Profitability of Public Sector Banks in India : A Study of Determinants

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Abstract

The "Profitability of Public Sector Banks in India: A Study of Determinants" examines the factors influencing the financial performance of 26 Indian Public Sector Banks post global financial crises. The Random Effect Model on the balanced panel data for the period 2012-2017 was performed to determine the impact of the macroeconomic and bank specific factors based on the CAMELS framework. The bank specific factors that influence the profitability of the Public Sector Banks in India are Total Investments to Total Assets, Operating Profit to Total Assets and Provisions on Loans whereas the effect of macroeconomic factors on the banks profitability were insignificant.

Keywords: Financial Performance, Indian Public Sector Banks, Random Effect Model.

1. Introduction

Banking System is a hub of a strong economy and needs to be both stable and profitable. An efficient Banking system is important for investments and economic development (Yaron et al., 1998). Commercial Banks act as a bridge between the depositors and the borrowers to meet the requirement of employing and deploying funds and they have to deal with various risks broadly categorized as Credit risk, Liquidity risk, Market risk, Operational risk and Macroeconomic risk. As an entity that transacts with the funds of the depositors, is exposed to various risks, establishment of a strong regulatory and supervisory frame work helps in minimizing and controlling the risks; thus facilitating the robust growth of the economy. Effective regulatory control and regular supervision is essential for the banks to deliver their services and withstand the shocks of the economy. Banking crisis leads to serious breakdown of the economy as witnessed in the subprime crises (Marshall, 2009). Instances of lending by the banks with faulty lending policies, inadequate monitoring mechanism lead to delinquent advances creating a contagion effect as seen in the cases of Kingfisher Airlines in the year 2011 and the Punjab National Bank Letter of Undertaking in the year 2018. Sundararajan et al. (2002) in his research stresses the need for a strong banking supervisory system.

To strengthen the supervision, in the year 1988 the Basel Committee of the Bank of International Settlements (BIS) proposed the CAMELS framework for assessing financial institutions. The supervisory office of the regulators uses CAMELS ratings for identifying institutions that require attention. The ratings are assigned based on the financial statements of the bank or financial institution. CAMEL rating is an indispensable tool for examiners and regulators (Barr S Richard et al., 2002). It determines the banks overall conditions in the areas of financial, managerial and operational aspects. It measures the risk and financial stability of a bank and the results help the supervisory authorities to identify banks that need maximum amount of regulatory attention. The supervisory

results help the managements to draw their plans for business and capital planning, risk appetite, risk monitoring and recovery planning. The direct beneficiaries of supervisory information, such as that contained in CAMELS ratings, would be depositors and other stakeholders. Small depositors are protected from possible bank default (Gilbert and Vaughn, 1998). The Basel Committee on Banking Supervision (2010) emphasized on rating the solvency, liquidity creation and proposed new capital rules including maintaining of higher capital reserves by banks in the supervisory role.

The supervisory ratings range from 1 to 5, with 1 being the highest rating (representing the least amount of regulatory concern) and 5 being the lowest. The six components to determine the overall score in the area of risk management are as under:
C—Capital Adequacy
A—Asset Quality
M—Management Efficiency
E—Earning Quality
L—Liquidity
S—Sensitivity to Market Risk

The CAMELS approach is a quantitative technique consisting of a set of key performance indicators referred globally to evaluate the financial health of commercial banks as per the recommendations of the Basel Committee (Roman & Sargu, 2013). The supervisory information gathered during the banks examination are not shared with the public but studies show that it does filter into the financial markets (FRBSF, 1999). In an attempt to be transparent and market friendly, the US and the European Union share the test results and also the outcome under adverse and severely adverse economic and financial conditions

1.1 Banking in India

Responding to the need to meet the competitive global environment, India, in the nineties opened up its economy, largely by ending the licence raj and the permit system. As per the recommendations of the Narasimhan Committee, the Banking Sector introduced various reforms including the opening of the sector to private and the foreign players, deregulation of interest rates, reduction of the Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR); this made the sector competitive with a scope to provide the customers a better experience (Vijay Joshi and David Little, 1998). At the same time, this exposed the Sector to risk of losses across the asset classes and geographical borders, needing close attention on the supervisory front from the monetary authorities (RBI, 2008-09).

