

INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

IJR
CM



A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Google Scholar,
Indian Citation Index (ICI), J-Gate, India [link of the same is duly available at Inlibnet of University Grants Commission (U.G.C.)],
Index Copernicus Publishers Panel, Poland with IC Value of 5.09 (2012) & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 7144 Cities in 197 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

<http://ijrcm.org.in/>

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	INTRUSION SHIP DETECTION USING WIRELESS SENSOR NETWORKS <i>G. JEEVITHA, A. SIVASANKARI & N. ABARNA</i>	1
2.	PROFITABILITY ANALYSIS OF SELECT BANKS IN INDIA <i>K.MADDILETI & Dr. S. SUBBAREDDY</i>	9
	REQUEST FOR FEEDBACK & DISCLAIMER	12

FOUNDER PATRON**Late Sh. RAM BHAJAN AGGARWAL**

Former State Minister for Home & Tourism, Government of Haryana
 Former Vice-President, Dadri Education Society, Charkhi Dadri
 Former President, Chinar Syntex Ltd. (Textile Mills), Bhiwani

CO-ORDINATOR**Dr. BHAVET**

Former Faculty, Shree Ram Institute of Engineering & Technology, Urjani

ADVISOR**Prof. S. L. MAHANDRU**

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR**Dr. PARVEEN KUMAR**

Professor, Department of Computer Science, NIMS University, Jaipur

CO-EDITOR**Dr. A. SASI KUMAR**

Professor, Vels Institute of Science, Technology & Advanced Studies (Deemed to be University), Pallavaram

EDITORIAL ADVISORY BOARD**Dr. CHRISTIAN EHIOBU CHE**

Professor of Global Business/Management, Larry L Luing School of Business, Berkeley College, USA

Dr. SIKANDER KUMAR

Vice Chancellor, Himachal Pradesh University, Shimla, Himachal Pradesh

Dr. JOSÉ G. VARGAS-HERNÁNDEZ

Research Professor, University Center for Economic & Managerial Sciences, University of Guadalajara, Guadalajara, Mexico

Dr. RAJENDER GUPTA

Convener, Board of Studies in Economics, University of Jammu, Jammu

Dr. D. S. CHAUBEY

Professor & Dean (Research & Studies), Uttaranchal University, Dehradun

Dr. TEGUH WIDODO

Dean, Faculty of Applied Science, Telkom University, Bandung Technoplex, Jl. Telekomunikasi, Indonesia

Dr. S. P. TIWARI

Head, Department of Economics & Rural Development, Dr. Ram Manohar Lohia Avadh University, Faizabad

Dr. BOYINA RUPINI

Director, School of ITS, Indira Gandhi National Open University, New Delhi

Dr. KAUP MOHAMED

Dean & Managing Director, London American City College/ICBEST, United Arab Emirates

Dr. MIKE AMUHAYA IRAVO

Principal, Jomo Kenyatta University of Agriculture & Tech., Westlands Campus, Nairobi-Kenya

Dr. M. S. SENAM RAJU

Professor, School of Management Studies, I.G.N.O.U., New Delhi

Dr. NEPOMUCENO TIU

Chief Librarian & Professor, Lyceum of the Philippines University, Laguna, Philippines

Dr. A SAJEEVAN RAO

Professor & Director, Accurate Institute of Advanced Management, Greater Noida

Dr. H. R. SHARMA

Director, Chhatarpati Shivaji Institute of Technology, Durg, C.G.

Dr. CLIFFORD OBIYO OFURUM

Professor of Accounting & Finance, Faculty of Management Sciences, University of Port Harcourt, Nigeria

Dr. SHIB SHANKAR ROY

Professor, Department of Marketing, University of Rajshahi, Rajshahi, Bangladesh

Dr. MANOHAR LAL

Director & Chairman, School of Information & Computer Sciences, I.G.N.O.U., New Delhi

Dr. SRINIVAS MADISHETTI

Professor, School of Business, Mzumbe University, Tanzania

Dr. VIRENDRA KUMAR SHRIVASTAVA

Director, Asia Pacific Institute of Information Technology, Panipat

Dr. VIJAYPAL SINGH DHAKA

Professor & Head, Department of Computer & Communication Engineering, Manipal University, Jaipur

Dr. NAWAB ALI KHAN

Professor & Dean, Faculty of Commerce, Aligarh Muslim University, Aligarh, U.P.

