RATIO ANALYSIS:
A STUDY ON INDIAN COMMERCIAL BANKS

SRI AYAN CHAKRABORTY
Faculty: Accounting & Finance
Nopany Institute of Management Studies,
Kolkata **(WB) INDIA**

ABSTRACT

Financial Analysis is the process of identifying the financial strengths and weakness of a firm by property establishing relationships between the item of the balance sheet and the profit and loss account. It can be undertaken by management of the firm, or by parts outside the firm.

Ratio Analysis is a powerful tool of financial analysis. A ratio is defined as "the indicated quotient of two mathematical expressions" and "the relationship between two or more things". In financial analysis, a ratio is used as a benchmark for evaluation the financial position and performance of a firm. The absolute accounting figures reported in the financial statements do not provide a meaningful understanding of the performance and financial position of a firm. An accounting figure conveys meaning when it is related to some other relevant information.

The relationship between two accounting figures expressed mathematically, is known as a financial ratio (or simply as a ratio). Ratios help to summarize large quantities of financial data and to make qualitative judgment about the firm's financial performance. This relationship is an index or yardstick, which permits a quantitative judgment to be formed about the firm's liquidity and vice versa. The point to note is that a ratio reflecting a quantitative relationship helps to form a qualitative judgment. Such is the nature of all financial ratios.

Profit is a measure of success of business and the means of its survival and growth. Profitability is the ability of a business to earn profit for its owners.

The objective of this study is to perform an overall profitability analysis of 5 leading Commercial Banks in India based on the performance of profitability ratio like Interest Spread, Net Profit Margin, Return On Long Term Funds, Return On Net Worth, Return On Assets & Adjusted Cash Margin. Profitability is a measure of efficiency and control it

indicates the efficiency or effectiveness with which the operations of the business are carried on.

Profitability ratios provide different useful insights into the financial health and performance of a company. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Increasing profitability is one of the most important tasks of the business managers.

Managers constantly look for ways to change the business to improve profitability. These potential changes can be analysed with a support of income statement and balance sheet.

Keywords: Indian Banking Sector, Commercial Banks, Interest Spread, Net Profit Margin, Return on Long Term Loan, Return on Net Worth, Return on Asset, Cash Margin, Coefficient of Variation, Standard Deviation, ANOVA

INTRODUCTIUON

A Bank is a financial institution and a financial intermediary that accepts deposits and channels those deposits into lending activities either directly by loaning or indirectly through capital markets.

The origin of the banking system could be traced back to 1786, when the General Bank of India was established. The origin of the banking system could be traced back to 1786, when the General Bank of India was established.

On 2nd June 1806, Bank of Calcutta was established which was redesignated as the Bank of Bengal, a presidency bank, in 1809. The other two presidency banks that were established during this time included Bank of Bombay and Bank of Madras. The reforms in the banking sector started with the introduction of limited liability and joint-stock banking in British India. With the introduction of limited liability, the private banks began to appear and the foreign banks entered the market. In 1935, the aforesaid three presidency banks were merged together to form the Imperial Bank of India.

In 1949, RBI was entrusted with the responsibility to regulate the commercial banks. SBI, with its extensive network coverage, acted as the principal agent of RBI. It also handled the banking transactions of the Union and State Governments all over the country.

The Banking sector was divided into three categories namely:

- ➢ Public sector Banks
- ➢ Private Sector Banks and
- ➢ Foreign Banks.

All the banks in these sectors played a significant role in the growth and development of the Indian Banking sector. A high savings ratio, weak social security system and lack of alternative savings vehicles were the major drivers of growth of the Indian Banking sector.

India's Leading Commercial Banks

Axis Bank Ltd

Axis Bank Ltd is the third largest of the private-sector banks in India offering a comprehensive suite of financial products. The bank has its head office in Mumbai and Registered office in Ahmedabad. It has 3300 branches, 13,003 ATMs, and nine international offices. The bank employs over 50,000 people and had a market capitalization of ₹1.0583 trillion (US$16 billion) (as on March 31, 2016). It offers the entire spectrum of financial services large and mid-size corporate, SME, and retail businesses.