The opening of the sector to the private players reduced government ownership of banks from 58.9% in 1970 to 41.6% in 1995 (La Porta et al., 2002). The ownership in the banking sector remains predominantly in the public sector despite a gradual decline in their share. As on March 31, 2017, the Indian Banking System consists of 27 Public Sector Banks, 21 Private Sector Banks, 43 Foreign Banks, 56 Regional Rural Banks, 54 Scheduled Urban Co-operative Banks and 1498 Non Scheduled Urban Cooperative Banks in addition to Cooperative Credit Institutions. Public Sector Banks control more than 70 per cent of the banking business thereby leaving a comparatively smaller share for its private peers.

During the period 2006–2017, deposits grew at a CAGR of 12.03 per cent and reached 1.54 trillion by the end of the Financial Year 2017. As on November 9, 2016, 255.1 million accounts were opened under Pradhan Mantri Jan DhanYojana (PMJDY). Due to the progressive policies adopted by the

Government of India in the year 2017, there was a spike in the number of accounts with the banks; this also calls for a strong risk management.

According to the Reserve Bank of India (RBI), the banking sector in India is sound, adequately capitalized and well-regulated with High Quality Liquidity Assets (HQLA) and SLR investments and it is much better when compared to other economies of the world. Studies on Credit, Market and Liquidity Risk suggest that Indian Banks are generally resilient and well regulated (SS Mundra, 2015). On the other hand, the quality of assets remains a matter of concern; the Reserve Bank of India, in its financial stability report has stated that the gross NPAs may increase to 9.3 per cent by March 2017, if the macro environment turns adverse (RBI, 2017).

The gross non-performing assets of the Public Sector and Private Sector Banks as on September 30, 2017 were Rs.7,33,974 crore and Rs.1,02,808 crore respectively. The NPAs are detrimental to the financial health of the banks; it is found that the Public Sector Banks are burdened with huge NPAs and the profitability of the banks is at stake. There is a growing concern over the risk carried by the PSBs in India. Unlike the western economies, the RBI withholds the information of the supervisory reports citing it as in the larger interest of the nation. With the control on the supervisory information exercised by the regulator in India, it is of interest to the stake holders to understand the factors that influence the financial performance of the banks more so in the case of the Public Sector Banks that dominate the banking sector in India. This paper attempts to study macroeconomic factors and the bank specific factors based on the CAMELS framework.

The immediate section presents the literature review followed by the objectives of the study, methodology, discussion of the results and findings.

2. Literature Review

The CAMEL rating by supervisory agencies provide vital information to the stakeholders, analysis of the data collected on Banking Holding Companies by supervisors and the rating agencies is complementary but different from those by the stock market (Berger, Davies and Flannery, 1998; Bernanke, 2007). The financial performance of the businesses can be determined by their profitability, the study of micro and macro factors revealed the influence on banks profitability in the UK (Kosmidou et al., 2006). Cole and Gunther (1998) found that the CAMEL rating was a good forecasting tool but the information decayed quickly. The data of 80 countries showed that the bank financial performance has influence by a variety of determinants that are of the bank characteristics and macroeconomic conditions, taxation and banking regulation. Foreign banks reported higher margins and profits than domestic banks in developing countries, contrary to the pattern in the industrial countries (Demirguc-Kunt, Asli; Huizinga, Harry, 1999). The profitability of European Union banks for the period 1995–2001 revealed bank's specific characteristics and the overall banking environment influenced the profitability of commercial domestic and foreign banks (Pasiouras F., Kosomidou K, 2007). The ownership of the firms can have an influence on the financial performance (Ongore, 2011). The dominant shareholders have a major contribution in the day to day working which is closely monitored by them, this also works adversely when fresh and innovative ideas are found wanting for the business (Wen, 2010). The study on the efficiency of three ownership groups of banks in India revealed that the Public Sector Banks performed efficiently followed by the Foreign Banks and Private Sector Banks (Sathye, 2003). Studies on profitability and ownership revealed that in India the privately-owned banks performed better than the Public Sector Banks (Petya Koeva, 2003; Sanyal and Shankar, 2005). The ownership of European banks did not have any significant