Dr. EGWAKHE A. JOHNSON

Professor & Director, Babcock Centre for Executive Development, Babcock University, Nigeria

Dr. ASHWANI KUSH

Head, Computer Science, University College, Kurukshetra University, Kurukshetra

Dr. ABHAY BANSAL

Head, Department of Information Technology, Amity School of Engg. & Tech., Amity University, Noida

Dr. BHARAT BHUSHAN

Head, Department of Computer Science & Applications, Guru Nanak Khalsa College, Yamunanagar

MUDENDA COLLINS

Head, Operations & Supply Chain, School of Business, The Copperbelt University, Zambia

Dr. JAYASHREE SHANTARAM PATIL (DAKE)

Faculty in Economics, KPB Hinduja College of Commerce, Mumbai

Dr. MURAT DARÇIN

Associate Dean, Gendarmerie and Coast Guard Academy, Ankara, Turkey

Dr. YOUNOS VAKIL ALROAIA

Head of International Center, DOS in Management, Semnan Branch, Islamic Azad University, Semnan, Iran

P. SARVAHARANA

Asst. Registrar, Indian Institute of Technology (IIT), Madras

SHASHI KHURANA

Associate Professor, S. M. S. Khalsa Lubana Girls College, Barara, Ambala

Dr. SEOW TA WEEA

Associate Professor, Universiti Tun Hussein Onn Malaysia, Parit Raja, Malaysia

Dr. OKAN VELI ŞAFAKLI

Professor & Dean, European University of Lefke, Lefke, Cyprus

Dr. MOHINDER CHAND

Associate Professor, Kurukshetra University, Kurukshetra

Dr. BORIS MILOVIC

Associate Professor, Faculty of Sport, Union Nikola Tesla University, Belgrade, Serbia

Dr. IQBAL THONSE HAWALDAR

Associate Professor, College of Business Administration, Kingdom University, Bahrain

Dr. MOHENDER KUMAR GUPTA

Associate Professor, Government College, Hodal

Dr. ALEXANDER MOSESOV

Associate Professor, Kazakh-British Technical University (KBTU), Almaty, Kazakhstan

Dr. MOHAMMAD TALHA

Associate Professor, Department of Accounting & MIS, College of Industrial Management, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia

Dr. ASHOK KUMAR CHAUHAN

Reader, Department of Economics, Kurukshetra University, Kurukshetra

Dr. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

WILLIAM NKOMO

Asst. Head of the Department, Faculty of Computing, Botho University, Francistown, Botswana

YU-BING WANG

Faculty, department of Marketing, Feng Chia University, Taichung, Taiwan

Dr. SHIVAKUMAR DEENE

Faculty, Dept. of Commerce, School of Business Studies, Central University of Karnataka, Gulbarga

Dr. TITUS AMODU UMORU

Professor, Kwara State University, Kwara State, Nigeria

Dr. BHAVET

Faculty, Shree Ram Institute of Engineering & Technology, Urjani

Dr. THAMPOE MANAGALESWARAN

Faculty, Vavuniya Campus, University of Jaffna, Sri Lanka

Dr. ASHISH CHOPRA

Faculty, Department of Computer Applications, National Institute of Technology, Kurukshetra

SURAJ GAUDEL

BBA Program Coordinator, LA GRANDIEE International College, Simalchaur - 8, Pokhara, Nepal

Dr. SAMBHAVNA

Faculty, I.I.T.M., Delhi

Dr. LALIT KUMAR

Course Director, Faculty of Financial Management, Haryana Institute of Public Administration, Gurugram

FORMER TECHNICAL ADVISOR

AMITA

FINANCIAL ADVISOR

NEENA

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

LEGAL ADVISORS

JITENDER S. CHAHAL

Advocate, Punjab & Haryana High Court, Chandigarh U.T.

CHANDER BHUSHAN SHARMA

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

SUPERINTENDENT

SURENDER KUMAR POONIA

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography; Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** **anytime** in **M.S. Word format** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website ([FOR ONLINE SUBMISSION, CLICK HERE](#)).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: SUBMISSION OF MANUSCRIPT IN THE AREA OF _____.

