ISSN No. 2349-7165

Comparing the asset quality of banks In a developing economy : A study of Indian public sector, private sector and foreign sector banks

Priyanka Mahajan
Assistant Professor, PG Deptt. of Commerce and Business Management
Doaba College, Jalandhar-144001
E-mail :priyankajuly888@gmail.com

ABSTRACT

Non-performing assets are one of the major concerns for banks in India. It is an important parameter to judge the financial performance and health of a bank. The problem of NPA is not only affecting the banks but also the whole economy. NPA is a dual edged sword. On one hand bank cannot recognize interest on NPA account on the other it is a drain on bank profitability due to funding cost. At present, NPA situation is worse than expected by the RBI. In this study an attempt is made to analyze the trends of scheduled banks and compare the NPAs of public, new private sector and foreign sector banks. The study is based on the secondary data retrieved from the RBI publication for a period of ten years i.e. from 2008 to 2017. The data has been analyzed by using ratio method, and selected statistical tools such as one-way ANOVA, Post Hoc Tukey HSD test. Results of the study reveal that public sector banks have indicated a continuous increasing trend in gross and net NPAs in comparison to new private sector banks and foreign sector banks and there is a statistical significant difference in the mean of gross and net NPA of public, new private and foreign category of banks.

Keywords : Public Sector Banks, Private Sector Banks, Non Performing Assets (NPAs), Gross NPA, Net NPA, ANOVA

Introduction:

The banking sector is the lifeline of any modern economy. It is one of the important financial pillars of the financial sector, which plays a vital role in the functioning of an economy. Without a sound and effective Banking system in India it cannot have a healthy economy. The primary function of every bank is to accept deposits and lending money. Among the primary functions, lending of money to public creates a lot of risk to the banker. The default in repayment of money by the customer leads to the formation of Non- Performing Assets (NPAs) in Banks. Nonperforming assets is the most widely and commonly used measure of the health and robustness of banks and financial institutions **(Garg 2016)**. Once the borrower has failed to make interest or principal payments for 90 days, then the loan amount is considered to be a Non-performing Asset. Increase in the level of NPAs affects the earning capacity and profitability of these banks. Performance and profitability of banking sector is a matter of great concern to the economy. Non-performing loan not only disturb the recycling of credit but also credit creation. Higher NPA demand higher provisions for bad debts and hence affects the profitability of banks which is a matter of great concern. Higher NPAs also put the banks at the risk of bankruptcy. Therefore, it is very important to study the trends and to assess the comparative position of nonperforming asset of public sector banks, new private sector banks, and foreign sector banks.

Review of literature

"Management of non-performing assets (NPAs) in banks remains an area of concern, mainly due to deterioration in the quality of restructured advances" (RBI Annual currency report, March 31, 2010). There are numerous empirical studies conducted on the issue of NPAs of commercial banks in India as well as abroad.

Balasubramaniam (2001) evaluated the trend of nonperforming assets in commercial banks. The study found that level of NPAs was high in almost all banks .Further the study revealed that the biggest challenge faced by the banks in their business operation was to survived in this competitive world due to involvement of NBFC's and foreign banks .Large banks have better risk management procedure and technology which lead to reduce their non performing assets as compared to smaller banks.

Rajeev and Mahesh (2010) concluded that level of NPAs was more in priority sector in comparison to non priority sector and within the priority sector the performance of small scale industries (SSI's) performance were worst. They also suggested the application of self help group model to some sectors for providing help to poor access loan and to ensure repayment to banks.

Goyal and Kaur (2011) Highlighted that increase in the level of nonperforming assets put strain on bank net worth because banks are under pressure to maintain a desired level of capital adequacy.

Paul, Bose, & Dhalla (2011) NPAs are acting as negative financial indicators that impacts badly not only domestic financial market but also international financial markets that are closely related to each other.

Rajput et al., (2012) assert that non performing loans are an important constraint in the study of financial performance of banks which declines the margin of bank and increase the provisioning requirement of doubtful debts. These must be reduced in order to increase profitability and to meet capital adequacy requirement as per Basel accord.