explanatory value for profitability (Molyneux P and J. Thornton, 1992). Ameur and Mhiri (2013) suggest that the bank profitability is explained by the bank specific factors and the macroeconomic variables are not significant. The empirical findings suggest that the bank specific factors like size and credit risk are negatively related to banks' profitability, while non-interest income is positively related (Fadzlan Sufian, Razali Chong, 2008). On studying the profitability of Indian banks using the Multiple Regression it was found that Credit Deposit Ratio and Net Interest Income were significant (Naresh Kedia, 2016). The bank-specific characteristics and macroeconomic variables based on the income of the nation affects the profitability of the banks in terms of significance and size of the effect. The level of income has an important impact on the determinants of bank profitability (Andreas Dietrich, 2016). Studies suggest that banks with higher deposit ratio tend to be more profitable (Elisa Menicucci, Guido, 2016). The size of the bank to capital-asset ratio has significant explanatory value for profitability (Goddard et al., 2004). Study by Petya Koeva (2003) suggests positive relationship between management efficiency and profitability. Berger (1995) investigated the profit-structure relationship and found that profits were positively related due to superior management and increased market share in the case of small-to-medium-size bank. A study on profitability of the banks in India during 1998-2003 concluded that better control over expenses, efficient use of assets and employment of appropriate financial leverage led to superior performance of foreign owned banks over the domestic banks (Narendar et al., 2005)

3. Research Gap

The asset quality, efficacy of banks' credit risk management and the recovery environment speaks volumes of the financial health. With the financial crisis in the euro zone in 2011, the market stress had not limited itself to the Euro zone but had impacted the global economy. This was a clarion call for the policy makers to pay attention towards the strengthening of the credit risk policies and to design a mechanism for early detection of signs of distress. The impact of the macroeconomic and bank specific factors on the profitability of the Public Sector Banks in India in the recent period is not done and therefore the study to determine the impact of the macroeconomic and bank specific factors based on the CAMELS framework on the profitability of the Public Sector Banks in India with Random Effect Model on the balanced panel data for the period 2012-2017 is taken up. The authors attempt to add to the body of research on the determinants that influence the profitability of the Public Sector Banks operating in an environment of controlled dissemination of supervisory results in the public domain.

4. Objectives of the Study

The objectives of the study are to analyse

- The impact of the bank specific factors on the profitability of the Public Sector Banks and
- The impact of the macro economic factors on the profitability of the Public Sector Banks

5. Methodology

The study is based on the Secondary Data collected from the website of the Reserve Bank of India and Economic Survey reports. The data has been collected for 26 out of 27 Public Sector Banks excluding Bharatiya Mahila Bank which came into existence on 19th November, 2013. Random Effect Model is employed on the balanced panel data for the period 2012–2017 in order to examine critically the determinants of the profitability of the Public Sector Banks in India. The Random Effect

Model assumes the variation across entities to be random and uncorrelated with the independent variables included in the model (Greene, 2008). It is assumed that the differences arise across the entities influence
the profitability of banks.

6. Determinants

6.1 Bank Specific Factors

The following are the Bank Specific Factors which may have an effect on the profitability of the banks.

