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A STUDY OF FACTORS AFFECTING GROWTH OF BANKS OPERATING IN INDIA

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ABSTRACT

This study investigates the determinants of profitability of 10 Indian commercial banks 5 of public and 5 of private sector banks, from the period of 2010 to 2014. The banks growth is depending on its profitability and other variables of size, types of assets, financial structure, revenue diversification and other independent variables. These variables may need to exercise greater control in order to maximize profits and/or minimize costs. A well-capitalised bank is perceived to be of lower risk and such an advantage will be translated into higher profitability. On the other hand, the asset quality, as measured by the loan-loss provisions, affects the performance of banks adversely. In addition, banks with a large retail deposit-taking network do not achieve a level of profitability higher than those with a smaller network. This study examines the impact of these characteristics as well as macroeconomic and financial structure variables on the performance and importance of profitability of the Indian banking industry. This paper presents the reviews the literature on bank performance studies and classifies the bank profitability determinants. The second part of the paper quantifies how internal determinants and external factors contribute to the performance of selected Indian Banks. Finally, Size and Assets Structure are the two variables which exhibit a significant relationship with banks' Profitability.

Keywords: Bank Profitability, Growth, Ratios, ANOVA, Multiple Regression Analysis HDFC bank, ICICI bank, SBI bank, SBBJ bank.

1. Introduction:

The banking sector acts as provider of major part of finance for trade and commerce. Banking has always been a highly informative intensive activity, but now Banks are differentiating their products and services for better growth and sustainability. For the purpose of growth the banks have to constantly innovate and update themselves to retain their demand and discerning customers and to provide convenient, reliable, and expedient services. Driven by the challenge to expand and capturing a larger share of the banking market, some banks invest in more branches and make aggressive marketing policies to enlarge their geographical and market coverage. Other banks have considered a more revolutionary approach to deliver their banking services with Internet. At present time computer has become a mainstream channel of communication (Nehmzow, 1997) and it has been rapidly gaining popularity as a potential medium for electronic commerce (Crede 1995; Ooi 1999; U.S. Department of Commerce 1999). Today, the Internet is well on its way to become a full-fledged delivery and distribution channel and among the consumer-oriented applications riding at the forefront of this evolution was electronic financial products and services and with the rapid diffusion of the Internet banking and online transactions the security has also come-out to be a threat. The term bank structure is frequently used when referring to the characteristics of individual institutions. Market structure, measured by the relative size and number of firms, can influence the degree of local competition, and, by extension, the quality, quantity, and price of financial services ultimately available to bank customers. Determinants of bank profitability can be split between those that are internal and those that are external. Internal determinants of bank profitability can be defined as those factors that are influenced by the bank's management decisions and policy objectives. Management effects are the results of differences in bank management objectives, policies, decisions, and actions reflected in differences in bank operating results, including profitability. Zimmerman (1996) found that management decisions, especially regarding loan portfolio concentration, were an important contributing factor in bank performance. Researchers frequently attribute good bank performance to quality management. Management quality is assessed in terms of senior officers' awareness and control of the banks policies and performance.

2. Review of Literature:

In the literature, bank profitability is usually expressed as a function of internal and external determinants. The internal determinants originate from bank accounts (balance sheets and/or profit and loss accounts) and therefore could be termed micro or bank-specific determinants of profitability. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions. A number of explanatory variables have been proposed for both categories, according to the nature and purpose of each study. In opinion a bank's size to absorb unanticipated losses is said to determine its level of risk (Goddard, 2004). Several ratios are commonly used to proxy for risk, including the CAR and the liquidity ratio. In theory an excessively high CAR could signify that a bank is operating over-cautiously and ignoring potentially profitable investment opportunities. A bank holding a relatively high proportion of liquid assets is unlikely to