HDFC Bank Limited

HDFC Bank Limited is an Indian banking and financial services company headquartered in Mumbai, Maharashtra. It has 90,421 employees and has a presence in Bahrain, Hong Kong and Dubai. HDFC Bank is India's second-largest private sector lender by assets. As of December 31, 2016, the Bank's distribution network was at 4,555 branches and 12,087 ATMs across 2,597 cities.

ICICI Bank

ICICI Bank (Industrial Credit and Investment Corporation of India) is an Indian multinational banking and financial services company headquartered in Mumbai, Maharashtra, India, with its registered office in Vadodara. It is the largest bank in India in terms of assets and third in term of market capitalisation. It offers a wide range of banking products and financial services for corporate and retail customers through a variety of delivery channels and specialised subsidiaries in the areas of investment banking, life, non-life insurance, venture capital and asset management. The bank has a network of 4,450 branches and 14,404 ATMs in India, and has a presence in 19 countries including India.

State Bank of India

State Bank of India (SBI) is an Indian multinational, public sector banking and financial services company. It is a government-owned corporation with its headquarters in Mumbai,

Maharashtra. The bank traces its ancestry to British India, through the Imperial Bank of India, to the founding, in 1806, of the Bank of Calcutta, making it the oldest commercial bank in the Indian subcontinent. Bank of Madras merged into the other two "presidency banks" in British India, Bank of Calcutta and Bank of Bombay, to form the Imperial Bank of India, which in turn became the State Bank of India in 1955. As of 2016-17, it had assets of ₹30.72 trillion (US$460 billion) and more than 14,000 branches, including 191 foreign offices spread across 36 countries, making it the largest banking and financial services company in India by assets. The company is ranked 232nd on the Fortune Global 500 list of the world's biggest corporations as of 2016.

Punjab National Bank

Punjab National Bank is an Indian multinational banking and financial services company. It is a state-owned corporation based in New Delhi, India. Founded in 1894, the bank has over 6,968 branches and over 9,935 ATMs across 764 cities. It serves over 80 million customers.

II. OBJECTIVE OF THE STUDY

1. To analysis the profitability position of some selected private sector banks like Axis Bank, HDFC Bank, ICICI Bank, State Bank of India and Punjab National Bank

2. To highlight the overall profitability of bank (i.e.) Interest Spread, Net Profit Margin, Return on Long Term Fund, Return on Net Worth & Return on Assets, Adjusted Cash Margin.

REVIEW OF LITERATURE

The researcher and economists have recognized that the measurement of profitability in banking is necessary to improve the financial soundness of banks. A large number of studies have been conducted in the field of operation and financial performance of banks. A brief review of some of these studies has been presented.

Chandan and Rajput (2002) evaluated the performance of banks on the basis of profitability analysis. The researchers analysed the factors determining the profitability of banks in India with the help of multiple regression technique. They found that spread i.e. net interest income is the major source of income for banks. The study found public sector banks at weaker position in relation to foreign banks and public sector banks. The authors suggested that public sector banks should concentrate on non-performing asset management and also make

SRI AYAN CHAKRABORTY   4P a g e

VOL 2, ISSUE 2   www.puneresearch.com/discovery   MAY to JULY 2017
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL

investment in technology up gradation for better data management and quicker flow of information.

- ❖ Sangmi, M. (2002) analysed the profitability of ten selected commercial banks in India. Five best performing banks were taken in class-1 and five poor performing banks were taken in class-2 categories. The study revealed that operating cost was higher in the case of class-2 banks and in these banks the profitability was affected due to low level of spread. These banks required more scientific attempts for the investment of funds. The researcher suggested that the position of operating cost can be improve with the introduction of high level technology as well as by improving the per employee productivity.

- ❖ Kumari (2003) the researcher found that in terms of deposit mobilization branch expansion credit deployment and employment generation both public and private sector banks have shown increasing trend. Banks wise analysis revealed that private sector banks have shown higher growth as compared to public sector banks. The researcher suggested that public sector banks should their profitability and productivity performance by adopting innovation modern technological changes and by fixing responsibility of officers for recovery etc.

- ❖ Qamar (2003) Banks for the study purpose were categorized into public sector banks, old private banks, new private banks, and foreign sector banks. The study indicated that all the selected scheduled commercial banks were found to be different in terms of total assets, share capital, capitalization ratio and efficiency factors. Much difference in the profitability performance of banks was found due to human resources efficiency as measured in terms of business per employee.

- ❖ Shannugam and Das (2004) for analysing the efficiency of banks four outputs i.e. interest margin, Non interest income Investment and credit and four inputs i.e. deposits borrowings labour and Fixed assets have been used. The results revealed that there has been dominance of deposits in producing all the outputs the study period and an improvement I banking industry has been found in raising non-interest income investment and credits. The study indicated that state bank group and private owned foreign group performed better than their counterparts.

- ❖ Arora and Verma (2005) performance of public sector banks has been evaluated on the basis of financial parameters, Operational parameters, Profitability parameters and Productivity parameters. The authors concluded that in order to remove subjectivity in banking sector major steps like prudential norms income recognition provisioning

should have been taken. The researcher suggested that to correct the impact of directed investments on profitability reserve requirements should be reduced.

❖ Reddy and Rao (2005) made an attempt to identify factors in context of financial sector reforms which could lead to changes the position of different bank groups i.e. public sector banks private sector banks and foreign sector banks in term of their overall banking industry. The authors found that the share of public sector banks has declined in total assets of banking sector due to new competitive environment. The researcher further suggested the adoption of customer oriented banking practices with new technologies for public sector banks to face stiff competition.

❖ Arora and Kaur (2006) Financial performance of banks was analyzed on the basis of Return on assets Capital assets risk weighted, Non- performing assets to Net advances, Business per employee, Net profitability ratio, Non performing assets level and off balance sheet Operation. The researcher recommended that for enhancing financial viability of public sector banks efforts should be made to reduce the non-performing assets and upgrade the technology. For enhancing business per employee continuous and compulsory training and development programmers should be introduced in the banks.

❖ Shukla (2009) the study analyzed that in the post reform period Indian banking system has become more competitive more developed and financially viable due to several structural changes. The study evidenced that banks should focus on high operating cost and diversification of activities to remain competitive and profitable. The study evidence that use of technology based services to intensify competition and to reduce operating cost and achieve higher profitability. The researcher recommended that some critical factors like security and integrity of system should be addressed and greater emphasis should be given on banking and financial policies to strengthen the banking sector.

❖ Uppal (2010) study concluded that among all e channels, ATM is the most effective while mobile banking does not hold a strong position in public sector banks and old private sector banks. In new private sector banks and foreign banks mobile banking service. Mobile banking customers are also the highest in banks providing electronic services which have positive impact on net profit and business per employee of these banks. Among all foreign banks are on the top position followed by new private sector banks in providing mobile banking services and their efficiency is also much higher as compared to other groups. The study also suggested some strategies to improve mobile banking services.

SRI AYAN CHAKRABORTY 6P a g e

❖ Prasad and Ravinder (2011) analysed the profitability of four major banks in India i.e. SBI, PNB, ICICI bank and HDFC bank for the period 2005-06 to 2009-2010. Statistical tools like arithmetic mean, one way ANOVA Tukey HSD test have been employed for the purpose of study. The profitability of these banks have been evaluated by using various parameters like operating profit margin gross Profit margin Net profit margin Earning per share Return on Equity Return on assets Prices earnings Ratio and Dividend payout Ratio. The study revealed that SBI performed better in terms of earning per share and dividend payout ratio while PNB performed in terms of operating profit margin and return on equity. The study found that HDFC bank outperformed in terms of gross profit margin, net profit margin, return on assets and price earnings ratio. The study evidenced that ICICI Bank paid highest portion of earning as dividends to shareholders. Analysis ranked HDFC Bank on the top position followed by PNB SBI and ICICI Bank.