- **Return on Equity (ROE)** measures the profitability of the firm relative to the owners funds employed. It measures the ability of a firm to generate profits from its shareholders capital invested in the company. A business with a high return on equity indicates effective utilization of capital providing better performance. The earnings available to the shareholders after meeting the financial obligations measure the financial performance of the bank. Return on Equity (ROE) is a good and commonly accepted indicator by the analysts (Murthy and Sree, 2003).
- **Capital Adequacy** focuses upon the overall financial condition of the bank. It is a measure of a bank's capital expressed as a percentage of a bank's risk weighted credit exposures. It focuses on the quality and strength of earnings, ability to raise additional capital and the exposure of risk in respect to the off Balance Sheet activities. This parameter indicates the preparedness of the bank to face adverse economic conditions and protects the banks from financial distress. Capital available enables the bank to support the bank's business in case of adverse situation like heavy abrupt withdrawals (Athanasoglou et al., 2005).
- **Asset Quality** affects the financial performance of a bank. Loans are the largest component of assets on the Balance Sheet of a bank. A strong loan portfolio with timely collections leads to profitability of banks. Poor Asset Quality is the major cause of most bank failures (Grier, 2007). The highest risk facing a bank is, the losses derived from delinquent loans (Dang, 2011).
- **Management Efficiency** measures the capability and performance of the Management. It studies the capacity of the management systems, human resources, control systems, facilities and risk management of the bank. Management efficiency affects the overall performance of the institution and its risk profile.
- **Earnings Quality** determines the earnings trend, stability of the banks and the effective employment of their assets (Roman and Sargu, 2013). It focuses on the budgeting systems, forecasting processes, and management information systems. Adequacy of provisions is required to maintain the allowance for loan and lease losses and other valuation allowance accounts.
- **Liquidity** focuses on the availability of assets for converting them to cash readily. This also is an indicator of the ability of the banks to pay their short term obligations on time. It is crucial to have necessary liquid assets. Therefore, liquidity ratios be monitored effectively (Derviz and Podpiera, 2004). Adequate liquidity is positively related with the bank profitability (Dang 2011).
- **Sensitivity to Market Risk** focuses on capacity of the banks' earnings to withstand the adverse changes in interest rates, foreign exchange rates, commodity prices or equity prices and identify, measure, monitor, and control exposure to market risk.

The bank specific factors for the study are

- ROE representing the profitability of the banks taken as the dependent variable.
- The independent variables that have been analysed to determine their influence on the profitability of the banks are

(i) Capital Adequacy measured by Capital Adequacy Ratio (CAR)
(ii) Asset Quality measured by Total Investments to Total Assets (TITA)
(iii) Management Efficiency measured by Business Per Employee (BPE)
(iv) Earnings Quality represented by Operating Profit to Total Assets (OPTA)
(v) Liquidity for which Credit Deposit Ratio (CDR) is taken as proxy
(vi) Sensitivity to Market Risk represented by the Provision of Loan / Loan (PRLL)

6.2 Macroeconomic Factors

The businesses are affected by the external environment which shapes up based on the economic policy and global markets. The macroeconomic indicators like the Gross Domestic Product (GDP), Inflation, Industrial Production, Per Capita Net National Income and Employment Rate among others provide sufficient information to the analysts on the direction of the economy; which also has an influence on the business environment, touching the financial sector.

Whole sale Price Index (WPI) indicates the rise in profitability in the economic activity and IIP denotes the level of economic activity across sectors. The external factors can influence the investing decisions; and thereby affect the investment portfolio and asset quality. Bourke (1989) suggest that the Consumer Price Index could be used to study the profitability of banks.

The GDP Growth Rate is a significant variable to determine the bank profitability (Omar Masood and Ashraf, 2012). Net National Product (NNP) measures the monetary value of all the finished goods and services excluding subsidies and depreciation produced by the country's factors of production irrespective of their location.

To study the profitability of the banks the following Macroeconomic factors are considered
(i) Wholesale Price Index on Numbers (WPI)
(ii) Gross Domestic Product Growth Rate (GDPGR) and
(iii) Per Capita Net National Income Growth Rate (PCNNIGR

7. Findings And Discussion

Descriptive Statistics relating to the Macroeconomic Factors and Bank Specific Factors in terms of dependent and independent variables are presented in Table -1 to analyze their effect on profitability of the banks.