earn high profits, but is also less exposed to risk; therefore shareholders should be willing to accept a lower return on equity (Goddard et al., 2004). An overview of previous studies indicates various ways that profitability was examined. Some studies were country specific and few of them considered panel of countries reviewing the determinants of profitability. Such empirical studies on bank profitability literature that focused mainly on specific countries include those of the Greece (Kosmidou, 1995), US (Berger, 2006); Australia (Pasiouras et al., 2012), Malaysia (Guru et al., 1998); Colombia (Barajas et al., 1979); and Tunisia (Naceur, 2003). Molyneux and Thorton (1992) were the first to investigate a multi-country setting by examining the determinants of bank profitability for a panel of European countries. This is followed by the study of Abreu and Mendes (2000), Staikouras and Wood (2003), and Pasiouras et al. (2005). Other multi-country studies include those of Hassan and Bashir (2003), who examined profitability for a sample of Islamic banks from 21 countries; and Demirguc-Kunt and Huizinga (1999) who considered a comprehensive set of bank specific characteristics, as well as macroeconomic conditions, taxation, regulations, financial structure and legal indicators to examine the determinants of bank net interest margins in over 80 countries. The main conclusion emerging from these studies is that internal factors explain a large proportion of banks profitability; nevertheless external factors have also had an impact on their performance. The profitability of European banks during the 1990s was investigated by Goddard et al. (2004) using cross-sectional, pooled cross-sectional time-series and dynamic panel models. Their model for the determinant of profitability incorporates size, diversification, risk and ownership type, as well as dynamic effects. They found that despite intensifying competition there is significant determination of abnormal profit from year to year. The evidence for any consistent or systematic size–profitability relationship is relatively weak. The relationship between the reputation of off-balance-sheet business in a bank's portfolio and profitability is positive for the UK, but either neutral or negative elsewhere. The link between the capital–assets ratio and profitability is positive. Javaid et al. (2011) analysed the determinants of top 10 banks' effectiveness in Pakistan over the period 2004 to 2008. They focused on the internal factors only. Javaid et al. (2011) used the pooled ordinary least square (POLS) method to explore the impact of assets, loans, equity, and deposits on one of the major profitability indicator of banks which is return on asset (ROA). The empirical results found strong evidence that these variables have a strong influence on profitability. However the results have been shown that higher profits does not always are made by higher total assets because of diseconomies of scale. Also, higher loans contribute towards profitability but their impact is not significant. Equity and deposits have significant impact on profitability. Imad et al. (2010) studied a balanced panel dataset of Jordanian banks for the purpose of investigating the nature of the relationship between the profitability of banks and the characteristics of internal and external factors for 10 banks over the period 2001 to 2010. Using two measures of bank's profitability; the rate of return on assets (ROA) and the rate of return on equity (ROE), the results show that the Jordanian bank's characteristics explain a significant part of the variation in bank profitability.

High Jordanian bank profitability tends to be associated with well-capitalized banks, high lending activities, low credit risk, and the efficiency of cost management. Results also show that the estimated effect of size did not support the significant scale economies for Jordanian banks. Due to the fact that some of the differential slope coefficients are

statistically significant, they place that the estimation results indicate that individual effects on the profitability are present. Scott and Arias (2009) developed an appropriate econometric model whereby the primary factors of profitability of the top five bank holding companies in the United States could be examined and understood. The econometric model was based on internal aspects of the banking organizations as they relate to their return on assets and external aspects of the environment in which they compete as measured by growth in GDP was developed based on guidance provided by economists and industry experts to determine the impact of the external national economy of these five leading banks conferring to their size as measured by total assets. The results show that profitability determinants for the banking industry include positive relationship between the return on equity and capital to asset ratio as well as the annual percentage changes in the external per capita income. In another dimension, Gull et al. (2011) examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005 to 2009. The paper used the pooled ordinary least square (POLS) method to investigate the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators that is, return on asset (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) separately. The empirical results showed strong evidence that both internal and external factors have a strong influence on the profitability. Goddard et al. (2004) had investigated the profitability of European banks during the 1990s using cross-sectional, pooled cross-sectional time-series and dynamic panel models. Models for the determinants of profitability incorporate size, diversification, risk and ownership type, as well as dynamic effects. They found that despite intensifying competition there was significant persistence of abnormal profit from year to year. Their results suggests that evidence for any consistent or systematic size–profitability relationship is relatively weak; the relationship between the importance of off-balance-sheet business in a bank's portfolio and profitability is positive for the UK, but either neutral or negative elsewhere. Furthermore the relationship between the capital–assets ratio and profitability was positive. In a study on the determinants of the Tunisian banking industry profitability for 10 banks in Tunisia for the period 1980 to 2000, Naceur (2003) observed that high net interest margin and profitability are likely to be associated with banks with high amount of capital and large overheads. Further the paper also noted that other determinants such as loans has positive and bank size has negative impact on profitability. Naceur and Goaied (2001) investigated the impact of banks' characteristics, financial structure and macroeconomic indicators on banks' net interest margins and profitability in the Tunisian banking industry from 1980 to 2000. Individual bank characteristics explain a substantial part of the within-country variation in bank interest margins and net profitability. High net interest margin and profitability tend to be associated with banks that hold a relatively high amount of capital, and with large overheads. Size is found to impact negatively on profitability which implies that Tunisian banks are operating above their optimum level

Studies dealing with internal determinants employ variables such as size, capital, risk management and expenses management. Size is introduced to account for existing economies or diseconomies of scale in the market. Akhavein et al. (1997) and Smirlock (1985) find a positive and significant relationship between size and profitability.