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled ' _____ ' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation etc. **The qualification of author is not acceptable for the purpose.**

NOTES:

- a) The whole manuscript has to be in **ONE MS WORD FILE** only, which will start from the covering letter, inside the manuscript. ***pdf. version is liable to be rejected without any consideration.***
 - b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail:**
New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)
 - c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.
 - d) The total size of the file containing the manuscript is expected to be below **1000 KB**.
 - e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.
 - f) **The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.
 - g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.
2. **MANUSCRIPT TITLE:** The title of the paper should be typed in **bold letters, centered and fully capitalised**.
 3. **AUTHOR NAME (S) & AFFILIATIONS:** Author (s) name, designation, affiliation (s), address, mobile/landline number (s), and email/alternate email address should be given underneath the title.
 4. **ACKNOWLEDGMENTS:** Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.
 5. **ABSTRACT:** Abstract should be in **fully Italic printing**, ranging between **150 to 300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. **Abbreviations must be mentioned in full**.
 6. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.
 7. **JEL CODE:** Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aea-web.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.
 8. **MANUSCRIPT:** Manuscript must be in **BRITISH ENGLISH** prepared on a standard A4 size **PORTRAIT SETTING PAPER**. **It should be free from any errors i.e. grammatical, spelling or punctuation. It must be thoroughly edited at your end.**
 9. **HEADINGS:** All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
 10. **SUB-HEADINGS:** All the sub-headings must be bold-faced, aligned left and fully capitalised.
 11. **MAIN TEXT:**

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:**INTRODUCTION****REVIEW OF LITERATURE****NEED/IMPORTANCE OF THE STUDY****STATEMENT OF THE PROBLEM****OBJECTIVES****HYPOTHESIS (ES)****RESEARCH METHODOLOGY****RESULTS & DISCUSSION****FINDINGS****RECOMMENDATIONS/SUGGESTIONS****CONCLUSIONS****LIMITATIONS****SCOPE FOR FURTHER RESEARCH****REFERENCES****APPENDIX/ANNEXURE****The manuscript should preferably be in 2000 to 5000 WORDS, But the limits can vary depending on the nature of the manuscript.**

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR, centered, separately numbered** & self-explained, and the **titles must be above the table/figure. Sources of data should be mentioned below the table/figure. It should be ensured that the tables/figures are referred to from the main text.**
13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.
14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.
15. **REFERENCES:** The list of all references should be alphabetically arranged. **The author (s) should mention only the actually utilised references in the preparation of manuscript** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper.** The author (s) are supposed to follow the references as per the following:
- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
 - Use (ed.) for one editor, and (ed.s) for multiple editors.
 - When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
 - Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
 - The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
 - For titles in a language other than English, provide an English translation in parenthesis.
 - **Headers, footers, endnotes and footnotes should not be used in the document.** However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

PROFITABILITY ANALYSIS OF SELECT BANKS IN INDIA

K.MADDILETI
RESEARCH SCHOLAR
DEPARTMENT OF BUSINESS MANAGEMENT
YOGIVEMANA UNIVERSITY
KADAPA

Dr. S. SUBBAREDDY
ASST. PROFESSOR
DEPARTMENT OF BUSINESS MANAGEMENT
YOGIVEMANA UNIVERSITY
KADAPA

ABSTRACT

Reforms in the Indian economy and banking sector have witnessed growth and development of financial institutions particularly scheduled commercial banks in India. These ever-changing reforms and technology advancements increase financial risk which reduces the profitability of banks. The present study is persistent on analysis of relationship among spread ratios and net interest margin (Profitability) of SBI and HDFC banks. For the study purpose have taken ten years' financial reports of select banks and used Pearson's correlation coefficient analysis for processing of data.

KEYWORDS

assets, financial institutions, liabilities, net interest income, profitability, spread.

JEL CODE

G20

INTRODUCTION

The financial and economic conditions in the country are far better-quality to any other country in the world, due to India's banking sector is adequately capitalised and well-regulated by Reserve Bank of India (RBI). The Indian banking system consists of 12 public sector banks, 22 private sector banks, 46 foreign banks, 56 regional rural banks, 1485 urban cooperative banks and 96,000 rural cooperative banks in addition to cooperative credit institutions. As of November 2020, the total number of ATMs in India increased to 209,282. According to the RBI, bank credit stood at Rs.108.79 trillion and bank deposits stood at Rs. 155.14, as of July 16, 2021.