Table-1 Descriptive Statistics

Macroeconomic Factors			
	GDPGR	**WPI**	**PCNNIGR**
Mean	105.7441	109.1000	104.4500
Median	106.7466	110.6500	105.1500
Maximum	108.0101	113.9000	106.8000
Minimum	100.0000	100.0000	100.0000
Std. Dev.	2.703839	4.649218	2.304316
Skewness	-1.444356	-1.002189	-0.940407
Kurtosis	3.563926	2.740609	2.625894
Sum	16496.08	17019.60	16294.20
Sum Sq. Dev.	1133.166	3350.360	823.0300
Observations	156	156	156

Compiled from the reports of RBI

	Bank Specific Factors						
	Dependent Variable	**Independent Variables**					
	ROE	**CAR**	**TITA**	**BPE**	**OPTA**	**CDR**	**PRLL**
Mean	4.741693	11.75692	25.91790	141.5438	1.643781	73.50865	1.268053
Median	7.295000	11.66000	25.93230	136.9500	1.646732	74.48065	0.902382
Maximum	21.98000	14.67000	37.59966	262.1000	2.632209	86.93624	7.042165
Minimum	-44.37287	9.000000	16.33763	79.84000	0.702680	42.39083	0.200482
Std. Dev.	12.33260	1.059401	3.643090	33.46298	0.389563	7.548318	1.050621
Skewness	-1.696820	0.228494	0.192704	1.238746	-0.063460	-1.252311	2.454724
Kurtosis	6.294474	2.778771	3.475200	5.240951	2.583489	6.116768	10.66316
Sum	739.7041	1834.080	4043.192	22080.83	256.4298	11467.35	197.8163
Sum Sq. Dev.	23574.41	173.9611	2057.176	173564.5	23.52270	8831.451	171.0896
Observations	156	156	156	156	156	156	156

Compiled from the reports of RBI

The descriptive statistics presented in Table-1 indicates that the Public Sector Banks clocked ROE of 4.75% on an average, which is fairly healthy. The range of the ROE has fluctuated between 21 to -44 indicating a large fluctuation which is due to the change in the economic conditions during the period. All the variables except ROE and BPE are symmetrical. The Kurtosis value of all variables is positive and the density of the tails is
heavier indicating that the data is not normally distributed

Table-2

Dependent Variable: ROE				
Method: Panel EGLS (Cross-section random effects)				
Sample: 156				
Periods included: 6				
Cross-sections included: 26				
Total panel (balanced) observations: 156				
Swamy and Arora estimator of component variances				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	39.24682	26.70799	1.469479	0.1439
GDPGR	0.458112	0.580939	0.788573	0.4316
PCNNIGR	-0.544422	0.656687	-0.829044	0.4084
WPI	-0.226610	0.167668	-1.351538	0.1786
CAR	0.316066	0.410324	0.770284	0.4424
TITA	-0.324006	0.118326	-2.738253	0.0069
BPE	-0.002007	0.012015	-0.167081	0.8675
OPTA	8.138420	1.072661	7.587134	0.0000
CRD	0.022067	0.067133	0.328709	0.7428
PRLL	-8.985371	0.415492	-21.62587	0.0000

Compiled from the reports of RBI

From the results given in Table-2, among the explanatory variables the TITA, OPTA and PRLL are significant and influence the profitability of the banks. The Operating Profit to Total Assets is positive and significant; the Management can pay attention towards bettering their profits and improve their operating efficiency. The provision to loan which is the measure of the ability to respond to the market risk is negative and significant. The provisions made by the banks can provide indications of the profitability of the banks at 5% significant level. From the study on the macroeconomic variables, it was found that the macro economic factors WPI, GDPGR and PCNNIGR are not statistically significant in explaining the profitability of the banks.

8. Findings

- Among the bank specific factors, TITA, OPTA and PRLL influence the profitability of the banks
- The provisions made by the banks can provide indications of the profitability of the banks
- The effect of macroeconomic factors viz., WPI, GDPGR and PCNNIGR on the profitability of the banks are not statistically significant.

9. Suggestions

The Management can pay attention towards bettering their profits and improve their operating efficiency by concentrating on the Asset Quality, Earning Quality and Sensitivity to Market Risk.

10.Conclusion

Based on the results, we conclude that to explain the profitability of the Public Sector Banks in India, the bank specific variables which are Total Investment to Total Assets, Operating Profit to Total

Assets and Provision against Loans are significant. The Public Sector Banks should pay attention towards these variables and strengthen their financial performance by responding to the market sensitivity and employment of total assets. The provision on loan has a negative impact on its profit, suggesting the need to pay attention towards supervising the loans made on the Balance Sheet. The Macroeconomic variables such as WPI, GDPGR and PCNNIGR are not significant predictors.