Samir and Kamra (2013) have found that management of NPAs emerged as a biggest challenge for Indian banks due to the introduction of international norms for income recognition, asset classification, provisioning in the banking sector. They also concluded that performance of the bank was judged not only on the basis of the number of branches and volume of deposits but also on the basis of quality of asset

Joseph and Prakash (2014) examined that nonperforming assets reflect the performance of the bank .To improve the efficiency and performance of bank NPAs need to be reduced and controlled .

Alam *et al.*, (2015) investigated the reason for increase in NPAs of banking industry in Bangladesh .The main reason which was responsible for increase in NPAs mainly due to interference of board and political party, involvement of corrupted banker, diversion of funds, weak monitoring, aggressive banking due to increase in competition, fall in real estate business, lack of coordination among related parities. They suggested that NPAs must be reduced by strengthening debt recovering strategy or by proper application of credit sanctioning guidelines .Otherwise it will bring disaster in banking industry.

Satyanarayana (2016) examined that magnitude of NPAs was increased in public sector banks as compared to private sector banks .so there is immense need to control NPAs in order to increase efficiency and profitability of banks. Bank management should speed up their recovery process .The problem faced by the banks were mainly from large borrower not from small borrower .Author suggested that mandatory lending to priority sector should be reduced and government should make more provision for faster settlement of pending cases.

Roy and Samanta (2017) had concluded that provisions can only act as a cushion for NPAs losses but it can't be considered as a solution for rising NPAs in all the public sector banks. Banks while advancing loans should properly evaluate the background of loan receiver and procedure for the recovery of loan must be stringent so that investors trust can be maintained. To improve the profitability and efficiency of banks, NPAs have to be scheduled.

Kadanda and Raj (2018) investigated the extent and growth of nonperforming assets and interbank disparity in asset quality among public sector banks. They found that increasing non performing assets reduces the profitability of public sectors banks in the post crisis period .Further the study showed that recovery mechanism had proved to be ineffective in resolving the problem of bad debts. It was also concluded that private sector banks have managed their asset portfolio better than public sector banks.

Significance of Study

Non-performing assets of banks are one of the biggest problems in the way of socio-economic development of India. Improper management of NPAs may lead to bank failures. Empirical evidence denotes that globally bank failures and deteriorating asset quality of banks are inter linked **(Chijorgia 2000 and Dash 2010).** The Reserve Bank of India states that, compared to other Asian countries and the US, the gross NPAs figures in India seem more alarming than the net NPA figure **(Prasad and Veena 2011).** The absence of a quick and efficient system of legal redress constitutes an important 'moral hazard' in the financial sector, as it encourages imprudent borrowers. Hence there is a need for more concentration on NPAs of Banks in order to improve its efficiency in operation and also to increase its profitability.

Objectives of study:

- To study the magnitude and trends of non-performing assets of various categories of banks in India
- To assess the comparative position of NPAs in public, new private sector and foreign sector banks.

Data & Research Approach

The study is based on secondary data collected from the website of Reserve Bank of India i.e. RBI online database and compiled from Report on Trends and Progress of Banking in India, various issues ranging from 2008to 2017. The study is analytical in nature, uses the latest available published secondary data for ten years. The study is related to scheduled banks which includes Public sector banks, private sector banks and foreign sector banks where nationalized banks and State Bank of India (SBI) its associates in case of public sector banks and in case of private sector banks it includes new private sector banks. The study does not include old new private sector due to non availability of data for this time period 2012-2017. The data has been analyzed by using ratio method, and selected statistical tools such as one-way ANOVA, Post Hoc Tukey HSD test.

Following null and alternate hypotheses are designed for the study:

H_{01}: There is no significant difference between gross as well as net NPAs of public, new private sector banks and foreign sector banks.

H_{11}: There is significant difference between gross as well as net NPAs of public, new private sector banks and foreign sector banks

H_{02}: There is no significant difference between gross as well as net NPAs to advances ratio of public sector banks, new private sector banks and foreign sector banks.

H_{12}: There is significant difference between gross as well as net NPAs to advances ratio of public, new private sector banks and foreign sector banks.

H_{03}: There is no significant difference between gross as well as net NPAs to asset ratio of public sector banks, new private sector banks and foreign sector banks.

H_{13}: There is significant difference between gross as well as net NPAs to asset ratio of public sector banks, new private sector banks and foreign sector banks.

Data Interpretation And Discussion

This part of the study deals with discussion of results and its interpretation. The table 1depicts the trends of NPAs (sub standard, doubtful, loss) of scheduled commercial bank shows that the proportion of standard asset is steadily coming down from 2014. This indicates that more provisions are being made for those assets which are turning into non- standard assets. If we look at Sub-standard assets it is evident that concentration of sub standard asset is increasing from 1.1 in 2008 to 2.8% in 2017. A similar trend is also observed in case of doubtful assets. On the other hand in case of loss asset it shows a indication of consistent stability in scheduled commercial bank and public sector banks except the year 2016 and 2017.There is a little bit fluctuating trend in total NPA to total advances continuously till 2011 but the situation looks worrisome afterwards as it increases from 2.8 to 9.3% in case scheduled commercial bank and up to 11.7% in case of public sector banks where as the trend in case of new private sector banks and foreign sector bank it shows fluctuation but less than public sector banks.

TABLE 1: Asset- wise Classification of NPAs (Amount in Rs. Billion) as on 31st march 2007-2017.

Bank Group Year	Standard Asset		Sub standard Asset		Doubtful Asset		Loss Asset		Total NPAs to Total Advances
	Amount	Per cent	Amount	Percent	Amount	Percent	Amount	Percent	
Scheduled Commercial Bank									
2007-2008	24514	97.8	265	1.1	244	1.0	56	0.2	2.3
2008-2009	29683	97.7	367	1.2	266	0.9	59	0.2	2.3
2009-2010	34603	97.6	426	1.2	334	0.9	87	0.2	2.4
2010-2011	42596	97.8	414	1.0	461	1.1	104	0.2	2.3
2011-2012	50168	97.3	695	1.4	617	1.2	109	0.2	2.8
2012-2013	57951	96.8	909	1.5	900	1.5	123	0.2	3.2
2013-2014	66138	96.2	1087	1.6	1374	2.0	170	0.2	3.8
2014-2015	72391	95.7	1186	1.6	1681	2.5	182	0.2	4.3
2015-2016	75668	92.5	2254	2.8	3603	4.4	260	0.3	7.5
2016-2017	76804	90.7	2082	2.5	5503	6.5	317	0.4	9.3

Public Sector Banks									
2007-2008	17786	97.8	173	1.0	192	1.1	40	0.2	2.2
2008-2009	22378	98.0	203	0.9	206	0.9	41	0.2	2.0
2009-2010	26735	97.8	288	1.1	254	0.9	58	0.2	2.2
2010-2011	32718	97.8	350	1.1	332	1.0	65	0.2	2.2
2011-2012	38255	97.0	623	1.6	490	1.2	60	0.2	3.0
2012-2013	43957	96.4	815	1.8	761	1.7	68	0.2	3.6
2013-2014	49887	95.6	958	1.8	1216	2.3	99	0.2	4.4
2014-2015	53382	95.0	1054	1.9	1630	2.9	100	0.2	5.0
2015-2016	52875	90.7	2005	3.4	3232	5.5	163	0.3	9.3
2016-2017	51816	88.3	1731	3.0	4094	8.4	213	0.4	11.7
New private sector banks									
2007-2008	5129	97.5	73	1.4	45	0.9	12	0.2	2.5
2008-2009	5681	97.1	106	1.8	50	0.9	13	0.2	2.9
2009-2010	6265	97.3	89	1.4	66	1.0	22	0.3	2.7
2010-2011	7936	97.8	45	0.6	108	1.3	29	0.4	2.2
2011-2012	9629	98.1	52	0.5	104	1.1	29	0.3	1.9
2012-2013	11384	98.2	64	0.6	112	1.0	32	0.3	1.8
2013-2014	13371	98.2	86	0.6	114	0.8	42	0.3	1.8
2014-2015	15750	97.9	108	1.4	176	1.1	52	0.3	2.1
2015-2016	19184	97.2	186	1.8	311	1.6	62	0.3	2.8
2016-2017	21685	95.9	311	1.4	518	2.3	90	0.4	4.1
Foreign sector bank									
2007-2008	1599	98.1	20	1.2	8	0.5	4	0.2	1.9
2008-2009	1624	95.7	59	3.5	10	0.6	4	0.3	4.3
2009-2010	1603	95.7	49	2.9	14	0.9	8	0.5	4.3
2010-2011	1943	97.5	19	0.9	21	1.1	11	0.6	2.5
2011-2012	2284	97.3	21	0.9	22	1.0	20	0.8	2.7
2012-2013	2610	97.0	29	1.1	27	1.0	23	0.9	3.0
2013-2014	2880	96.1	43	1.4	43	1.4	29	1.0	3.9
2014-2015	3259	96.8	23	0.7	54	1.6	30	0.9	3.2

2015-2016	3609	95.8	63	1.7	60	1.6	36	0.9	4.2
2016-2017	3303	96.0	40	1.2	82	2.4	14	0.4	4.0

Source : RBI Database on Indian Economy

Table 2: Group Wise Gross NPAs of Commercial Banks (Rs In Billions) as on 31st March2007-2017.

BANK NAME	YEAR	GROSS NPA	TOTALGROSS ADVANCES	PERCENTAGE
Scheduled Commercial Banks	2007-2008	566.06	25034.31	2.3
	2008-2009	699.54	30246.52	2.3
	2009-2010	817.18	32620.79	2.5
	2010-2011	939.97	39959.82	2.4
	2011-2012	1369.68	46488.08	2.9
	2012-2013	1927.69	59718.20	3.2
	2013-2014	2630.15	68757.48	3.8
	2014-2015	3229.16	75606.66	4.3
	2015-2016	6116.07	81711.14	7.5
	2016-2017	7902.68	84767.05	9.3
Public Sector Banks	2007-2008	406.00	18190.74	2.2
	2008-2009	459.18	22834.73	2.0
	2009-2010	573.01	25193.31	2.3
	2010-2011	710.42	30798.04	2.3
	2011-2012	1124.88	35503.89	3.2
	2012-2013	1644.61	45601.69	3.6
	2013-2014	2272.64	52159.20	4.4
	2014-2015	2784.68	56167.18	5.0
	2015-2016	5399.56	58219.52	9.3
	2016-2017	6847.33	58663.73	11.7
Private Sector Banks	2007-2008	129.22	5236.99	2.5
	2008-2009	167.87	5751.67	2.9
	2009-2010	173.07	5795.35	3.0
	2010-2011	179.05	7232.05	2.5
	2011-2012	182.10	8716.41	2.1
	2012-2013	203.82	11512.46	1.8
	2013-2014	241.84	13602.53	1.8
	2014-2015	336.90	16073.39	2.1
	2015-2016	558.53	19726.59	2.8
	2016-2017	919.15	22667.21	4.1
Foreign Sector Banks	2007-2008	30.84	1606.58	1.9
	2008-2009	72.49	1660.12	4.3
	2009-2010	71.11	1632.13	4.3
	2010-2011	50.45	1929.72	2.6
	2011-2012	62.97	2267.77	2.8
	2012-2013	79.25	2604.05	3.1
	2013-2014	115.65	2995.76	3.9
	2014-2015	107.61	3366.09	3.2
	2015-2016	157.98	3765.04	4.2
	2016-2017	136.21	3436.11	4.0

Source: RBI - Database on Indian Economy

The Table 2 and 3 lists the gross and net NPAs of various groups of banks viz all scheduled commercial banks, public sector banks, new private banks, foreign sector banks. The analysis of NPAs of different banks groups indicates that the total NPA of all Scheduled Commercial Banks consist of more than 70% of Gross NPA and Net NPA of Public Sector Banks and private sector banks. The movement of Gross NPA percentage to Gross Advances for scheduled commercial banks, public sector banks had showed, more or less stable till 2010 but from 2011 to 2017, an increase in the percentage of gross NPA to gross advances ratio warns the Indian banking. In case of private sector banks the movement of NPAs is more or less stable from 2008 to 2014 but from 2014 it showed an increasing trend. In case of foreign banks it also shows an increasing trend from 1.9% in 2008 to 4.2 in 2016. Interestingly, the ratio of NPA in foreign banks is greater than that of private sector banks. As far as a comparison between public and private Sector Banks is concerned, the public sector banks seem to have higher gross NPA ratio (on an average) than new private sector banks, foreign sector banks during the period of study. In the same manner Net NPA percentage to Net Advances for Public Sector Banks was also higher when compared to new private sector banks, foreign sector banks and all Scheduled Commercial Banks, which shows the inefficiency of Public Sector Banks in managing NPA (Table 3).

Table 3: Group Wise Net NPAs of Commercial Banks (Rs In Billions) As on 31st March2007-2017.

BANK NAME	YEAR	NET NPA	NET ADVANCES	PERCENTAGE
Scheduled Commercial Banks	2007-2008	247.30	24769.36	1.0
	2008-2009	315.64	29999.24	1.1
	2009-2010	391.27	34967.20	1.1
	2010-2011	417.69	42974.87	1.0
	2011-2012	652.05	50735.59	1.3
	2012-2013	986.93	58797.73	1.7
	2013-2014	1426.56	67352.13	2.1
	2014-2015	1758.41	73881.60	2.4
	2015-2016	3498.14	78964.67	4.4
	2016-2017	4330.10	81161.97	5.3
PublicSector Banks	2007-2008	178.36	17974.01	1.0
	2008-2009	211.55	22592.12	0.9
	2009-2010	296.43	27013.00	1.1
	2010-2011	360.55	33044.33	1.1
	2011-2012	593.91	38773.08	1.5
	2012-2013	900.37	44728.45	2.0
	2013-2014	1306.35	51011.37	2.6
	2014-2015	1599.51	54762.50	2.9
	2015-2016	3203.76	55935.77	5.7
	2016-2017	3830.89	55572.32	6.9
Private Sector Banks	2007-2008	56.47	5184.02	1.1
	2008-2009	74.12	5753.28	1.3
	2009-2010	65.06	6324.41	1.0
	2010-2011	44.32	7975.44	0.6
	2011-2012	44.01	9664.03	0.5
	2012-2013	59.94	11432.40	0.5
	2013-2014	88.62	13429.35	0.7
	2014-2015	141.28	15843.12	0.9
	2015-2016	266.77	19393.39	1.4
	2016-2017	477.80	22195.63	2.2

Foreign Sector Banks	2007-2008	12.47	1611.33	0.8
	2008-2009	29.96	1653.85	1.8
	2009-2010	29.77	1632.60	1.8
	2010-2011	13.13	1955.11	0.7
	2011-2012	14.12	2298.49	0.6
	2012-2013	26.63	2636.80	1.0
	2013-2014	31.60	2911.42	1.1
	2014-2015	17.62	3275.99	0.5
	2015-2016	27.67	3635.51	0.8
	2016-2017	21.41	3323.35	0.6

Source: RBI - Database on Indian Economy

The net NPAs ratio of Public sector banks and schedule commercial bank shows an increasing trend from 1.1% in 2008 to 6.9% in 2017 which has adverse affect on the development of the economy as a whole. For instance, recession in some sectors or industrial segments like real estate, cement, textiles, etc. has added NPAs of banks. Similarly new private sector banks also show a decline in their net NPA ratio from1.1% in 2008 to 0.7% in 2014 and afterwards it rises up to 2.2 in2017. On the other hand favorable indication is shown by the foreign banks in terms of decline in net NPAs ratio from 0.8 in 2008 to 0.6 in 2017. Over all net NPAs ratio of schedule commercial bank and public sector shows an increasing trend.

Table 4: Composition of NPAs of Public Sector Banks (Rs in billion) as on 31st March 2007-2017

Years	**Priority Sector**		**Non Priority Sector**		**Public Sector Banks**		**Total**
	Amount	**percentage**	**Amount**	**Percentage**	**Amount**	**percentage**	**Amount**
2007-2008	248.74	61.48	150.07	37.10	5.74	1.42	404.56
2008-2009	242.01	53.75	205.28	45.59	2.97	0.66	450.26
2009-2010	304.96	50.89	291.94	48.58	3.14	0.52	599.24
2010-2011	401.86	53.82	342.35	45.85	2.43	0.32	746.64
2011-2012	557.80	47.57	588.26	50.17	26.56	2.27	1172.62
2012-2013	672.76	40.91	960.31	58.39	11.55	0.70	1644.61
2013-2014	798.99	35.16	1472.35	64.79	1.30	0.06	2272.64
2014-2015	966.11	34.69	1815.98	65.21	2.59	0.09	2784.68
2015-2016	1258.09	23.30	4141.48	76.70	34.82	0.64	5399.57
2016-2017	1609.42	23.50	5237.91	76.50	154.66	2.26	6847.32

Source: RBI - Database on Indian Eco nomy

Table 4 indicates that percentage wise NPAs in priority and non priority sector of public sector banks. Priority sector includes lending to specific sectors like agriculture and allied activities, micro and small enterprises, Retail housing, Education and loans to weaker sections. During the period (2008-09) the credit flow to priority sector showed a decreasing trend and flow to non-priority sector showed an increasing trend. It was 61.48 %of total NPAs in March2008 and thereafter it declined to 23.50% in 2017as compared to this in non-priority sector it was 37.10% in 2008 and increased up to 76.50% in 2017. The non priority sector has contributed more to the weakening quality of assets on the bank balance sheets than the priority sector .The reason may be the Global financial crisis that made banks to lend more to private and non- priority sector to drive economy's growth. To overcome the situation, the present government has come up with various schemes to increase priority sector loan portfolio such as Pradhan Mantri Kisan Sampada Yojana, Start-up India and Stand-up India were launched to increase credit facilities to Priority sector.

Testing of Hypothesis:

Null hypothesis H_{01}: There is no significant difference between Gross NPAs as well as Net NPAs of public, new private sector bank and foreign sector banks

H_{11}: There is significant difference between Gross NPAs as well as Net NPAs of public, new private sector banks and foreign sector banks

TABLE: 5 (a.1) Summary Statistics

groups	Count	sum	Average	Variance
Public Sector Banks	10	22222.00	2222.23	4972913.53
New Private sector banks	10	3092.00	309.16	61622.87
Foreign sector banks	10	885.0	88.46	1586.06

Table 5(a.2): ANOVA for Gross NPA (Rs Billion)

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	27538545.27	2	13769272.64	8.202	0.002
Within Groups	45325102.17	27	1678707.488		
Total	72863647.44	29			

Post hoc test: Multiple Comparison

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public Sector Bank	New Private Sector Bank	1913.076*	579.432	0.003*.	724.18	3101.97
	Foreign Bank	2133.775*	579.432	0.001*.	944.88	3322.67
New Private Sector Bank	Public Sector Bank	-1913.076*	579.432	0.003*.	-3102	-724.18
	Foreign Bank	220.699	579.432	0.706	-968.2	1409.6
Foreign Bank	Public Sector Bank	-2133.775*	579.432	0.001*.	-3322.7	-944.88
	New Private Sector Bank	-220.699	579.432	0.706	-1409.6	968.2

*. The mean difference is significant at the 0.05 level.

Table 5(a.1) and (a.2) shows the result of ANOVA and it is evident that F value is 8.202 and p value is .002<.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27). Since the p value is less than 0.05, the null hypothesis of no significant difference between gross NPA of public, private and foreign sector banks is rejected. Hence, it is found that there is significant difference in the mean of gross NPAs of public, new private sector and foreign sector banks. Further, Post Hoc Tukey HSD test for multiple comparisons between gross NPAs of various banks reveals that there is no significant difference between new private sector banks and foreign sector banks but there is a significance difference between gross NPAs of public sector bank with private and foreign sector banks.

TABLE 5 (b.1): Summary Statistics

groups	Count	sum	Average	Variance
Public sector banks	10	12481.68	1248.168	1675930.37
New Private sector banks	10	1318.39	131.89	19318.53
Foreign sector banks	10	224.38	22.438	57.63

TABLE 5 (b.2): ANOVA for Net NPA (Rs Billion)

Anova					
Source of Variation	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	9201910.16	2	4600955.08	8.142	0.002
Within Groups	15257758.76	27	565102.176		
Total	24459668.92	29			

Post hoc test multiple comparison

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public Sector Bank	New Private Sector Bank	1116.32900*	336.18512	0.003	426.53	1806.1239
	Foreign Bank	1225.73000*	336.18512	0.001	535.94	1915.5249
New Private Sector Bank	Public Sector Bank	1116.32900*	336.18512	0.003	-1806.1	-426.5341
	Foreign Bank	109.401	336.18512	0.747	-580.39	799.1959
Foreign Bank	Public Sector Bank	-1225.73000*	336.18512	0.001	-1915.5	-535.9351
	New Private Sector Bank	-109.401	336.18512	0.747	-799.2	580.3939
*. The mean difference is significant at the 0.05 level.						

Table 5(b.1) and (b.2) shows the result of ANOVA and it is evident that F value is 8.142 and p value .002<.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27). Since the p value is less than 0.05, the null hypothesis of no significant difference between Net NPA of public, private and foreign sector banks is rejected. Hence, it is found that there is significant difference in the mean of Net NPAs of public, new private sector and foreign sector banks. Further, Post Hoc Tukey HSD test for multiple comparisons between Net NPAs of various banks reveals that there is no significant difference between new private sector banks and foreign sector banks but there is a significance difference between net NPAs of public sector bank with private and foreign sector banks.

Null hypothesis H_{02}: There is no significant difference between gross as well as net NPAs to advances ratio in public sector banks, new private sector banks and foreign sector banks

H_{12}: There is significant difference between gross as well as net NPAs to advances ratio in public, new private and foreign sector banks

Table 5(c): Anova - Gross NPA Ratio of Public, Private Sector Banks & Foreign Sector Banks

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	20.958	2	10.479	2.588	0.094
Within Groups	109.325	27	4.049		
Total	130.283	29			

Table 5(c) shows the result of ANOVA and it is evident that F value is 2.588 and p value is.094>.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27). Since the p value is greater than 0.05, the null hypothesis of no significant difference between gross NPA of public, private and foreign sector banks is accepted. Hence, it is found that there is no significant difference in the mean of gross NPA to gross advances of public, private sector and foreign sector banks.

Table 5(d): Anova - Net NPA Ratio of Public, Private Sector Banks and Foreign Sector Banks

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	16.451	2	8.225	5.026	0.014
Within Groups	44.183	27	1.636		
Total	60.634	29			

Post Hoc Test Multiple Comparisons

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public Sector Bank	New Private Sector Bank	1.540*	0.572	0.012	0.37	2.71
	Foreign Bank	1.600*	0.572	0.009	0.43	2.77
New Private Sector Bank	Public Sector Bank	-1.540*	0.572	0.012	-2.71	-0.37
	Foreign Bank	0.06	0.572	0.917	-1.11	1.23
Foreign Bank	Public Sector Bank	-1.600*	0.572	0.009	-2.77	-0.43
	New Private Sector Bank	-0.06	0.572	0.917	-1.23	1.11
*. The mean difference is significant at the 0.05 level.						

Table 5(d) shows the result of ANOVA and it is evident that F value is 5.026 and p value .014<.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27) Since the p value is less than 0.05, the null hypothesis of no significant difference between Net NPA to Net advances of public, private and foreign sector banks is rejected. Hence, it is found that there is significant difference in the mean of Net NPA to Net Advances of public, new private sector and foreign sector banks. Further, Post Hoc Tukey HSD test for multiple comparisons between Net NPAs to Net advances of various banks reveals that there is no significant difference between foreign sector banks with new private sector banks but significance difference exist on the basis of Net NPAs to Net advances in public sector banks with new private sector and foreign sector banks.

Null hypothesis H_{03}: There is no significant difference between gross as well as net NPAs to asset ratio in public sector banks, new private sector banks and foreign sector banks

H_{13}: There is significant difference between gross as well as net NPAs to asset ratio in public, new private and foreign sector banks

Table 5(e):Anova -Gross NPA Ratio of Public , Private Sector Banks and foreign sector banks

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.389	2	6.694	4.439	0.022
Within Groups	40.721	27	1.508		
Total	54.11	29			

Post hoc Multiple Comparison

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public Sector Bank	New Private Sector Bank	1.3700*	0.5492	0.019	0.243	2.497
	Foreign Bank	1.4600*	0.5492	0.013	0.333	2.587
New Private Sector Bank	Public Sector Bank	-1.3700*	0.5492	0.019	-2.497	-0.243
	Foreign Bank	0.09	0.5492	0.871	-1.037	1.217
Foreign Bank	Public Sector Bank	-1.4600*	0.5492	0.013	-2.587	-0.333
	New Private Sector Bank	-0.09	0.5492	0.871	-1.217	1.037

Table 5(e) shows the result of ANOVA and it is evident that F value is 4.439 and p value .022<.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27) hence null hypothesis is rejected and our analysis supports our alternate hypothesis that there is significant difference in mean of gross NPAs to total asset of public, new private sector and foreign sector banks. Further, Post Hoc Tukey HSD test for multiple comparisons between gross NPAs to total asset of various banks reveals that there is no significant difference between new private sector banks and foreign sector banks but there is a significance difference between gross NPAs to total asset of public sector bank with private and foreign sector banks.