As of June 23, 2021, the number of bank accounts—opened under the government's flagship financial inclusion drive 'Pradhan Mantri Jan Dhan Yojana (PMJDY)'—reached 42.55 crore and deposits in Jan Dhan bank accounts totalled higher than Rs. 1.44 lakh crore. In the Faster Payments Innovation Index (FPII), the digital payments system in India has evolved the most among 25 countries with India's Immediate Payment Service (IMPS). Through immediate payment service (IMPS), reached the number of transactions upto 303.76 million (by volume) and amounted to Rs. 2.84 trillion. Due to digital payment the 3.25 billion transactions worth Rs. 6.06 lakh crore recorded by Unified Payments Interface (UPI).

Total of 32 Mergers and Acquisitions (M&A) the Indian banking and financial services witnessed activities worth Rs.172 crore in 2019. The commercial banks recorded a recovery of Rs. 400,000 crores of NPAs (Non-Performing Assets) in the last four years including record recovery of Rs. 156,746 crores in the financial year 2019. The RRBs which are unable to maintain minimum Capital to Risk weighted Assets Ratio (CRAR) of 9% as per the regulatory norms prescribed by RBI, do the continuation of the process of recapitalization of Regional Rural Banks (RRBs) by providing minimum regulatory capital to RRBs for another year beyond 2019-20 - till 2020-21 given approval by the Cabinet Committee on Economic Affairs.

SPREAD

The spread measures the efficiency of a financial firm's intermediation function in borrowing and lending money and also the intensity of competition in the firm's market area.

Spread = (Interest Income / Avg. earning Assets) – (Interest Expense / Avg. Interest Bearing Liabilities)

SPREAD RATIOS

1. Spread to Total Income

Spread to Total Income = Spread ÷ Total Income

Then Total Income = Interest income + Other Income

2. Spread to Working Fund

Spread to Working Fund = Spread ÷ Working Fund

3. Interest Earned to Working Fund

Interest earned to Working Fund = Interest Income ÷ Working Fund

4. Interest Earned to Total Income

Interest Earned to Total Income = Interest Income ÷ Total Income

5. Interest Expended to Working Fund

Interest Expended to Working Fund = Interest Expense ÷ Working Fund

6. Interest Expended to Total Income

Interest Expended to Total Income = Interest Expense ÷ Total Income

NET INTEREST MARGIN (PROFITABILITY)

It is a measure of the differences between interest income generated by the banks and the amount of interest paid to the outsiders.

Net Interest Margin = Net Interest Income ÷ Earning Assets*100

Or

Net Interest Margin = (Interest Income – Interest Expenses) ÷ Earning Assets*100

REVIEW OF LITERATURE

Manju Rajan Babu (2019) evaluated profitability and liquidity position of banks with reference to pre and post-merger in India during the period of 1998-2016. The author had taken total 17 banks from both public sector and private sector banks. For processing data used CAMEL and data envelopment analysis. It was observed

that ICICI bank had a better performance after merger. The mixed trend was also observed in the analysis of acquirer banks. The return on net worth, profit per employee and total asset growth rate ratios in post-merger years: HDFC Bank, Federal Bank and Bank of Baroda were efficient as compared to other banks and the financial performance of Kotak Mahindra Bank was efficient for post-merger years.

Santosh Kumar (2019) study conducted on the profitability of banks impacted by income diversification for the period of ten years from 2008 to 2017. For study purpose the author had taken 43 foreign banks, 21 nationalized banks, 6 SBI associate banks and 20 private sector banks. To process the data used ANOVA - F test and Multiple Regression analysis. The study was found that DS₁ positively impacted on ROE, ROA and RAROE and negatively impacted on RAROA. The DS₂ was positively impacted on ROE, ROA, RAROE and RAROA during the study period.

Biraj Kumar Mohanty and Ravees Krishnankutty (2018) analysed the profitability of 39 banks of 390 observations. They analysed profitability of banks from 1999 to 2015. They used correlation analysis to know the association among the variables. The study concludes that ROA has a significant positive association with last year solvency ratio, capital adequacy ratio whereas 2 and 3 years lag ROA, has a negative effect with size, GDP growth, loan to deposit ratio, expense ratio and productivity ratios.