References

(1) Ameur, I.G.B & Mhiri, S.M. (2013).”*Explanatory factors of bank performance evidence from Tunisia”,* International Journal of Economics, Finance and Management 2(1), pp.143-152.

(2) Andreas Dietrich Gabrielle Wanzenried (2014). “*The determinants of commercial banking profitability in low, middle and high-income countries*”, The Quarterly Review of Economics and Finance Volume 54, Issue 3, August, Pages 337-354.

(3) Athanasoglou, P. P., S.N. Brissimis and M.D. Delis (2005). “*Bank-specific, industry- specific and macroeconomic determinants of bank profitability*”, Bank of Greece working Paper, No.25 (June), pp.1-35.

(4) Barr, Richard S. et al., (2002). “*Evaluating the Productive Efficiency and Performance of U.S. Commercial Banks*”, Engineering Management, 28(8), p. 19.

(5) Berger, A.N., (1995). “*The profit - structure relationship in banking: Tests of market power and efficient-structure hypotheses”,* Journal of Money, Credit, and Banking 27, pp.404-431.

(6) Berger, Davies and Flannery (1998). “*Comparing Market and Supervisory Assessments of Bank Performance: Who Knows What When?*”, Finance and Economics Discussion Series (FEDS) Paper No. 1998-32.

(7) Bernanke, Ben S. (2007). “*Central Banking and Bank Supervision in the United States*”.http://www.federalreserve.gov/newsevents/speech/bernanke20070105a.htm

(8) Bourke, P. (1989*).* “*Concentration and other determinants of bank profitability in Europe, north American and Australia”*, Journal of Banking and Finance 3(1), pp.65-79.

(9) Cole, Rebel A and Gunther, Jeffery (1998). “*Predicting Bank Failures: A Comparison of On-And Off-Site Monitoring Systems*”, Journal of Financial Services Research, 13(2), p. 103-117.

(10) Dang, Uyen. (2011). “*The CAMEL Rating System in Banking Supervision: a Case Study of Arcada University of Applied Sciences”*, International Business.

(11) Demirguc-Kunt, Asli & Huizinga, Harry. (1999). “*Determinants of commercial bank interest margins and profitability: some international evidence (English)*”, The World Bank Economic Review vol.13, no.2, pp.379-408.

(12) Derviz, A. and Podpiera, J. (2004). “*Predicting Bank CAMELS and S&P Ratings: The Case of the Czech* Republic”, Czech National Bank Working Paper Series 44, pp.117-130.

(13) Elisa Menicucci and Guido Paolucci. (2016). "*Factors affecting bank profitability in Europe: An empirical investigation"*, African Journal of Business Management 10(17), pp.410-420.

(14) Federal Reserve Bank Of San Francisco (FRBSF), (1999). "*Using CAMELS Ratings to Monitor Bank Conditions Jose A. Lopez Economic Research",* https://www.frbsf.org/ economic-research/publications/economic-letter/1999/june/using-camels-ratings-to-monitor-bank-conditions/

(15) Gilbert, R.A. and M.D. Vaughn. (1998). "*Does the Publication of Enforcement Actions Enhance Market Discipline?*", Manuscript, Research Department, Federal Reserve Bank of St. Louis.

(16) Goddard, J. A., Philip Molyneux and John O.S. Wilson. (2004). "*The profitability of European banks: a cross-sectional and dynamic panel* analysis", Manchester School 72(3), pp. 363-381.

(17) Greene, W. H. (2008). "*Econometric Analysis*", 6th ed., Upper Saddle River, N.J.: Prentice Hall.

(18) Grier, Waymond A. (2007). "*Credit Analysis of Financial Institutions*", 2nd ed. Euromoney Institution Investor PLC.

(19) Kosmidou, K et al. (2006). "*Assessing performance factors in the UK banking sector: a multi criteria methodology*", Central European of Operations Research 14(1), pp. 25-44.