III. SCOPE OF STUDY

The study shows the role of profitability position of private sector banks in India. This is the process of comparing income to output and determining how much profit was made during a specific time period. A properly conducted profitability analysis provides invaluable evidence concerning the earnings potential of a company and the effectiveness of management.

PERIOD OF STUDY

The study covers a period of 9 years from 2007-08 to 2015- 16 is taken for the study.

METHODOLOGY

Sources of Data

The study is based on secondary data. Information required for the study has been collected from the Annual Reports of Axis Bank, HDFC Bank, ICICI Bank, State Bank of India and

Punjab National Bank and different books, journal, magazines, and data collected from various banks websites.

Tools Applied

In this study various tools: Financial Tools – Ratio Analysis and Statistical Tools (i.e.) Mean and ANOVA test have been used for data analysis.

MEAN= sum of variable/N

Standard Deviation = $\sqrt{\sum X2/N} - (\sum X/N)$

Coefficient of Variation= SD/MEAN* 100

Hypothesis

An ANOVA is statistical hypothesis in which the sampling distribution of test statistic when null hypotheses is true. Null hypotheses have been set and adopted for the analysis of data. The null hypotheses are represented by H0. It is a negative statement which avoids personal bias of investigator during data collection as well as the time of drawing conclusion.

ANOVA (ONE WAY)

Sources Of Variance	Sum Of Square	Degree Of Freedom	Mean Square	F-Ratio
Between Sample	SSC	C-1	MSC=SSC/C-1	F= MSC/MSE Or MSE/MSC
Within Sample	SSE	N-C	MSE=SSE/N-C	
Total	SST			

IV. LIMITATION OF THE STUDY

1. The study is related to a period of 9 years.

2. As the data are only secondary i.e. they are collected from the published annual reports.

3. Only profitability ratio is taken for the study.

V. A BRIEF ACCOUNT OF PROFITABILITY

The primary objective of each business enterprise is to earn profit. In facts profit earning is considered essential not only for the survival of business but is also required for its expansion and diversification. One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line and its return to its invertors. Profitability ratios are typically based on net earnings, but variations will occasionally use cash flow or operating earnings. Profitability is a measure of efficiency and control. Profitability is the main base for liquidity as well as solvency. Creditor's banks and financial institutions are interested in profitability ratios since they indicate liquidity or capacity of the business to meet interest obligation and regular and improved profit to enhance the long term solvency position of the business.

The profitability ratios are:-

Interest Spread:-

Interest Spread refers to the difference in borrowing and lending rates of financial institutions (such as banks) in normal terms. It is considered analogous to the gross margin of non-financial companies. This is the excess of the total interest earned over total interest expended. The ratio of the interest spread to AWF shows the efficiency of bank in managing and matching interest expenditure and interest income effectively. Interest spread is critical to a bank's success as it exerts a strong influence on its bottom line.

Interest Spread%= Total Interest Income Minus Total Interest Expanses/ Average Working Fund

INTEREST SPREAD: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	33.480	181.131	-94.916	98.224	64.946
2009	25.986	98.005	142.010	45.342	42.290
2010	38.559	54.973	-153.928	92.792	42.991
2011	36.805	69.235	-36.334	86.718	46.364
2012	68.154	248.922	-41.251	114.362	52.302

2013	58.121	140.893	-50.320	156.450	67.919
2014	50.628	83.160	-50.737	144.861	41.881
2015	31.212	63.201	-66.111	116.456	33.393
2016	36.877	73.339	-129.297	73.459	21.100
MEAN	42.202	112.540	-53.431	103.185	45.910
SD	13.822	65.521	83.958	34.475	14.568
CV	32.753	58.220	-157.132	33.411	31.733

The above analysis of bank wise mean standard deviation and coefficient of variation of interest spread of five selected banks. HDFC bank has the highest Mean Value while ICICI Bank has lowest Mean Value (negative) in comparison to other banks. Standard deviation of total interest income & expenses to average working fund of ICICI Bank is 83.958, the highest while coefficient of variation of HDFC bank is maximum and Punjab National Bank the minimum.

