80	8



<b>INDUSIND BANK</b>	9	11	3	8	14	9.00	13
<b>KARNATAKA BANK</b>	20	14	11	14	10	13.80	3
<b>KARUR VYSYA BANK</b>	7	18	8	3	3	7.80	16
<b>LAKSHMI VILAS BANK</b>	16	14	16	16	6	13.60	5
<b>YES BANK</b>	18	18	6	15	15	14.40	1
<b>AMERICAN EXPRESS BANKING CORPORATION</b>	2	3	11	20	15	10.20	9
<b>BANK OF AMERICA</b>	9	4	14	12	8	9.40	11
<b>BANK OF BAHRAIN AND KUWAIT</b>	1	11	18	16	2	9.60	10
<b>CITI BANK</b>	8	7	15	4	3	7.40	17
<b>DBS BANK LTD</b>	11	8	17	18	15	13.80	3
<b>DEUTSCHE BANK</b>	6	2	5	7	10	6.00	19
<b>DOHA BANK</b>	3	1	19	18	20	12.20	7
<b>HSBC BANK</b>	11	6	13	5	1	7.20	18
<b>ROYAL BANK OF SCOTLAND</b>	5	13	20	12	12	12.40	6
<b>STANDARD CHARTERED BANK</b>	14	9	4	8	9	8.80	14

**Figure 1 Overall performance of banks**



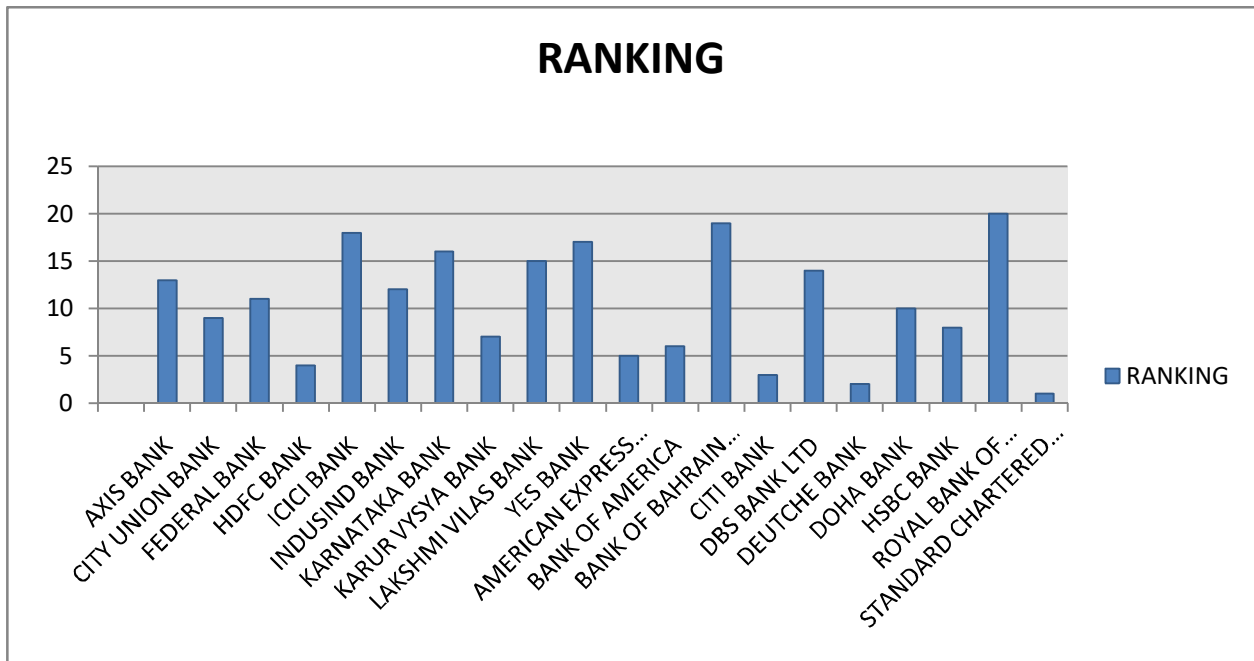
**Analysis and Interpretation:**

Above table depicts the group ranking of the selected private banks and foreign banks (10 banks in each) in India for the period of 5 years from 2014-15 to 2018-19 and results show that Yes Bank is at the top positions followed by the Axis Bank and Karnataka Bank. City Union Bank secured the least position. On the basis of Camel rating, top seven banks are considered the most stable banks, next six banks are considered average, and the remaining last seven banks are considered below average, and are closely monitored to ensure their viability.

**TABLE 8 GREY RELATIONAL GRADE ANALYSIS RANKING**

<b>NAME OF BANKS</b>	<b>TOTAL</b>	<b>GRG</b>	<b>RANKING</b>
<b>AXIS BANK</b>	11.68558	0.58428	13
<b>CITY UNION BANK</b>	12.29255	0.61463	9
<b>FEDERAL BANK</b>	11.89363	0.59468	11
<b>HDFC BANK</b>	12.76165	0.63808	4
<b>ICICI BANK</b>	11.46459	0.57323	18
<b>INDUSIND BANK</b>	11.75309	0.58765	12
<b>KARNATAKA BANK</b>	11.49698	0.57485	16
<b>KARUR VYSYA BANK</b>	12.48491	0.62425	7
<b>LAKSHMI VILAS BANK</b>	11.59682	0.57984	15
<b>YES BANK</b>	11.49203	0.5746	17
<b>AMERICAN EXPRESS BANKING CORPORATION</b>	12.74011	0.63701	5
<b>BANK OF AMERICA</b>	12.72643	0.63632	6
<b>BANK OF BAHRAIN AND KUWAIT</b>	11.41125	0.57056	19
<b>CITI BANK</b>	13.0207	0.65103	3
<b>DBS BANK LTD</b>	11.63495	0.58175	14
<b>DEUTCHE BANK</b>	13.25879	0.66294	2
<b>DOHA BANK</b>	12.15689	0.60784	10
<b>HSBC BANK</b>	12.40696	0.62035	8
<b>ROYAL BANK OF SCOTLAND</b>	11.36465	0.56823	20
<b>STANDARD CHARTERED BANK</b>	13.4303	0.67152	1

**Figure 2 Overall performance of banks with GRA model**



**Interpretation:**

Grey Relation Grade is calculated as per the methodology and the banks are ranked based on Grey Relation Degree. It is calculating sum of all the parameters dividing total number of parameters. When the banks ranked according to the Grey Relational Grades, Standard Chartered Bank ranks first with its grade of 0.6712, followed by Deutsche Bank and City Bank with the grades 0.6629 and 0.6510 respectively. Last rank is obtained Royal Bank of Scotland with Grey Relation Grade of 0.5683.

**Result for the Regression with chosen variables of banks:**

**SPSS Analysis:**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989 <sup>a</sup>	.977	.969	1.04517

a. Predictors: (Constant), Liquidity, Asset, Management, Capital, Earnings

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	661.507	5	132.301	121.112	.000 <sup>b</sup>
	Residual	15.293	14	1.092		
	Total	676.800	19			

a. Dependent Variable: Rank

b. Predictors: (Constant), Liquidity, Asset, Management, Capital, Earnings

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.672	.992		30.926	.000
	Capital	-.363	.053	-.352	-6.809	.000
	Asset	-.399	.054	-.376	-7.412	.000
	Management	-.367	.059	-.364	-6.221	.000
	Earnings	-.474	.061	-.465	-7.725	.000
	Liquidity	-.383	.055	-.370	-6.969	.000

a. Dependent Variable: Rank

The regression results R Square is .989, which is a significant value. It shows that 98.9 percent of the performance of the bank is explained by the six independent variables. The rest of the performance can be attributed to other factors. The regression results in table indicate that all the factors coefficient 0.000. The ANOVA results depict that an insignificant model emerged. The ANOVA results has been exhibited in table. It shows that the F statistic is 121.112, while the p value is .000 and lesser than the significance value of 0.005 at 5 percent level of significance.

**CONCLUSION:**

This paper makes an attempt to study and compare the performance evaluation of the 10 private banks and 10 foreign banks in India. This analysis is based on the CAMELS rating system and also GRA model. In evaluating the function of the banks, many of the developed countries are now following CAMELS framework. Different banks are ranked according to the ratings obtained by them on the six parameters, and very less number of countries following the GRA model.

Although twenty standard ratios are used for the study. In this study considered ten private and foreign banks each for a period of 5 years from 2015 to 2019. The studied showed that there was not much significant difference in the performance of the banks. On the basis of overall performance of banks under CAMELS model YES bank and DBS bank ltd. secured the first position followed by Karnataka bank ltd. and City Union Bank secured the last position with its poor performance in CAMELS ratios. And Standard Chartered Bank secured first position followed by Deutsche Bank and Royal Bank of Scotland secured the last position in GRA model.

**REFERENCES:**

1. Rostami, Malihe (2015). Camels' Analysis in Banking Industry. November
2. Zedan, Khaled A., et al. (2017). Palestinian Banks Analysis Using CAMEL Model. no. 1, pp. 351–57.
3. Rostami, Malihe. (2018), Determination of Camels Model on Bank's Performance. 2015, pp. 652–64.
4. Kumar, Vinod, et al. (2017). A CAMEL MODEL ANALYSIS OF. no. July, pp. 87–93.
5. Krishna, Tata Hari, et al. (2016), Evaluation of Performance of Indian Banks by Using. no. 1, pp. 29–36.