Albulescue (2015) had a study on banking sector of emerging six Latin American countries during 2006 – 2013. The author finds out that capitalization, liquidity and interest rates margin positively influence the banks' profitability margins whereas NPA and non-interest expenses have negative impact. The author found out either ROA or ROE is robust to measure the profitability of a bank. It was further suggested that banking sector should take care of quality of loans to increase the profitability. A well- Capitalized banking sector is eventually a profitable one.

Rakhe P.B. (2010) had study on profitability of foreign banks vis-a-vis compared with Indian public sector banks and private sector banks during the period of 2002 to 2009. For analysis of data the researcher used regression analysis. The study indicates the access to low cost funds, diversification of income, adequate other income to fully finance the operating expenses are the important factors leading to the higher profitability of foreign banks. The analysis is also found that efficiency of fund management is the most important factor determining profitability in the banking system followed by generation of other income.

Mittal and Aruna (2007) compared the profitability of various bank groups using ratio analysis during the period 1999-2000 to 2003-04. The study found that foreign banks were the most profitable bank group in India followed by private sector banks and public sector banks. The study also noted that the profitability of the public sector banks has witnessed improvement over the last five years.

OBJECTIVES OF THE STUDY

1. To analyse the profitability of SBI Bank
2. To analyse the profitability of HDFC Bank

HYPOTHESIS OF THE STUDY

H0₁: There is no significant relationship among spread ratios and net interest margin of SBI bank.

H0₂: There no significant relationship among spread ratios and net interest margin of HDFC bank.

METHODOLOGY OF THE STUDY

The study is based on the secondary data in the form of consolidated financial information contained in annual records and reports of selected banks in India, and the published journal, articles data from RBI's centre for monitoring Indian economy (CMIE).

SAMPLE SELECTION CRITERIA

Selection of banks for study purpose used the criteria of: The Banks whose equity shares are being traded in National Stock Exchange for not less than 10 years; The banks' trading frequency should be at least 90% in the last six months and banks are representative of 'The Nifty PSU Bank Index' and 'Private Sector Bank Index'.

CORRELATION ANALYSIS

Correlation analysis helps to determine the strength of the linear relationship between the two variables X and Y, in other words, as to how strongly these two variables are correlated. Karl Pearson, in 1896, developed an index or coefficient of this association in cases where the relationship is a linear one, i.e., where the trend of the relationship can be described by a straight line. The Pearson's coefficient of correlation is designated by r. The coefficient of correlation r can be designed as a measure of strength of the linear relationship between the two variables X and Y.

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

TESTING OF HYPOTHESIS

H0₁: There is no significant relationship between spread ratios and Net Interest Margin (Profitability) of SBI Bank.

TABLE - 1: SBI - CORRELATION BETWEEN SPREAD RATIOS AND NET INTEREST MARGIN (NIM)

		Net Interest Margin
Net Interest Margin	Pearson Correlation	1
	Sig. (2-tailed)	
Spread to Total Income	Pearson Correlation	.609
	Sig. (2-tailed)	.062
Spread to Working Fund	Pearson Correlation	.683*
	Sig. (2-tailed)	.029
Interest Income to Working Fund	Pearson Correlation	.803**
	Sig. (2-tailed)	.005
Interest Income to Total Income	Pearson Correlation	.727*
	Sig. (2-tailed)	.017
Interest Expense to Working Fund	Pearson Correlation	.379
	Sig. (2-tailed)	.281
Interest Expense to Total Income	Pearson Correlation	-.470
	Sig. (2-tailed)	.171

* Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table – 1 show that correlation between the net interest margin and spread ratios that influences the net interest margin of the SBI. The Net Interest Margin (NIM) significantly correlated with spread to working funds (r = 0.68; 0.05), interest income to working funds (r = 0.80; 0.01) and interest income to total income (r = 0.73; 0.05), signifies higher the banks' earning capacity indicates the greater NIM. And hence other ratios were not found to be significantly correlated with NIM. It indicates NIM not depends on other spread ratios. The null hypothesis "There is no significant relationship between spread ratios and Net Interest Margin of select public and private sector banks", was rejected in the ratios of spread to working funds Vs NIM, interest income to working funds Vs NIM and interest income to total income Vs NIM. It was accepted in remaining other spread ratios of SBI.