Demirguc-Kunt and Maksimovic (1998) suggest that the extent to which various financial, legal and other factors (e.g. corruption) affect bank profitability is closely linked to firm size. In addition, as Short (1979) argues, size is closely related to the capital adequacy of a bank since relatively large banks tend to raise less expensive capital and, hence, appear more profitable. Using similar arguments, Haslem (1968), Short (1979), Bourke (1989), Molyneux and Thornton (1992) Bikker and Hu (2002) and Goddard et al. (2004), all link bank size to capital ratios,3 which they claim to be positively related to size, meaning that as size increases – especially in the case of small to medium-sized banks – profitability rises. However, many other researchers suggest that little cost saving can be achieved by increasing the size of a banking firm (Berger et al., 1987), which suggests that eventually very large banks could face scale inefficiencies.

Overall, the existing literature provides a rather comprehensive account of the effect of internal and industry-specific determinants on bank profitability, but the effect of the macroeconomic environment is not adequately dealt with. The time dimension of the panels used in empirical studies is usually too small to capture the effect of control variables related to the macroeconomic environment (in particular the business cycle variable). Finally, sometimes there is an overlap between variables in the sense that some of them essentially proxy the same profitability determinant. It follows that studies concerning the profitability analysis of the banking sector should address the above issues more satisfactorily, in order to allow a better insight into the factors affecting profitability.

3. Statement of the Research problem:

The banks are currently working in three format in India i.e., Public sector bank, Private sector bank and foreign banks who are not aware with the growth factors which need to be different in different places that is why the banks working in India will learn the factors responsible for their growth.

The variables selected for conducting this research work were enlisted in table-1:

Table-1: Selected variables

Explanatory variables	Notation	Classification
Loans/Total Assets (%)	Loan/TA	Asset structure
Non-performing Loans/Gross Loans (%)	NPL/GL	Asset quality
Loan Loss Provisions/Net Loans (%)	LLP/NL	Asset quality
Equity/Total Assets (%)	Eq/TA	Capitalization
Customer Deposits/Total Liabilities (%)	Dep/TL	Financial structure
Annual Customer Deposits, growth rate (%)	Dep/GR	Financial structure
Cost-to-income Ratio (%)	CIR	Efficiency
Total Assets, logarithm	Size	Size
Revenue Diversification	HHIRD	Revenue diversification

According to previous studies, the factors determining the profitability of banks are classified into various parts. For the purpose of current work first, there is a group of determinants of profitability that are specific to each bank because it is the direct result of managerial decisions. These variables like Asset Structure, Asset Quality,

Capitalization, Financial Structure, Efficiency, Size and revenue diversification are included in the study. The details of the variables and work done by the researchers on the topic is provided in table-2 as under::

S. No.	Variables	Category of work	Researchers
1	**Asset structure**	Mark-up pricing	García-Herrero et al. (2009)
		liquid assets (with greater liquidity risk)	DeYoung and Rice (2004),
		Inverse relationship between liquidity and profitability	Barros et al. (2007), Chiorazzo et al. (2008), Goddard et al. (2004) and Iannotta et al. (2007).
2	**Asset quality**	Direct relationship amongst profitability and asset quality	Alexiou and Sofoklis (2009), Athanasoglou et al. (2008), Chiorazzo et al. (2008) and DeYoung and Rice (2004)
		Positive impact on profitability	Iannotta et al. (2007)
		Sophisticated loan quality characteristically implies more resources devoted to credit underwriting and loan monitoring, thus increasing bank overheads	Mester (1996)
3	**Capitalization**	The cost of equity is the most expensive & liability in terms of expected return	García-Herrero et al. (2009); Hakenes and Schnabel (2011)
		Expected bankruptcy cost hypothesis	Berger (1995b)
		More favourable interest rates, increasing expected profitability and offsetting the cost of equity & finance bank assets	Athanasoglou et al. (2008)
		Relationship between capital and profitability is	Berger (1995b)
		Positive relationship between capital and profitability	Alexiou and Sofoklis (2009), Athanasoglou et al. (2008), Berger (1995b), Bourke (1989), García-Herrero et al. (2009), Iannotta et al. (2007) and Molyneux and Thornton (1992).
4	**Financial structure**	Higher share of customer deposits should increase a bank's profitability	Claeys and Vander Vennet (2008); García-Herrero et al., (2009)
5	**Efficiency**	The cost-to-income ratio	Albertazzi and Gambacorta (2009)
		Positive and highly significant effect of efficiency on profitability	García-Herrero et al. (2009)
		Managerial ability in controlling costs	Berger and Humphrey (1994)
6	**Size**	The effect of size could be nonlinear, with profitability	Athanasoglou et al. (2008).
		Larger and more diversified banks are more likely to perform poorly	Barros et al. (2007)
7	**Revenue diversification**	Commercial banks typically increase diversification by	Elsas et al. (2010)