(20) La Porta R., Lopez-De-Silanes F. and Shleifer A. (2002). "*Government Ownership of Banks*", Journal of Finance, 57(1), 265-302

(21) Marshall J. (2009). "*The financial crisis in the US: key events, causes and responses*", Research Paper 09/34, http://www.parliament.uk.

(22) Molyneux, P and J. Thornton. (1992). "*Determinants of European bank profitability: A note*", Journal of Banking and Finance 16, pp.1173-1178.

(23) Murthy, Y., Sree, R. (2003). "*A Study on Financial Ratios of major Commercial Banks*", Research Studies, College of Banking & Financial Studies, Sultanate of Oman.

(24) Omar Masood and Muhammad Ashraf. (2012). "*Bank-specific and macroeconomic profitability determinants of Islamic banks: The case of different countries*", Qualitative Research in Financial Markets, vol. 4, issue 2/3, 255-268

(25) Ongore, V.O. (2011). "*The relationship between ownership structure and firm performance: An empirical analysis of listed companies in Kenya*", African Journal of Business Management 5(6), pp.2120-2128.

(26) Pasiouras F., Kosomidou K., (2007). "*Factors influencing the profitability of domestic and foreign commercial banks in the European Union*", International Business and Finance, 21, 222-237. https://econpapers.repec.org/paper/fipfedgfe/1998-32.htm

(27) Naresh Kedia (2016). "*Determinants of Profitability of Indian Public Sector Banks*", IRA-International Journal of Management & Social Sciences Vol.02, Issue 03

(28) Narendar V Rao, Rasoul Rezvanian and Emmanuel Nyadroh. (2005). "*Profitability of Banks in India: An Assessment*", Alliance Journal of Business Research, pp. 68-90. http://ajbr.org/Archives/Profitability%20of%20Banks%20in%20India%20-20An%20Assessment.pdf

(29) Petya Koeva. (2003). "*The performance of Indian banks during liberalisation period*", IMF working paper, No.3/150, pp.1 -33.

(30) Roman A, Şargu AC. (2013). "*Analysing the financial soundness of the commercial banks in Romania: an approach based on the camels framework*", Procedia economics and finance 6, pp.703-712.

(31) Sanyal P and R. Shankar. (2005). "*Financial Sector Reforms and Bank Efficiency India*", Working Paper, Department of Economics and International Business School, Brandeis University, Waltham.

(32) Sathye. (2003). "*Efficiency of banks in a developing economy: The case of India*", European Journal of Operational Research, 2003, vol. 148, issue 3, 662-671

(33) S S Mundra. (2015). Indian banking sector - emerging challenges and way forward https://www.bis.org/review/r150511f.htm

(34) Sufian, F & Chong RR. (2008). "*Determinants of bank profitability in a Developing Economy: Empirical evidence from* Philipinnes", Asian Academy of management Journal of Accounting and Finance 4(2), pp. 91-112.

(35) Sundararajan, V. et al. (2002). "*Financial Soundness Indicators: Analytical Aspects and Country Practices*". IMF Occasional Paper 212, p. 16.

(36) Vijay Joshi and David Little. (1998). "India's Economic Reforms, 1991-2001", Oxford University Press.

(37) Wen, W. (2010). "*Ownership Structure and Banking Performance: New Evidence in China*", UniversitatAutònoma de Barcelona DepartamentD'economia de L'empresa.

(38) Yaron, J., Benjamin, M., & Charitonenko, S. (1998). "*Promoting efficient rural financial intermediation*", The World Bank Research Observer 13(2), pp.147-170.

(39) Report on Trend and Progress of Banking in India. (2008-09).pg 1

(40) Reserve Bank of India. (2012). https://rbi.org.in/scripts/NotificationUser.aspx?Id¼7680& Mode ¼0

(41) Survey on *Health of Indian Banking sector in current regulatory environment.* Cii 2013

(42) Financial Stability Report (FSR) by RBI. https://rbi.org.in/Scripts/FsReports.aspx

(43) Report on Trends and Progress of Banking RBI. https://rbi.org.in/Scripts/Annual Publications .aspx?head=Trend%20and%20Progress%20of%20Banking%20in%20India