H0₂: There is no significant relationship between spread ratios and Net Interest Margin of HDFC Bank.

TABLE – 2: HDFC BANK - CORRELATION BETWEEN SPREAD AND NET INTEREST MARGIN

		Net Interest Margin
Net Interest Margin	Pearson Correlation	1
	Sig. (2-tailed)	
Spread to Total Income	Pearson Correlation	.035
	Sig. (2-tailed)	.923
Spread to Working Fund	Pearson Correlation	.030
	Sig. (2-tailed)	.935
Interest Income to Working Fund	Pearson Correlation	-.058
	Sig. (2-tailed)	.873
Interest Income to Total Income	Pearson Correlation	-.115
	Sig. (2-tailed)	.752
Interest Expense to Working Fund	Pearson Correlation	-.177
	Sig. (2-tailed)	.625
Interest Expense to Total Income	Pearson Correlation	-.303
	Sig. (2-tailed)	.394

* Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table – 2 shows that correlation between the net interest margin and spread ratios that influences the net interest margin of the HDFC Bank. The Net Interest Margin (NIM) positively and insignificant correlation with spread to total income and spread to working funds, and it was negatively and insignificant correlation with remaining all variables. It indicates NIM not depends on all spread ratios of HDFC bank. The null hypothesis “There is no significant relationship between spread ratios and Net Interest Margin of select public and private sector banks”. Accepted and alternative hypothesis was rejected.

COMPARATIVE RESULTS

When compared the test results of HDFC bank with SBI bank, during the study period 2010 – 2020, HDFC bank’s NIM has not associated with its all Spread ratios. Hence the SBI bank’s NIM has a significant association with Spread to working funds, interest income to working funds and interest income to total income. It can understand that SBI bank consists of better utilization of its funds to generate the profits.

SUMMARY OF FINDINGS & CONCLUSIONS

The SBI bank’ The Net Interest Margin (NIM) significantly correlated with spread to working funds ($r = 0.68$; 0.05), interest income to working funds ($r = 0.80$; 0.01) and interest income to total income ($r = 0.73$; 0.05), signifies higher the banks’ earning capacity indicates the greater NIM. And hence other ratios were not found to be significantly correlated with NIM. It indicates NIM not depends on other spread ratios. The HDFC bank’ The Net Interest Margin (NIM) positively and insignificant correlation with spread to total income and spread to working funds, and it was negatively and insignificant correlation with remaining all variables. It indicates NIM not depends on all spread ratios of HDFC bank.

The study concludes that the SBI bank having huge profits through its traditional income, by offering higher loans and advances to the customers. Hence the HDFC banks’ traditional income does not correlate with its profitability tells us they generate the profits through non- traditional income.

REFERENCES

1. Albulescu, C.T. (2015), “Banks Profitability and Soundness indicators: A Macro level Investigation in emerging countries”, *Procedia Economics and Finance*, Vol.23, No.5, pp 203-209.
2. Biraj Kumar Mohanty & Ravees Krishnankutty. (2018), “Determinants of Profitability in Indian Banks in the Changing Scenario”, *International Journal of Economics and Financial*, vol. 8, No. 3, pp 235-240.
3. Manjurajan Babu. (2019), “Research on Profitability and Liquidity position of Banks with Reference to Pre and Post Merger”, *International Journal of Recent Technology and Engineering (IJRTE)*, Vol. 8, No. 154, pp 253-261.
4. Mittal, Manish, & Aruna Dhade. (2007), “Profitability and Productivity in Indian Banks: A Comparative Study”, *AIMS Journal of Management*, Vol. 1, No. 2, pp 137-152.
5. Rakhe, P.B. (2010), “Profitability of Foreign Banks vis-a-vis Other Bank Groups in India – A panel Data Analysis”, *Reserve Bank of India Occasional Papers*, Vol. 31, No. 2, pp 49-66.
6. Santoshkumar. (2019), “Income Diversification and its impact on profitability of banks”, *International Journal of Recent Technology and Engineering (IJRTE)*, Vol. 8, No. 4, pp575-585.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Computer Application & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue, as well as on the journal as a whole, on our e-mail infoijrcm@gmail.com for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail infoijrcm@gmail.com.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

DISCLAIMER

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, neither its publishers/Editors/ Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal are exclusively of the author (s) concerned.

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals

