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A COMPARATIVE ANALYSIS OF HDFC AND CUB'S FINANCIAL PERFORMANCE USING THE CAMEL MODEL

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ABSTRACT

Banks are the most important players in any financial system since they play such an important part in economic growth by enduring transformations and enabling key payment systems. The CAMEL rating is a supervisory grading system that was created in the United States to evaluate a bank's overall health. CAMEL is a methodology for measuring bank performance that is based on ratios. The study examines and analyses the financial performance of Telangana private banks using five parameters: capital sufficiency, asset quality, managerial efficiency, earning quality, and liquidity. This study is beneficial in learning about the financial performance of the private banks that have been chosen.

KEY WORDS: *Financial performance, private banks, Camel Approach*

I. INTRODUCTION

A bank is a type of financial institution that receives deposits and invests them in lending operations such as lending or capital markets. Paying checks and providing financial services are examples of other activities. Simply put, a bank connects investors' and depositors' funds with individuals seeking funds. Banks and money are critical to the functioning of the economy, hence they are strictly controlled and banks are advised to follow certain rules and standards by the government. CAMEL is a methodology for measuring bank performance that is based on ratios. The abbreviation "CAMEL" stands for the five aspects of a bank's health that are evaluated: C stands for capital adequacy, A stands for asset quality, M stands for management, E stands for earnings, and L stands for liquidity.

II. REVIEW OF LITERATURE

Muralidhara and ChokkaLingan (2017) "Camel Model as an Effective Measure on Financial Performance of Nationalized Banks" conducted a five-year study on the CAMEL model as an effective measure of financial performance of nationalized banks (2011-12 to

2015-16). According to the findings of the study, the performance of the banks differs from one another.

Ajit Kumar (2017), in "An Analysis of the Performance of Select Public Sector Banks Using Camel Approach," examined the financial performance of five selected public sector banks over a five-year period using a CAMEL model (2012 to 2016).

KajalKiran (2018) used CAMEL analysis to assess the financial health of top public and private sector banks in India in "A Camel Model Analysis of Selected Public and Private Sector Banks in India." The study included seven public banks (State Bank of India, Bank of Baroda, Bank of India, PNB bank, Union Bank of India, Canara Bank, and IDBI bank) and four private banks (ICICI bank, HDFC bank, and IDBI bank).

PrincikaBothra, Ashwinpurohit (2018) "A Camel Model Analysis Of Named Public And Private Sector Banks. In India" anatomized the fiscal position and performance of the public and private sector banks which is State bank of India and ICICI using CAMEL model. This study was grounded on secondary data by covering the period of 2012-13 to 2016-17. He concluded that fiscal performance of state bank of India is advanced than ICICI.

OBJECTIVES

- To analyze the capital adequacy of City Union Bank and HDFC
- To assess the asset quality of the selected bank.
- To evaluate the management of the selected bank.
- To determine the earning quality of the selected bank.
- To identify the liquidity position of the selected bank.

RESEARCH METHODOLOGY

METHODOLOGY AND DATA COLLECTION:

- Secondary data: The subject was collected from the data published in money control and related websites.
- To achieve our objective we have calculated ratio as per CAMEL framework.

SAMPLING: Two private sectors banks: City Union Bank and HDFC – has been taken as a sample.

TOOL: CAMEL framework is taken as tool to analysis the financial performance of the selected banks.

I .ANALYSIS AND INTERPRETARION:**1. CAPITAL ADEQUACY:****A. CAPITAL ADEQUACY RATIO:****TABLE: 5.1.1 CAPITAL ADEQUACY RATIOS FOR HDFC**

YEAR	TIER 1 CAP	TIER 2 CAP	RISK WEIGHTED ASSET	CAR
2014-2015	40,654.52	14,855.55	345,300.85	0.160758567
2015-2016	57,722.07	13,244.22	422,669.92	0.167900025
2016-2017	70,032.52	12,243.44	529,768.14	0.155305602
2017-2018	81,829.30	11,302.66	640,029.93	0.145511883
2018-2019	106,004.90	12,535.47	800,125.98	0.148152132

TABLE: 5.1.2 CAPITAL ADEQUACY RATIOS FOR CUB

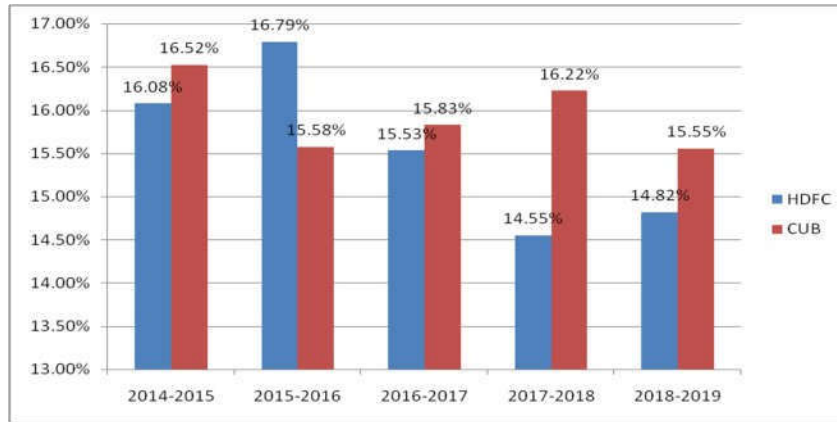
YEAR	TIER 1 CAP	TIER 2 CAP	RISK WEIGHTED ASSET	CAR
2014-2015	26632.15	810.34	166109.69	0.165207
2015-2016	30294.01	985.74	200824.22	0.155757
2016-2017	35317.97	1087.64	230010.19	0.158278
2017-2018	41204.56	1119.74	260870.09	0.162243
2018-2019	47308.08	1631.84	314682.3	0.155522

INTERPRETATION:

CAR for HDFC bank shows 16.08% during 2014-2015, 16.79% during 2015-2016, 15.53% during 2016-2017, 14.55% during 2017-2018 and 14.82% during 2018-2019. City union bank CAR shows 16.52% during 2014-2015, 15.58% during 2015-2016, 15.83% during 2016-2017, 16.22% during 2017-2018 and 15.55% during 2017-2018. HDFC achieved a high CAR of 16.79% during 2015-2016 and CUB achieved a high CAR of 16.52% during 2014-2015. The Capital adequacy ratio for HDFC and CUB shows ratio above the required value of 10.5% which indicate that HDFC and CUB has a strong capital to meets its unexpected financial loss. Also during 2018-2019 CAR shows that CUB has

highest CAR ratio than HDFC.

CHART: 5.1.1 CAR FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019



B. ADVANCE TO ASSET RATIO:

TABLE: 5.1.3 ADVANCE TO ASSET RATIO FOR HDFC

YEAR	TOTAL ADVANCES	TOTAL ASSETS	ADVANCE TO ASSET RATIO
2014-2015	365,495	253,951.66	1.4392306
2015-2016	464,594	288,752.84	1.608967725
2016-2017	554,568.00	337,306.04	1.644109308
2017-2018	658,333.00	398,909.59	1.650331345
2018-2019	819,401.00	458,777.55	1.786052957

TABLE: 5.1.4 ADVANCE TO ASSET RATIO FOR CUB

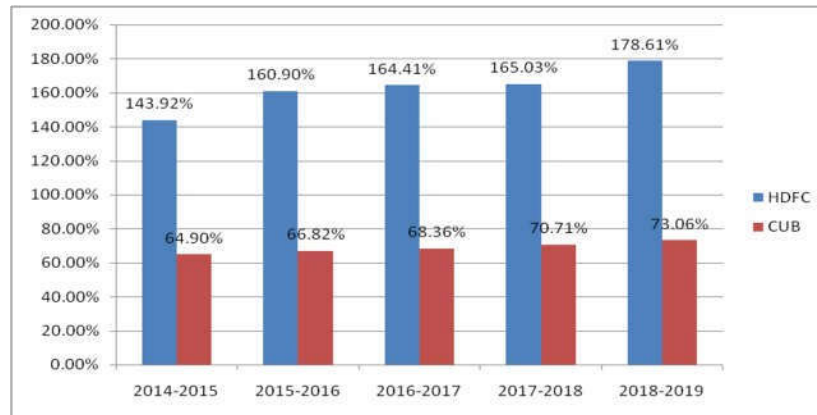
YEAR	TOTAL ADVANCES	TOTAL ASSETS	ADVANCE TO ASSET RATIO
2014-2015	18089	27871	0.649026
2015-2016	21253	31804	0.668249
2016-2017	24112	35271	0.683621
2017-2018	28239	39937	0.707089
2018-2019	33065	45259	0.730573

INTERPRETATION:

Total advances to total Assets ratio for HDFC shows 143% during 2014-2015, 160% during 2015-2016, 164% during 2016-2017, 165% during 2017-2018 and 178% during 2018-

2019 and CUB the total advances to total assets shows 64.9% during 2014-2015, 66.8% during 2015-2016, 68.3% during 2016-2017, 70.7% during 2017-2018 and 73% during 2018-2019. During the 5 year period HDFC 178% of highest total advances to total assets during 2018-2019 while CUB records a highest of 73% during 2018-2019.

CHART: 5.1.2 ADVANCE TO ASSET RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019



2. ASSET QUALITY:

A. NET NPAS TO NET ADVANCES:

TABLE: 5.2.1 NET NPAS TO NET ADVANCES RATIO FOR HDFC

YEAR	NET NPA	NET ADVANCES	NET NPAS TO NET ADVANCES
2014-2015	896.28	31,542	0.028415549
2015-2016	1,320.37	38,341	0.034437729
2016-2017	1,843.99	48,729	0.037841705
2017-2018	26,010.20	58,548	0.444253538
2018-2019	32,145.20	70,003	0.459194946

TABLE: 5.2.2 NET NPAS TO NET ADVANCES RATIO FOR CUB

YEAR	NET NPA	NET ADVANCES	NET NPAS TO NET ADVANCES
2014-2015	232.79	17965.5	0.012958
2015-2016	323.15	21056.92	0.015346
2016-2017	408.34	23832.7	0.017134

2017-2018	474.78	27852.79	0.017046
2018-2019	591.46	32673.34	0.018102

INTERPRETATION:

The Net NPAS to Net advance ratio for HDFC shows ratio of 2.84% during 2014-2015, 3.44% during 2015-2016, 3.78% during 2016-2017, 44.43% during 2017-2018 and 45.92% during 2018-2019. The Net NPAS to Net advance ratio for CUB shows ratio of 1.30% during 2014-2015, 1.53% for 2015-2016, 1.71% for 2016-2017, 1.70% for 2017-2018 and 1.81% during 2018-2019. During 2017-2019 HDFC bank has the highest Net NPAS to Net advances ratio of 45.92% (32,145 crore) and 44.43% (260, 10 crore) indicating that the NPAS are on the rise. CUB maintains an average ratio of 1.3% during the study period. The higher ratio of HDFC indicates that the loans are not generating income while CUB has lower ratio which indicates that the loans and advances are returning good earnings.

CHART: 5.2.1 NET NPAS TO NET ADVANCES RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019

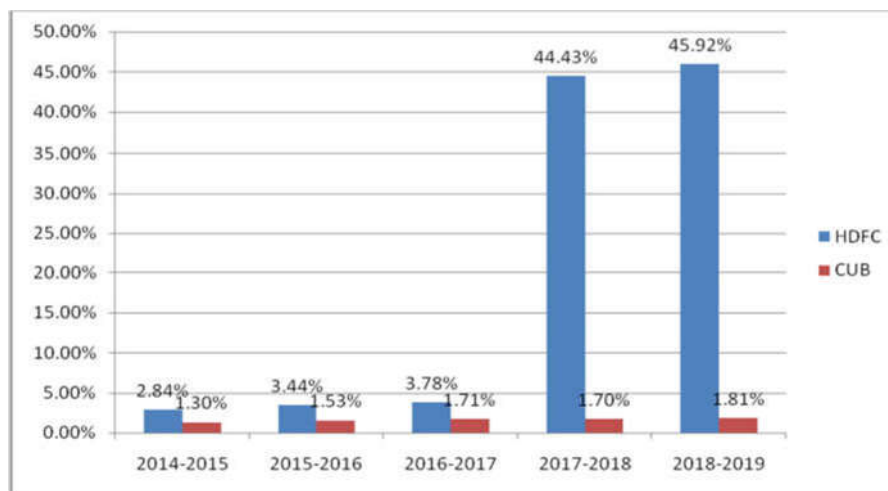
**B. TOTAL INVESTMENTS TO TOTAL ASSETS:**

TABLE: 5.2.3 TOTAL INVESTMENTS TO TOTAL ASSETS RATIO FOR HDFC BANK

YEAR	TOTAL INVESTMENT	TOTAL ASSETS	TOTAL INVESTMENT TO TOTAL ASSETS
2014-2015	166,459.96	253,951.66	0.655478921
2015-2016	163,885.78	288,752.84	0.567564219

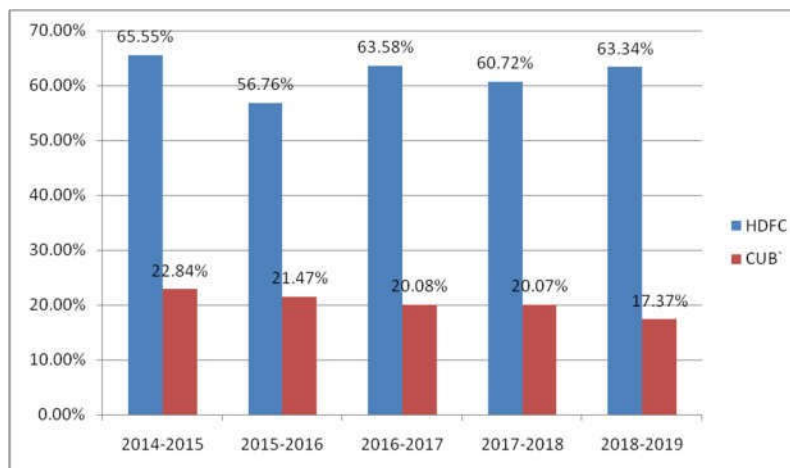
2016-2017	214,463.34	337,306.04	0.635812332
2017-2018	242,200.24	398,909.59	0.607155722
2018-2019	290,587.88	458,777.55	0.633396033

TABLE: 5.2.4 TOTAL INVESTMENTS TO TOTAL ASSETS RATIO FOR CUB

YEAR	TOTAL INVESTMENT	TOTAL ASSETS	TOTAL INVESTMENT TO TOTAL ASSETS
2014-2015	6365.27	27871	0.228383
2015-2016	6,828.17	31804	0.214695
2016-2017	7,081.82	35271	0.200783
2017-2018	8,014.98	39937	0.200691
2018-2019	7,863.33	45259	0.173741

INTERPRETATION:

Total Investments to Total Assets ratio for HDFC bank shows ratio of 65.55% during 2014-2015, 56.76% during 2015-2016, 63.58% during 2016-2017, 60.72% during 2017-2018 and 63.34% during 2018-2019. Total Investments to Total Assets ratio for CUB shows ratio of 22.84% during 2014-2015, 21.47% during 2015-2016, 20.08% during 2016-2017, 20.07% during 2017-2018 and 17.37% during 2018-2019. Comparatively HDFC has higher Total Investments to Total Assets ratio than CUB which shows that CUB effectively manages its NPAS whereas HDFC bank invests more money to soften NPAS. Investing more money to soften NPAS result in lowering the profitability of the bank and considerably increase NPAS.

CHART: 5.2.2 TOTAL INVESTMENTS TO TOTAL ASSETS RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019

3. MANAGEMENT EFFICIENCY:**A. TOTAL ADVANCES TO TOTAL DEPOSITS:****TABLE: 5.3.1 TOTAL ADVANCES TO TOTAL DEPOSITS RATIO FOR HDFC BANK**

YEAR	TOTAL ADVANCES	TOTAL DEPOSITS	TOTAL ADVANCES TO TOTAL DEPOSITS
2014-2015	365,495	450,796	0.810776937
2015-2016	464,594	546,424	0.850244499
2016-2017	554,568.00	643,640	0.861612081
2017-2018	658,333.00	788,771	0.834631344
2018-2019	819,401.00	923,141	0.887622801

TABLE: 5.3.2 TOTAL ADVANCES TO TOTAL DEPOSITS RATIO FOR CUB

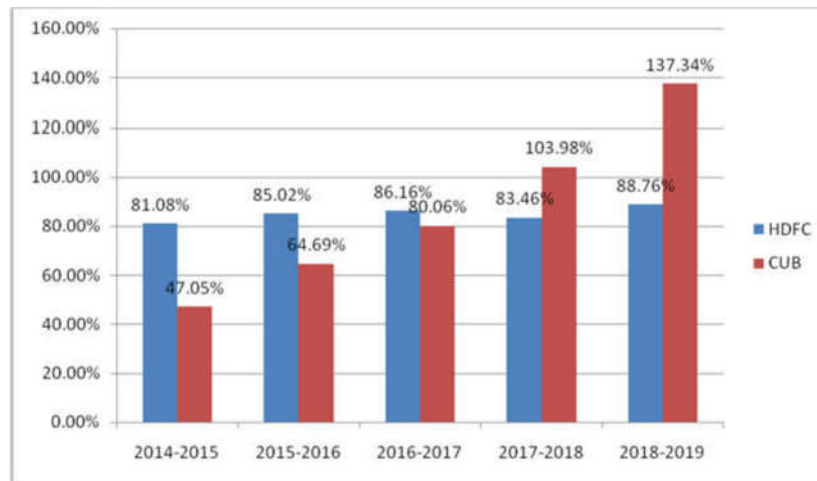
YEAR	TOTAL ADVANCES	TOTAL DEPOSITS	TOTAL ADVANCES TO TOTAL DEPOSITS
2014-2015	18089	38448	0.47048
2015-2016	21253	32853	0.646912
2016-2017	24112	30116	0.800638
2017-2018	28239	27158	1.039804
2018-2019	33065	24075	1.373416

INTERPRETATION:

Total Advances to total deposits ratio for HDFC banks shows 81.08% during 2014-2015, 85.02% during 2015-2016, 86.016% during 2016-2017, 83.46% during 2017-2018 and 88.76% during 2018-2019. Total Advances to total deposits ratio for CUB shows ratio of 47.05% during 2014-2015, 64.69% during 2015-2016, 80.06% during 2016-2017, 103.98% during 2017-2018 and 137.34% during 2018-2019. HDFC bank shows average Total Advances to total deposits ratio of 80.03% while CUB shows highest of 137% during 2018-2019 and during 2014-2017 HDFC show higher Total Advances to total deposits ratio than

CUB. Higher percentage of Total Advances to total deposits ratio of CUB show better management efficiency during 2017-2018 and 2018-2019, while HDFC has higher ratio of Total Advances to total deposits ratio during 2014-2017 which shows better management efficiency. In the last two year CUB management efficiency is better than HDFC bank.

CHART: 5.3.1 TOTAL ADVANCES TO TOTAL DEPOSITS RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019



B. BUSINESS PER EMPLOYEE:

TABLE: 5.3.3 BUSINESS PER EMPLOYEE RATIO FOR HDFC BANK

YEAR	NET REVENUE	NO OF EMPLOYEE	BUSINESS PER EMPLOYEE
2014-2015	5,990.14	76,286	0.07852214
2015-2016	7,093.10	87,555	0.081013077
2016-2017	7,442.64	84,325	0.08826137
2017-2018	12,163.69	88,253	0.137827496
2018-2019	9,632.46	98,061	0.098229265

TABLE: 5.3.4 BUSINESS PER EMPLOYEE RATIO FOR CUB

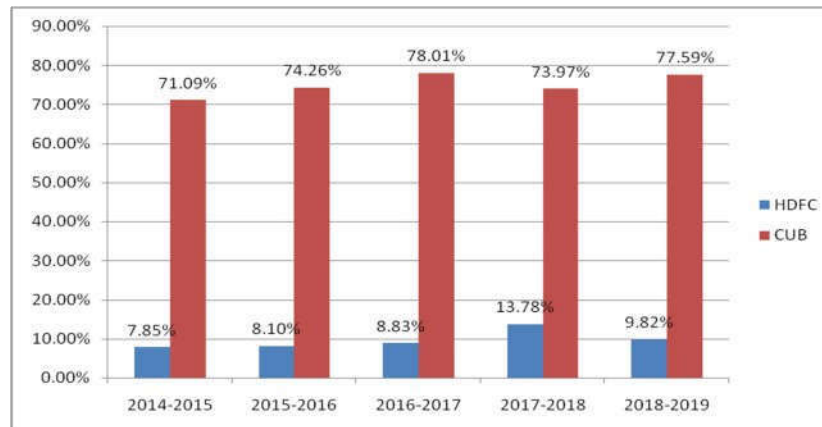
YEAR	NET REVENUE	NO OF EMPLOYEE	BUSINESS PER EMPLOYEE
2014-2015	3,102.96	4,365	0.710873
2015-2016	3,354.19	4,517	0.74257
2016-2017	3,657.73	4,689	0.780066

2017-2018	3,934.52	5,319	0.73971
2018-2019	4,281.56	5,518	0.775926

INTERPRETATION:

Business per employee for HDFC banks shows 7.858% during 2014-2015, 8.10% during 2015-2016, 8.83% during 2016-2017, 13.78% during 2017-2018 and 9.82% during 2018-2019. Business per employee ratio for CUB shows ratio of 71.08% during 2014-2015, 74.25% during 2015-2016, 78.00% during 2016-2017, 73.97% during 2017-2018 and 77.59% during 2018-2019. HDFC business per employee ratio is lesser than CUB due to higher number of employees (more than 7500 employees) and lower net revenue. CUB has higher ratio because of high net revenue and low employee numbers. HDFC ratio indicates that the banks generate lesser revenue utilizing its labor while CUB generates more revenue. During the year 2018-2019 HDFC could only generate 9,632 crore net revenue employing 98,061 employees while CUB generates 4,281 crore utilizing 5,518 employees.

CHART: 5.3.2 BUSINESS PER EMPLOYEE RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019



4. EARNINGS QUALITY:

A. INTREST INCOME TO TOTAL INCOME:

TABLE: 5.4.1 INTREST INCOME TO TOTAL INCOME RATIO FOR HDFC BANK

YEAR	INTREST INCOME	TOTAL INCOME	INTREST INCOME TO TOTAL INCOME
2014-2015	48,469.91	57,466	0.843449291

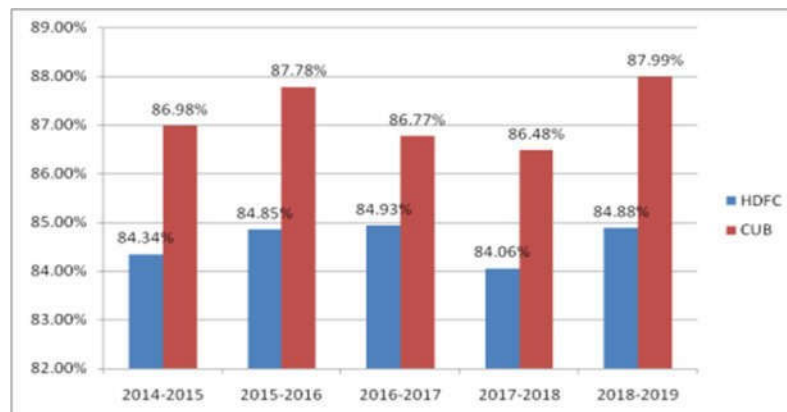
2015-2016	60,221.45	70,973	0.848509719
2016-2017	69,305.96	81,603	0.849311725
2017-2018	80,241.35	95,461.70	0.840560665
2018-2019	98,972.05	116597.9	0.848832183

TABLE: 5.4.2 INTREST INCOME TO TOTAL INCOME RATIO FOR CUB

YEAR	INTREST INCOME	TOTAL INCOME	INTREST INCOME TO TOTAL INCOME
2014-2015	2,698.86	3,102.96	0.86977
2015-2016	2,944.21	3,354.19	0.877771
2016-2017	3,173.70	3,657.73	0.867669
2017-2018	3,402.42	3,934.52	0.864761
2018-2019	3,767.17	4,281.56	0.879859

INTERPRETATION:

Interest income to total income ratio for HDFC banks shows 84.34% during 2014-2015, 84.85% during 2015-2016, 84.93% during 2016-2017, 84.06% during 2017-2018 and 84.88% during 2018-2019. Interest income to total income ratio for CUB shows ratio of 86.98% during 2014-2015, 87.78% during 2015-2016, 86.77% during 2016-2017, 86.48% during 2017-2018 and 87.99% during 2018-2019.

CHART: 5.4.1 INTREST INCOME TO TOTAL INCOME RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019

B. OPERATING PROFITS TO TOTAL ASSETS:**TABLE: 5.4.3 OPERATING PROFITS TO TOTAL ASSETS RATIO FOR HDFC**

YEAR	OPERATING PROFIT	TOTAL ASSET	OPERATING PROFIT TO TOTAL ASSET
2014-2015	17,404.47	253,951.66	0.068534579
2015-2016	21,363.55	288,752.84	0.073985593
2016-2017	25,732.39	337,306.04	0.076287961
2017-2018	32,624.81	398,909.59	0.081784973
2018-2019	39,749.72	458,777.55	0.086642688

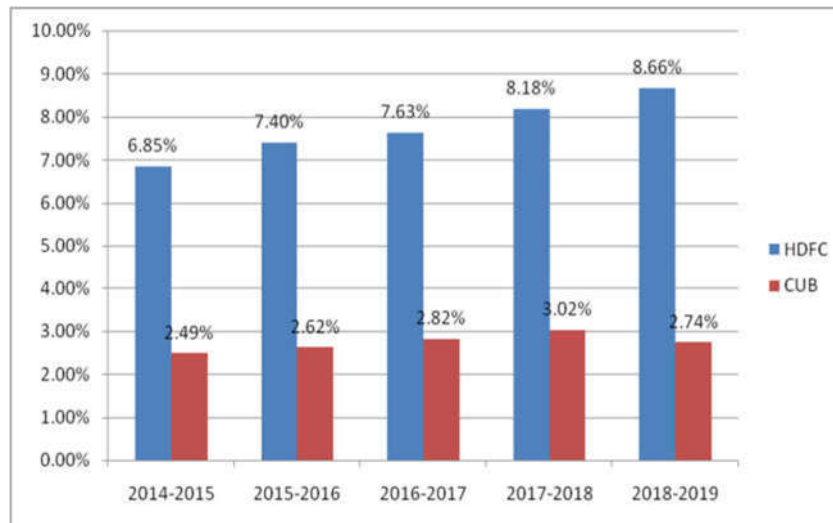
TABLE: 5.4.4 OPERATING PROFITS TO TOTAL ASSETS RATIO FOR CUB

YEAR	OPERATING PROFIT	TOTAL ASSET	OPERATING PROFIT TO TOTAL ASSET
2014-2015	692.65	27871	0.024852
2015-2016	833.28	31804	0.0262
2016-2017	993.74	35271	0.028174
2017-2018	1,207.75	39937	0.030241
2018-2019	1239.99	45259	0.027398

INTERPRETATION:

Operating profits to total assets ratio for HDFC banks shows 6.85% during 2014-2015, 7.40% during 2015-2016, 7.63% during 2016-2017, 8.18% during 2017-2018 and 8.66% during 2018-2019. Operating profits to total assets ratio for CUB shows ratio of 2.49% during 2014-2015, 2.62% during 2015-2016, 2.82% during 2016-2017, 3.02% during 2017-2018 and 2.74% during 2018-2019. HDFC bank operating profits to total assets ratio show an increasing trend in the study years and reaches to a high value of 8.66% during 2018-2019.

CHART: 5.4.2 OPERATING PROFITS TO TOTAL ASSETS RATIO FOR HDFC AND CUB DURING 2014-2015 TO 2018-2019



LIQUIDITY:

C. LIQUID ASSETS TO TOTAL ASSETS:

TABLE: 5.5.1 LIQUID ASSETS TO TOTAL ASSETS FOR HDFC BANK

YEAR	LIQUID ASSETS	TOTAL ASSETS	LIQUID ASSETS TO TOTAL ASSETS
2014-2015	14,834.86	253,951.66	0.058416059
2015-2016	19,363	288,752.84	0.067058682
2016-2017	21,078	337,306.04	0.062488389
2017-2018	23,846	398,909.59	0.059778188
2018-2019	28,692	458,777.55	0.062539607

TABLE: 5.5.2 LIQUID ASSETS TO TOTAL ASSETS FOR CUB

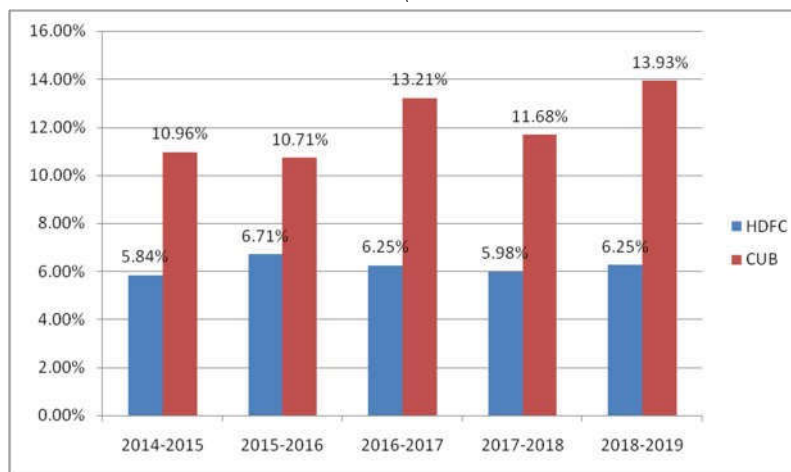
YEAR	LIQUID ASSETS	TOTAL ASSETS	LIQUID ASSETS TO TOTAL ASSETS
2014-2015	3053.34	27871	0.109553
2015-2016	3406.56	31804	0.107111
2016-2017	4657.8	35271	0.132057
2017-2018	4663.03	39937	0.11676

2018-2019	6304.09	45259	0.139289
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INTERPRETATION:

Liquid asset to total asset for HDFC banks shows 5.49% during 2014-2015, 6.71% during 2015-2016, 6.25% during 2016-2017, 5.98% during 2017-2018 and 6.25% during 2018-2019. Liquid asset to total asset for CUB shows ratio of 10.96% during 2014-2015, 10.71% during 2015-2016, 13.21% during 2016-2017, 11.68% during 2017-2018 and 13.93% during 2018-2019. HDFC liquid asset to total asset was consistent during the study period the liquid asset to total asset achieved a maximum of 6.71% during 2015-2016.

**CHART: 4.5.1 LIQUID ASSETS TO TOTAL ASSETS FOR HDFC AND CUB
DURING 2014-2015 TO 2018-2019**



D. LIQUID ASSEST TO TOTAL DEPOSITS

**TABLE: 5.5.3 LIQUID ASSEST TO TOTAL DEPOSITS
RATIO FOR HDFC**

YEAR	LIQUID ASSEST	TOTAL DEPOSIT	LIQUID ASSEST TO TOTAL DEPOSITS
2014-2015	14,834.86	450,796	0.032908134
2015-2016	19,363	546,424	0.035436556
2016-2017	21,078	643,640	0.032747671
2017-2018	23,846	788,771	0.030231959
2018-2019	28,692	923,141	0.031080591

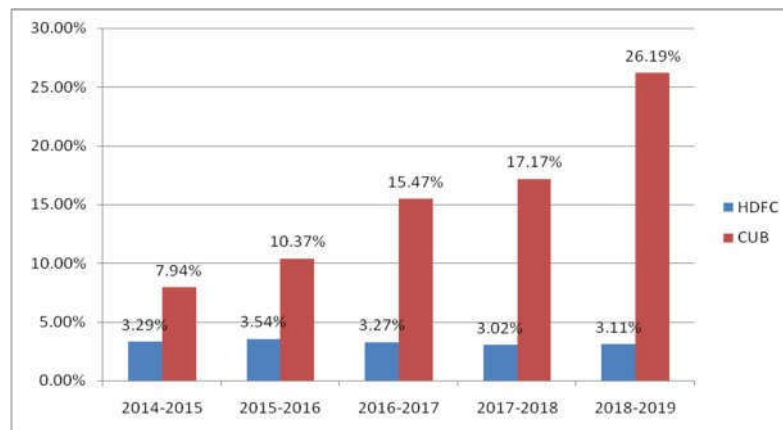
**TABLE: 5.5.4 LIQUID ASSEST TO TOTAL DEPOSITS
RATIO FOR CUB**

YEAR	LIQUID ASSEST	TOTAL DEPOSIT	LIQUID ASSEST TO TOTAL DEPOSITS
2014-2015	3053.34	38448	0.079415
2015-2016	3406.56	32853	0.103691
2016-2017	4657.8	30116	0.154662
2017-2018	4663.03	27158	0.1717
2018-2019	6304.09	24075	0.261852

INTERPRETATION:

Liquid assets to total deposits ratio for HDFC banks shows 3.29% during 2014-2015, 3.54% during 2015-2016, 3.27% during 2016-2017, 3.02% during 2017-2018 and 3.11% during 2018-2019. Liquid assets to total deposits ratio for CUB shows ratio of 7.94% during 2014-2015, 10.37% during 2015-2016, 15.47% during 2016-2017, 17.17% during 2017-2018 and 26.19% during 2018-2019.

CHART: 5.5.2 LIQUID ASSEST TO TOTAL DEPOSIT RATIO FOR HDFC AND CUB DURION 2014-2015 TO 2018-2019



FINDINGS

- The Capital adequacy ratio for HDFC and CUB shows ratio above the required value of 10.5% which indicate that HDFC and CUB has a strong capital to meets its unexpected financial loss. Also during 2018-2019 CAR shows that CUB has highest CAR ratio than HDFC.
- Total advances to total assets ratio of HDFC and CUB shows higher ratio during 2018-

2019 which indicates that the bank's lending amounts are increased. Comparatively HDFC has more advances (819,401 crore) than CUB (33,065 crore) which indicate that HDFC lend more money strongly and make more profits than CUB.

- HDFC bank has the highest Net NPAS to Net advances ratio of 45.92% (32,145 crore) on 2019 indicating that the NPAS are on the rise. CUB maintain average ratio of 1.3%.
- HDFC has higher Total Investments to Total Assets ratio than CUB which shows that CUB effectively manages its NPAS than HDFC.
- Higher percentage of Total Advances to total deposits ratio of CUB show better management efficiency during 2017-2018 and 2018-2019, while HDFC has higher ratio of Total Advances to total deposits ratio during 2014-2017 which shows better management efficiency.
- HDFC business per employee ratio is lesser than CUB due to higher number of employees (more than 7500 employees) and lower net revenue.
- HDFC bank maintains an average interest income to total income of about 84% while CUB maintains at 86.5% which indicates that relatively both the banks maintain high interest income ratio.
- HDFC bank operating profits to total assets ratio show an increasing trend in the study years and reaches to a high value of 8.66% during 2018-2019. CUB operating profits to total assets ratio was maintained at an average of 2.6%, during the year 2017-2018 the ratio achieves a higher value of 3.02%.
- CUB manages to increase its ratio in the current period to 13.93%. CUB has more liquid cash and cash equivalents than HDFC bank.

III. CONCLUSTION

As discussed earlier that the bank play a vital role in the economic development. The present study aims to assess the existing gaps in the performance of HDFC and CUB and to suggest solution for the same. The uniform financial rating system (CAMEL rating) has been helpful in evaluating and comparing the performance of selected private banks. The study states that HDFC and CUB have better capital adequacy. In the overall study HDFC has better earning capacity and liquidity. Though CUB is a small banking sector it has good asset quality and management.

IV. REFERENCE

- B. S Bodla, RichaVerma“Assessing performance of banks through CAMEL Model”. A case study of SBI and ICICI, volume. 0 (3), August (2006)
- . Summet Gupta, RenuVerma, “ Relative Analysis of Financial performance of

Private sector Banks in India” Operation of CAMEL Model, Volume 4 No 2 (2008)

- . Jagdish, R. Raiyani, “Effect of combinations on effectiveness and productivity of Indian Banks” A CAMEL analysis, 2010; ISSN 2229-3795. Karur Harsh and Vineeth, “ Analysis of Banks in India-A CAMEL Approach “; July
- . Reddy, K.V.N. Prasad, “Assessing performance of a indigenous pastoral banks An operation of CAMEL Model”, volume – II, Issue – 4, Oct 2011; E – ISSN 2229 – 4686, ISSN 2231-4172.
- K.V.N. Prasad, Dr.D. MaheshwaraReddy, Dr.A.A. Chari, “Performance evaluation of Public sector Banks in India” An operation of CAMEL model, Volume No2 (2011), Issue No6 (June) ISSN 0976 – 2183.
- K.V.N. Prasad, G. Ravinder, “A Camel model Analysis of Nationalized Banks in India “, Volume 1, No 1PP. 23 – 33, ISSN – 2277 – 5811, Jan – June 2012.
- Dr.K. Sriharsha Reddy, “ Fairly performance of marketable banks in India using Camel approach “ volume – 2, Issue – 3, March 2012, ISSN 2231 – 5780.
- Mishra Ashwinikumar,G. Sri Harsha, ShiviAnand& Neil Rajesh Dhruwa, “ Assaying soundness in Indian Banking. – A CAMEL Approach “, Volume (1) (3), October (2012), ISSN 2319 – 1171.