Hypothesis:

H0: $\mu1=\mu2=\mu3=\mu4$ (There is no significant relationship between Interest Spread among Axis Bank, HDFC Bank, ICICI Bank, State Bank of India and Punjab National Bank)

H1: $\mu1\neq\mu2\neq\mu3\neq\mu4$ (There is significant relationship between Interests Spread among the above leading Indian Banks.)

ANOVA: Single Factor: (One Way) Test

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
AXIS	9	379.82196	42.20244	191.05806
HDFC	9	1012.85888	112.53988	4292.9361

SRI AYAN CHAKRABORTY 10P a g e

VOL 2, ISSUE 2 www.puneresearch.com/discovery MAY to JULY 2017
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL

ICICI	9	-480.88304	-53.431449	7048.9605
SBI	9	928.663331	103.18481	1188.5324
PNB	9	413.188091	45.909788	212.23668

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	157638.8	4	39409.704	15.23525	1.192E-07	2.605975
Within Groups	103469.8	40	2586.7447			
Total	261108.6	44				

Above analysis calculated value of ANOVA one way test (15.23525) is more than the table value (2.605975) therefore null hypothesis is rejected. Therefore it is concluded that there is significant relationship between the interest spread of the above banks.

Net Profit Margin: It shows the relationship between Net profit and Revenue. ie, Profit left for equity share holders as a percentage of Net Revenue. A higher net profit shows more efficiency of the company at converting its revenue in to actual profit.

Net Profit Margin = Profit After Tax / Revenue

NET PROFIT MARGIN: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	23.63	28.44	5.13	10.25	8.75
2009	24.23	24.39	6.08	9.90	9.55
2010	30.81	31.93	9.03	9.14	10.33
2011	33.88	35.09	13.00	7.60	9.63
2012	33.05	33.93	17.81	9.24	8.34
2013	36.86	36.10	22.82	9.58	7.36
2014	42.48	39.80	27.66	7.01	4.97
2015	47.23	43.03	30.47	7.60	4.26
2016	50.91	43.52	30.33	5.11	-4.51
MEAN	35.90	35.14	18.04	8.38	6.52
SD	9.50	6.40	10.23	1.67	4.63
CV	26.48	18.20	56.72	19.94	71.02

The above analysis shows that Axis bank has the highest Mean Value while Punjab National Bank has lowest Mean Value in comparison to other banks. Standard deviation of of ICICI Bank is 10.23, the highest while coefficient of variation of Punjab National Bank is maximum and HDFCBank the minimum.

Hypothesis:

H0: $\mu_1=\mu_2=\mu_3=\mu_4$ (There is no significant relationship between Net Profit Margin among the above leading Indian Banks.)

H1: $\mu_1\neq\mu_2\neq\mu_3\neq\mu_4$ (There is significant relationship between Net Profit Margin among the above leading Indian Banks.)

ANOVA: Single Factor

Groups	Count	Sum	Average	Variance
AXIS	9	323.077	35.897	90.328
HDFC	9	316.237	35.137	40.918
ICICI	9	162.337	18.037	104.661
SBI	9	75.429	8.381	2.794
PNB	9	58.671	6.519	21.435

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	7193.758392	4	1798.4396	34.567434	1.72766E-12	2.605975
Within Groups	2081.079656	40	52.026991			
Total	9274.838048	44				

Above analysis calculated value of ANOVA one way test (34.567434) is more than the table value (2.605975) therefore null hypothesis is rejected. Therefore it is concluded that there is significant relationship between the interest spread of the above banks.

Return on Long Term Loan:

Long Term Debts include any financing or leasing obligations that are due for a period over 12-months. Such obligations would include company bond issues or long term leases that have been capitalized on a firm's balance sheet. The long term funds refer total investment in the business of long run.

SRI AYAN CHAKRABORTY

Return on Long Term Fund% = Net Profit / Long Term Fund

RETURN ON LONG TERM LOAN: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	2.234	3.377	0.860	1.108	1.213
2009	2.521	3.200	1.040	1.008	1.375
2010	3.034	3.616	1.506	0.987	1.419
2011	3.118	3.877	2.080	0.804	1.287
2012	3.575	4.251	2.679	1.040	1.165
2013	4.235	4.625	3.473	1.049	1.105
2014	4.907	4.858	4.052	0.771	0.679
2015	5.177	5.082	4.603	0.851	0.582
2016	5.650	5.241	4.580	0.611	-0.562
MEAN	3.828	4.236	2.764	0.914	0.918
SD	1.220	0.757	1.479	0.164	0.626
CV	31.881	17.876	53.519	17.881	68.223

As per the above analysis HDFC bank has the highest Mean Value while State Bank has lowest Mean Value in comparison to other banks. Standard deviation of Axis Bank is 1.22, the highest while Coefficient of Variation of Punjab National Bank is maximum and HDFC Bank the minimum.

Hypothesis:

H0: μ1=μ2=μ3=μ4 (There is no significant relationship between Return on Long Term Loan of the above Banks)

H1: μ1≠μ2≠μ3≠μ4 (There is significant relationship between Return on Long Term Loan of the above Banks)

ANOVA: Single Factor

Groups	Count	Sum	Average	Variance
AXIS	9	34.451	3.828	1.489
HDFC	9	38.127	4.236	0.573
ICICI	9	24.872	2.764	2.188
SBI	9	8.230	0.914	0.027
PNB	9	8.263	0.918	0.392

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	88.73114801	4	22.182787	23.753157	4.09222E-10	2.605975
Within Groups	37.35551779	40	0.9338879			
Total	126.0866658	44				

Above analysis calculated value of ANOVA one way test (23.753157) is more than the table value (2.605975) therefore null hypothesis is rejected. Therefore it is concluded that there is significant relationship between the interest spread of the above banks.

Return on Net Worth:

The Return on Equity is also known as the return on net worth is used by investors to determine the amount of return they are receiving from their capital investment in a company. This ratio measures the profitability of the capital invested in the business by the shareholders.

Return on Net Worth%= Profit After Tax / Equity Shareholder Fund

RETURN ON NET WORTH: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	23.806	30.805	6.895	15.239	16.297
2009	32.858	32.202	8.400	15.556	20.125
2010	30.065	30.189	10.489	14.710	20.801
2011	35.546	33.780	14.478	13.464	19.968
2012	40.045	38.398	19.377	15.393	17.035
2013	37.838	42.359	24.628	15.369	14.295
2014	42.594	45.827	28.793	10.797	9.279
2015	46.830	41.023	32.454	12.114	7.948
2016	48.820	43.562	32.679	8.505	-8.763
MEAN	37.600	37.572	19.799	13.461	12.998
SD	8.030	5.948	10.258	2.499	9.367
COV	21.356	15.832	51.812	18.565	72.067

As per the above analysis Axis Bank has the highest Mean Value while State Bank has lowest Mean Value in comparison to other banks. Standard deviation of ICICI Bank is 10.258, the highest while Coefficient of Variation of Punjab National Bank is maximum and HDFC Bank the minimum.

Hypothesis:

H0: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ (There is no significant relationship between Return on Net Worth of the above Banks)

H1: $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ (There is significant relationship between Return on Net Worth of the above Banks)

ANOVA: Single Factor

Groups	Count	Sum	Average	Variance
AXIS	9	338.402351	37.600261	64.477337
HDFC	9	338.145467	37.571719	35.382306
ICICI	9	178.19367	19.799297	105.23425
SBI	9	121.146738	13.460749	6.2446449
PNB	9	116.984851	12.998317	87.749237

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5566.574118	4	1391.6435	23.264802	5.44546E-10	2.605975
Within Groups	2392.702172	40	59.817554			
Total	7959.27629	44				

Above analysis calculated value of ANOVA one way test (23.264802) is more than the table value (2.605975) therefore null hypothesis is rejected. Therefore it is concluded that there is significant relationship between the interest spread of the above banks.

Return on Assets:

It shows the relation between Net Profits and Total Assets of a firm. The return on assets ratio is also known as return on investment relates to the firm's assets base and what kind of return they are getting on their investment in their assets. A high ROA indicates that management is effectively utilizing the company's assets to generate profit.

Return on Assets% = Net Profit / Total Assets

RETURN ON ASSETS: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	4.107	4.999	1.305	2.153	2.416
2009	5.007	5.603	1.776	1.995	3.072
2010	6.225	6.558	2.004	2.066	3.221
2011	6.625	7.182	2.827	1.718	3.030
2012	7.757	7.182	3.564	2.400	2.743
2013	8.633	7.949	4.824	2.537	2.606
2014	10.491	9.420	5.968	1.903	1.596
2015	11.380	10.481	6.926	1.900	1.346
2016	13.756	12.994	7.064	1.366	-1.262
MEAN	8.220	8.041	4.029	2.004	2.085
SD	3.161	2.531	2.243	0.349	1.412
CV	38.455	31.480	55.675	17.436	67.725

The above table depicts the bank wise Mean, Standard Deviation & Coefficient of Variation of Return on Assets of selected banks.

As per the above analysis Axis Bank has the highest Mean Value while State Bank has lowest Mean Value in comparison to other banks. Standard Deviation of Axis Bank is 3.161,

SRI AYAN CHAKRABORTY 18 P a g e

VOL 2, ISSUE 2 www.puneresearch.com/discovery MAY to JULY 2017
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL

the highest while Coefficient of Variation of Punjab National Bank is maximum and State Bank the minimum.

Hypothesis:

H0: $\mu1=\mu2=\mu3=\mu4$ (There is no significant relationship between Return on Assets of the above Banks)

H1: $\mu1\neq\mu2\neq\mu3\neq\mu4$ (There is significant relationship between Return on Assets of the above Banks)

ANOVA: Single Factor

Groups	Count	Sum	Average	Variance
AXIS	9	73.981	8.220	9.992
HDFC	9	72.369	8.041	6.408
ICICI	9	36.259	4.029	5.031
SBI	9	18.037	2.004	0.122
PNB	9	18.768	2.085	1.995

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	341.5833023	4	85.3958256	18.1326308	1.44053E-08	2.605975
Within Groups	188.3804429	40	4.70951107			
Total	529.9637451	44				

Above analysis calculated value of ANOVA one way test (18.1326308) is more than the table value (2.605975) therefore null hypothesis is rejected. Therefore it is concluded that there is significant relationship between the interest spread of the above banks.

Cash Margin:

Cash Margin is also known as Operating Cash Flow Margin / Margin Ratio. A key profitability ratio relating cash flow from operation to net sales provides powerful view into the inner working of a company using two crucial measures of company performance. The cash flow margin ratio measures the ability of a firm to translate sales in to cash.

Cash Margin: Cash Flow From Operation / Net Sales

CASH MARGIN: MEAN, STANDARD DEVIATION AND COEFFICIENT OF VARIATION

YEAR	AXIS	HDFC	ICICI	SBI	PNB
2008	87.681	27.187	5.851	-6.210	13.912
2009	95.542	-10.712	-58.154	36.396	11.237
2010	1.288	58.347	98.001	-8.366	8.088
2011	74.746	-4.791	-12.093	38.632	26.716
2012	-45.030	-68.744	-16.859	-20.458	-0.067
2013	9.460	-16.306	38.975	14.485	-1.608
2014	47.058	9.895	13.672	10.125	37.604
2015	-42.439	-42.002	-22.329	22.312	9.882
2016	-75.048	-12.154	39.878	6.345	27.886
MEAN	17.029	-6.587	9.660	10.362	14.850
SD	62.809	36.899	45.285	20.088	13.258

SRI AYAN CHAKRABORTY 20 P a g e

VOL 2, ISSUE 2 www.puneresearch.com/discovery **MAY to JULY 2017**
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL

CV	368.845	-560.201	468.771	193.855	89.279

As per the above analysis Axis Bank has the highest Mean Value while HDFC Bank has lowest Mean Value (negative) in comparison to other banks. Standard deviation of Axis Bank is 62.809, the highest while Coefficient of Variation of ICICI Bank is maximum and HDFC Bank the minimum (negative).

Hypothesis:

H0: $\mu_1=\mu_2=\mu_3=\mu_4$ (There is no significant relationship between Adjusted Cash Margin of the above Banks)

H1: $\mu_1\neq\mu_2\neq\mu_3\neq\mu_4$ (There is significant relationship between Adjusted Cash Margin of the above Banks)

ANOVA: Single Factor				
Groups	*Count*	*Sum*	*Average*	*Variance*
AXIS	9	153.258	17.029	3944.990
HDFC	9	-59.280	-6.587	1361.517
ICICI	9	86.943	9.660	2050.712
SBI	9	93.261	10.362	403.527
PNB	9	133.650	14.850	175.775

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3095.08978	4	773.772445	0.48747582	0.744827221	2.605975

SRI AYAN CHAKRABORTY   21 P a g e

VOL 2, ISSUE 2 www.puneresearch.com/discovery **MAY to JULY 2017**
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL

Within Groups	63492.16988	40	1587.30425
Total	66587.25966	44	

Above analysis calculated value of ANOVA one way test (0.48747582) is less than the table value (2.605975) therefore null hypothesis is accepted. Therefore it is concluded that there is no significant relationship between the interest spread of the above banks.

CONCLUSION

❖ The Indian Banking Sector is mainly dominated by the Public Sector Banks. Globalization has encouraged multinationals and foreign banks to set up their business unit in India.

❖ The study indicated that the selected Commercial Banks are different in terms of total assets, interest spread, and net worth ratio and efficiency factors. Differences exist in their mean value of interest spread, net profit margin, return on long term fund, return on net worth & adjusted cash margin.

❖ Profitability ratios are employed by the management in order to assess how efficiently they carry on their business operations and also it is suggested for the entire bank to take effective steps to improve the operating efficiency.

❖ Profitability measure a company's ability to generate earnings related to sales, assets and equity. Profitability ratios evaluate the effectiveness of management based on the returns generated on sales and investment. Profitability acts as a motivating force as well as yardstick to measure the effectiveness and efficiency of business effort for the growth and success of any business entities.

REFERENCES

❖ Amit Kumar Singh, "An analysis of profitability position of private bank in India"

❖ Kaur, A. (1993), Profits and Profitability in Commercial Banks, Deep and Deep Publication, New Delhi, 1993.

❖ Arora, S. and Kaur, S. (2006) "Financial Performance of Indian Banking Sector in Post-Reforms Era", The Indian Journal of Commerce, Vol.59, No.1, Jan.-March.

❖ Chandan, C.; and Rajput, P. K. (2002) "Profitability Analysis of Banks in India – A Multiple Regression Approach", Indian Management Studies Journal, June, pp.119-129.

❖ Vyas, R. (1992), "Profitability of Commercial Banks in India: A Comparative Study of Public Sector Banks, Private Sector Banks and Foreign Sector Banks Operating in India"

❖ Annual Report of Axis Bank, HDFC Bank, ICICI Bank, State Bank of India and Punjab National Bank

SRI AYAN CHAKRABORTY 23 P a g e

VOL 2, ISSUE 2 www.puneresearch.com/discovery **MAY to JULY 2017**
(IMPACT FACTOR 2.01) INDEXED, PEER-REVIEWED / REFEREED INTERNATIONAL JOURNAL