		moving into fee-based businesses.	
		Diversification of income via higher margins	Chiorazzo et al. (2008) and Elsas et al. (2010)
		Greater diversification of the banking business via less profitability	Stiroh and Rumble, 2006

The reviews of the literature were further classified as per the variables and positive and negative correlations shown in the previous studies. These were enlisted in table-3 as under:

Table-3: Variables used in the Previous Researches

Variables used	**Supported by ROL (Authors/Researchers)**	
	Positive Correlation	**Negative correlation**
Asset structure	Claessens et al. (2001); Bush, (1997); Bonin et al., (2005); García-Herrero et al., (2009); Barros et al. (2007); Chiorazzo et al. (2008); DeYoung and Rice (2004); Goddard et al. (2004) and Iannotta et al. (2007)	
Asset quality_1	Heffernan (1996); Bessis (2002); Kosmidou (2008); Alexiou and Sofoklis (2009); Athanasoglou et al. (2008), Chiorazzo et al. (2008) and DeYoung and Rice (2004).	
Asset quality_2	Bourke (1989); and Kosmidou et al. (2005); Demirguc-Kunt and Detragiache, (2002); (Iannotta et al., (2007) and Mester, (1996).	Molyneux et al.,(1992); and Guru et al.(1999)
Capitalization	Kosmidou (2008); Pasiouras and Kosmidou (2007); García-Herrero et al., (2009); Hakenes and Schnabel, (2011); Berger (1995b); Athanasoglou et al. (2008); Alexiou and Sofoklis (2009); Athanasoglou et al. (2008), Berger (1995b); Bourke (1989); García-Herrero et al. (2009); Iannotta et al. (2007) and Molyneux and Thornton (1992).	
Financial structure_1	(Claeys and Vander Vennet (2008) and García-Herrero et al., 2009).	
Financial structure_2	Albertazzi and Gambacorta (2009).	
Efficiency	García-Herrero et al., (2009) and Berger & Humphrey (1994).	
Size	Boyd et al.(1993); Akhavein et al. (1997); Smirlock (1985); Short (1979); Haslem (1968); Bourke (1989); Molyneux et al.,(1992); Bikker et al.,(2002); Goddard et al.,(2004); Athanasoglou et al., (2008) and Barros et al. (2007).	
Revenue diversification	Mamatzakis et al.,(2003); Badaruddin et al.(2009); Elsas et al. (2010); Chiorazzo et al. (2008); Elsas et al. (2010) and Stiroh and Rumble (2006).	

4. Objectives of the study:

The objective of conducting this research paper is:

1. To investigate determinants of profitability (growth) of banks operating in Public and private sector in India..

5. Hypothesis of the study:

H_1: The attributes configuring bank profitability on selected ratios significantly influence the banks Profit.

6. Research Methodology:

Sample Size

For the purpose of data analysis the data of 10 banks 5 public sectors (SBI, SBBJ, BOB, UCO and BOI) and 5 private sectors (HDFC, ICICI, Federal, Yes and Axis Bank) were selected on the basis of the profitability conditions.

Sample Selection

The sample of 10 banks from public and private sector were selected on the basis of the profitability conditions. Both the sector public and private were given equal weight for the purpose of selection of sample.

Data Source

The data for the purpose of this study were taken from the secondary sources, this include the annual reports of the banks and other published data by RBI and other authentic sources.

Data Analysis tool:

The data of the bans were used to analyse the dependence of the bank's profitability thus, the data were analysed with the help of ANOVA and multiple regression analysis by taking the profitability as a dependent and other ratios as independent variables.

7. Data Analysis and Interpretation:

For the purpose of data analysis, the data of 10 banks 5 public sector and 5 private sectors were selected for the period of 2010 to 2014 from their annual reports. The data were analysed with the help of multiple regression analysis by taking the profitability as a dependent and other ratios as independent variables. The data collected have been shown in table -4 as under:

Table -4: Data of Selected Banks

Bank Name	Year	Revenue	Ass_ struct	Asst_ Qual_1	Asst_ Qual_2	Capitali sation	Fin_ str1	Fin_ str2	Effici-ency	SiZe	Revenu_ Diver
	2014	971784	8.8062	0	0.00071	0.05583	0.767473	15.59631	22.69	9.253395	3.311
	2013	788698	0.889157	0	0.000898	0.001916	0.762925	18.80897	20.06	10.19485	3.311
	2012	147715513	0.474098	0.02	0.165079	0.001824	17.48363	26.06899	12.09	10.26244	3.311
	2011	90774563	0.459203	0.01	0.193473	0.005379	11.92952	23.01543	9.72	10.21693	3.311
SBI	2010	55215739	0.599873	0	0.251163	0.009703	10.00933	20.31868	8.6	10.0226	3.311
	2014	410016214	70.61425	0.01	2.430389	11.01052	0.407945	23.95982	9.04	6.958454	3.01
	2013	363764052	0.006689	1.09	3.269138	0.034881	41.75909	21.33109	8.22	8.934584	3.01
	2012	2976040	0.678969	0.17	1.324076	0.001616	16.05033	72.52813	6.89	8.860506	3.01
	2011	2631060	0.655498	0.17	1.334933	0.010643	16.63422	62.95449	5.44	8.799027	3.01
SBBJ	2010	23673954	0.649688	22.2	6.730069	0.00197	431.8898	86.46531	4.56	8.733546	3.01
	2014	16686.7	76.17601	0.29	0.499826	0.009999	0.001425	13.982	1.67	4.012814	8.89
	2013	961.75	0.008071	0.5	8.148246	2.55E-07	0.001439	11.56	9.62	5.796825	8.89
	2012	21001	15.07136	0.03	5.888252	32.66901	0.101664	34.207	1.94	1.665703	8.89
	2011	260563	0.01728	0	2.180539	0.030529	0.007697	30.03	1.59	4.693402	8.89
HDFC	2010	142471	6.28E-07	1.4	2.299638	0.012512	3.26953	58.56041	19.98	9.302025	8.89
	2014	4921632	0.533801	0.54	0.100627	0.003559	0.000166	34.51614	8.88	8.500589	1.68
	2013	38567215	0.170324	0.07	0.414168	0.004417	0.000137	11.2705	8.83	8.406411	1.68
	2012	8058528	0.134344	0	-0.02943	0.489302	0.878916	27.1834	4.13	6.70935	1.68
	2011	9200434	0.113754	0.01	2.109766	0.005731	0.006331	11.88284	2.4	6.6118	1.68
ICICI	2010	4921632	28.84676	0.77	0.247325	16.21901	0.002553	20.31865	90.45	6.347249	1.68
	2014	1063992	0.005582	0.000316	0.005656	1.32E-06	319.3343	15.57203	43.40245	10.81925	4.51
BOB	2013	1063992	0.048579	0.000375	0.771616	0.000149	32.22955	14.27037	38.82728	9.738095	4.51

	2012	44807200	0.026873	0.000613	2.281236	0.001273	322.2858	44.8072	38.82728	9.738095	4.51
	2011	50069562	0.025486	0.000376	1.473642	0.00011	33.75926	60.06956	29.67372	9.65062	4.51
	2010	855583	0.047967	0.000433	0.90314	0.001119	2.72361	12.057	19.5047	9.444539	4.51
	2014	1341841	0.01383	1.82E-05	0.131366	2.29E-05	0.008008	17.81501	76.3993	8.872705	4.61
	2013	12927741	0.014319	1.6E-05	0.111575	2.41E-05	0.008111	14.70398	68.32006	8.85146	4.61
	2012	11206341	0.069953	0.000425	0.60779	0.001059	28.08783	16.36847	60.90736	8.782664	4.61
	2011	10217541	0.036698	0.00045	1.225362	0	29.7771	18.23654	45.68842	8.711439	4.61
Federal	2010	7896441	0.035415	5.67E-05	0.160029	0.000689	0.825586	48.64793	42.64144	8.640239	4.61
	2014	2341947	0.112171	4.99E-07	0.000445	2.31E-06	18.7536	-27.989193	11.70293	9.27879	1.363
	2013	1776868	0.021111	5.15E-07	0.002438	9.8E-06	22.62721	-67.415334	9.551432	9.996092	1.363
	2012	927295571	0.306579	0.023163	7.555187	0.000118	0.000219	10.5942	10.35597	9.134817	1.363
	2011	709990075	0.47941	0.002831	0.590522	0.002831	0.074817	-0.9914	77.20627	9.090135	1.363
Yes Bank	2010	1035597	0.013055	1.86E-05	0.142731	0.009336	0.736578	21.34494	29.45247	8.560893	1.363
	2014	2903355	0.192332	0.000114	0.059034	0.152735	0.003772	61.73	49.1074	8.568902	5.52
	2013	1184403	0.121561	0.002394	1.969652	0.717634	0.544616	22.4191	38.531	6.507746	5.52
	2012	231726583	0.000705	7.91E-06	1.121624	0.021031	0.458324	92.11976	27.41486	9.4558	5.52
	2011	2353987	0.108226	1.88E-06	0.001735	0.019692	0.416826	197.8694	11.42507	9.385094	5.52
Axis	2010	38570041	0.095044	1.88E-06	0.001982	0.020536	0.044395	155.838	19.80833	9.256832	5.52
	2014	35343.15	0.374535	0.002664	0.711327	0.092185	2.57E-05	30.59255	10.31	5.816725	2.094
	2013	28545.17	0.293833	0.002996	1.019477	0.004114	0.000115	25.12197	11.78	5.690605	2.094
	2012	498.005	0.064012	0.002759	4.310235	0.323079	0.36154	57.9251	15.597	5.256473	2.094
	2011	5226.85	6.063219	0.031987	0.527551	0.130258	2.768736	13.962	12.296	5.213248	2.094
UCO	2010	1584.4211	4.561513	0.005862	0.128514	19.95867	0.008928	18.1699	10.4922	5.137732	2.094
	2014	4244419	0.044597	0.003444	7.721921	0.001112	0.037644	23.86351	42.44419	7.762044	2.814
	2013	3588043	0.04304	0.000323	0.750655	0.012852	0.044802	20.31327	35.88043	6.666582	2.814
	2012	4860	0.222887	0.000837	0.375489	0.053737	0.192504	45.6982	11.86	6.012322	2.814
	2011	3525	0.158196	0.001037	0.655559	0.052597	0.130399	42.8615	37.96	6.14376	2.814
BOI	2010	52761073	0.081464	0.006712	8.239233	0.000138	1.700696	13.70408	20.49462	9.43928	2.814

To analyse the above stated hypothesis the multiple regression analyses of the data were conducted and the results have been shown in table-5 as under:

Table-5: Multiple regression analysis

a. Descriptive Statistics

	Mean	Std. Deviation	N
Profit	65718810.4009	1.77674E8	50
Asset_stru	4.3718	15.00471	50
Asst_Qual_1	.5474	3.13730	50
Asst_Qual_2	1.6223	2.35770	50
Capitalisation	1.6431	5.91751	50
Fin_str1	27.3982	86.00133	50
Fin_str2	32.8968	39.55495	50
Efficiency	24.2932	21.80005	50
SiZe	7.9981	1.95832	50
Revenu_Diver	3.7802	2.14766	50

b. Correlations

		Profit	Asset_stru	Asst_Qual_1	Asst_Qual_2	Capitalisation	Fin_str1	Fin_str2	Efficiency	SiZe	Revenu_Diver
Pearson Correlation	Profit	1.000									
	Asset _stru	-.039	1.000								
	Asst_ Qual_1	.093	-.026	1.000							
	Asst_ Qual_2	-.005	-.019	.324	1.000						
	Capitalisation	-.213	.338	-.034	.140	1.000					
	Fin_str1	.154	-.088	.673	.178	-.090	1.000				
	Fin_str2	.048	-.093	.197	-.015	-.048	.107	1.000			
	Effici ency	.190	-.090	-.132	-.204	-.017	.023	-.102	1.00		
	SiZe	.658	-.370	.053	-.208	-.538	.262	.066	.224	1.00	
	Revenu_Diver	-.236	.204	-.030	.170	.145	.007	.283	-.035	-.228	1.00
Sig. (1-tailed)	Profit	.									
	Asset_stru	.393	.								
	Asst _Qual_1	.260	.430	.							
	Asst_Qual_2	.485	.448	.011	.						
	Capitalisation	.069	.008	.407	.166	.					
	Fin_ str1	.142	.271	.000	.108	.268	.				
	Fin_ str2	.370	.260	.085	.459	.371	.231	.			
	Effici ency	.093	.268	.181	.078	.455	.437	.241	.		
	SiZe	.000	.004	.357	.073	.000	.033	.325	.059	.	
	Revenu_Diver	.050	.078	.418	.119	.157	.480	.023	.404	.056	.
N		50	50	50	50	50	50	50	50	50	50

c. Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SiZe	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	ass_struct	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

[a]. Dependent Variable: Profit

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.658[a]	.433	.421	120315	.433	36.658	1	48	.000
2	.694[b]	.481	.459	116286	.048	4.384	1	47	.042

a. . Predictors: (Constant), SiZe
b. Predictors: (Constant), SiZe, Ass_struct

d. ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.066	1	53.066	36.658	.000a
	Residual	69.484	48	1.448		
	Total	122.549	49			
2	Regression	58.994	2	29.497	21.814	.000b
	Residual	63.555	47	1.352		
	Total	122.549	49			

a. Predictors: (Constant), SiZe
b. Predictors: (Constant), SiZe, Ass_struct
c. Dependent Variable: Profit

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.064	.722		2.858	.006					
	SiZe	.531	.088	.658	6.055	.000	.658	.658	.658	1.000	1.000
2	(Constant)	1.389	.769		1.807	.077					
	SiZe	.602	.091	.746	6.595	.000	.658	.693	.693	.863	1.159
	Ass_struct	.025	.012	.237	2.094	.042	-.039	.292	.22	.863	1.159

a. Dependent Variable: Profit

Excluded Variables[c]								
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Ass_struct	.237[a]	2.094	.042	.292	.863	1.159	.863
	Asst_Qual_1	.058[a]	.533	.596	.078	.997	1.003	.997
	Asst_Qual_2	.138[a]	1.248	.218	.179	.957	1.045	.957
	Capitalisation	.199[a]	1.563	.125	.222	.711	1.407	.711
	Fin_str1	-.019[a]	-.167	.868	-.024	.932	1.074	.932
	Fin_str2	.005[a]	.045	.964	.007	.996	1.004	.996
	Efficiency	.045[a]	.397	.694	.058	.950	1.053	.950
	Revenu_Diver	-.090[a]	-.806	.424	-.117	.948	1.055	.948
2	Asst_Qual_1	.060[b]	.565	.575	.083	.997	1.003	.861
	Asst_Qual_2	.164[b]	1.536	.131	.221	.946	1.057	.817
	Capitalisation	.157[b]	1.248	.218	.181	.688	1.453	.671
	Fin_str1	-.021[b]	-.192	.848	-.028	.931	1.074	.810
	Fin_str2	.021[b]	.200	.842	.030	.990	1.010	.858
	Efficiency	.046[b]	.426	.672	.063	.950	1.053	.826
	Revenu_Diver	-.122[b]	-1.12	.266	-.164	.931	1.074	.839

a. Predictors in the Model: (Constant), SiZe
b. Predictors in the Model: (Constant), SiZe, Ass_struct
c. Dependent Variable: Profit

Collinearity Diagnostics[a]						
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	SiZe	ass_struct
1	1	1.972	1.000	.01	.01	
	2	.028	8.371	.99	.99	
2	1	2.076	1.000	.01	.01	.03
	2	.900	1.518	.00	.00	.80
	3	.024	9.383	.99	.99	.17

a. Dependent Variable: Profit

The final Regression model with 2 independent variables (SiZe and ass_struct) explains almost 45.9% of the variance of bank profitability. Also, the standard errors of the estimate has been reduced to 116286, which means that at 95% level, the margin of errors for any predicted value of bank profitability can be calculated as ± 227920.56 (1.96 X 116286). The regression coefficient, plus the constraints are significant at 0.05 levels. The impact of multi colinerarity in both the selected variable is not substantial. They all have the tolerance value less than .863, indicating that only 13.7 percent of the variance is accounted for by the other variables in the equation.

The study revealed power of ratios to predict the future profitability of the banks. The ANOVA analysis which is the statistical test for overall model fit in terms of F Ratio further revealed that the ratio of Size and Assets Structure explained the profitability. The total sum of squares (122.549) is the squared error that would accrue if the mean of Size and Assets Structure have been used to predict the dependent variable (Profitability). Using the values of Size and Assets Structure this errors can be reduced by 48.14% (58.994/122.549). This reduction is deemed statistically significant with the F ratio of 21.814 and significance at level of 0.000. With the above analysis, finally, it can be concluded that two variables i.e., Size and Assets Structure explains the profitability in Indian banks.

To identify that whether the differences on the two selected variables varied between the banks working in public and private sector, Test was further carried out upon the factors identified as a

result of multiple regressions. Subsequently, to test the hypothesis independent T test has been used to measure the significance of gap between the categories of identified variables in table-6 as under:

Table-6: Independent sample t test for Size

a. Group Statistics

	type_bank	N	Mean	Std. Deviation	Std. Error Mean
SiZe	Public	19	8.8630	1.46760	.33669
	Private	30	7.4085	2.05885	.37589

b. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Si Ze	Equal variances assumed	5.487	.023	2.675	47	.010	1.4545	.54383	.3605	2.548
	Equal variances not assumed			2.882	46.24	.006	1.4545	.50463	.43891	2.470

Levene's Test for Equality of Variances has been used with assumptions that the variances for the two groups viz. public and private banks. The gap between two defined categories is statistically significant (F = 5.487, p=0.023<.05) which connotes that significant difference exist between the public and private bank groups on the Size construct. Thus, equal variance not assumed row is selected for conducting the Independent sample T-Test. The Independent sample test results at 46.24 degree of freedom $t_{46.24} = 2.822$, p = 0.006 <0.05. Therefore, the difference between public and private banks on the Size construct is statistically significant at 5% level of significance.

Thus, the Public sector banks perceive the size in the capital structure more than the private sector banks ($\mu_{publics}$= 8.8630>$\mu_{private}$=7.4085).

To identify that whether the differences on the two selected variables varied between the banks working in public and private sector as per their capital structure independent sample t Test was further carried out upon the factors identified as a result of multiple regressions. Subsequently, to test the hypothesis independent T test has been used to measure the significance of gap between the categories of identified variables in table-7 as under.

Table-7: Independent sample t test for Assets Structure

a. Group Statistics

	type_bank	N	Mean	Std. Deviation	Std. Error Mean
Assets structure	Public	19	3.9859	16.13743	3.70218
	Private	30	4.4683	14.76442	2.69560

b. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Assets structure	Equal variances assumed	.003	.957	-.108	47	.915	-.48241	4.48734	-9.509	8.544
	Equal variances not assumed			-.105	35.8	.917	-.48241	4.57957	-9.771	8.806

Levene's Test for Equality of Variances has been used with assumptions that the variances for the two groups viz. public and private banks. The gap between two defined categories is statistically insignificant (F = 0.003, p=0.957>0.05) which connotes that insignificant difference exist between the public and private bank groups on the assets structure construct. Thus, equal variance assumed row is selected for conducting the Independent sample T-Test. The Independent sample test results at 47 degree of freedom t 47 = -0.128, p = 0.915>0.05. Therefore, the difference between public and private banks on the assets structure construct is statistically insignificant at 5% level of significance.

Thus, the Public and private sector banks no difference in capital structure mores (μ publics= 3.9859>μprivate=4.4683).

9. Conclusions:

The current study was conducted to identify the determinants of profitability commercial banks 5 of public and 5 of private sector banks of Indian, from the period of 2010 to 2014. The variables of profitability, Asset structure, Asset quality_1, Asset quality_2, Capitalization, Financial structure_1, financial structure_2, Efficiency, Size and Revenue diversification were selected on the basis of the reviews of literature. By taking the Secondary data of 10 banks (5 private and 5 public sector banks) Multiple regression analysis was used which revealed that that Size and Assets Structure are the two variables which exhibits a significant relationship with banks' performance and explains the profitability in Indian banking. Further it was found that the difference between public and private banks on the Size construct is statistically significant as the Public sector banks perceive the size in the capital structure more than the private sector banks (μ publics= 8.8630>μprivate=7.4085), but the difference between public and private banks on the assets structure construct is statistically insignificant as no difference in assets structure (μ publics= 3.9859>μprivate=4.4683) of these banks were identified

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