Table 5(f): Anova - Net NPA Ratio of Public , Private Sector Banks and foreign sector banks

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.121	2	4.06	7.746	0.002
Within Groups	14.153	27	0.524		
Total	22.274	29			

Post Hoc Multiple Comparison

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Public Sector Bank	New Private Sector Bank	.9900*	0.3238	0.005	0.326	1.654
	Foreign Bank	1.1900*	0.3238	0.001	0.526	1.854
New Private Sector Bank	Public Sector Bank	-.9900*	0.3238	0.005	-1.654	-0.326
	Foreign Bank	0.2	0.3238	0.542	-0.464	0.864
Foreign Bank	Public Sector Bank	-1.1900*	0.3238	0.001	-1.854	-0.526
	New Private Sector Bank	-0.2	0.3238	0.542	-0.864	0.464

*. The mean difference is significant at the 0.05 level.

Table 5(f) shows the result of ANOVA and it is evident that F value is 7.746 and p value .002<.05 at 5 % level of significance with degrees of freedom (v1=2 and v2=27). Since the p value is less than 0.05, the null hypothesis of no significant difference between net NPA to total asset of public, private and foreign sector banks is rejected. Hence, it is found that there is significant difference in the mean of Net NPA to Total asset of public, private sector and foreign sector banks. Further, Post Hoc Tukey HSD test for multiple comparisons between Net NPA to total asset of various banks reveals that there is no significant difference between new private sector banks and foreign sector banks but there is a significance difference between net NPA to total asset of public sector bank with private and foreign sector banks.

RECOVERY CHANNEL OF NPA IN INDIAN BANKING

There is a huge variation in the trend of NPAs in the Indian banking sector during the year 2000-2017. The position of NPAs continues to haunt Indian banking Sector .The higher amount is mainly due to slow and inefficient recovery of bank credit, inadequate legal provision etc. Various steps have been taken by the government and Reserve Bank of India to recover and reduce NPAs. Among others Settlement/compromise scheme, Lok adalats, Debt Recovery Tribunals, SARFAESI Act are common but nothing has hit the mark in tackling NPAs. Management of NPA is also done with the help of credit information Bureau, corporate reconstruction companies, Circulation of Information of Defaulters and by improving the corporate governance practices.

Table: 6 NPAs Recovered by SCBs through Various Channels (Rs in billion) as on 31st march 2012-2017

YEAR	SR NO	RECOVERY CHANNEL	LOK ADALATS	DRTs	SARFAESI ACT	TOTAL
2012-2013	1	No of case ref.	840691	13408	190537	1044636
	2	Amount involved	66	310	681	1057
	3	Amount recovered	4	44	185	233
	4	3 as per of2	6	14	27	22
2013-2014	1	No of case ref.	1636957	28258	194707	1859922
	2	Amount involved	232	553	953	1738
	3	Amount recovered	14	53	253	233
	4	3 as per of2	6	10	27	22
2014-2015	1	No of case ref.	2958313	22004	175355	3155672
	2	Amount involved	310	604	1568	2482
	3	Amount recovered	10	42	256	308
	4	3 as per of2	3	7	16	12
2015-2016	1	No of case ref.	4456634	24537	173582	4654753
	2	Amount involved	720	693	801	2214
	3	Amount recovered	32	64	132	228
	4	3 as per of2	4	9	17	10
2016-2017	1	No of case ref.	2152895	28902	80076	2261873
	2	Amount involved	1058	671	1131	2860
	3	Amount recovered	38	164	78	280
	4	3 as per of2	4	24	7	10

Source : Reserve Bank of India, statistical tables related to banking in India

Table 6 indicating that Banks have been making all efforts to reduce their non-performing assets through various legal channels like resolutions through Lok Adalats, Debt Recovery Tribunals (DRTs) and invocation of SARFAESI act. Result shows that during the period of 2012 to 2017 the percentage of recovered amount is decreasing that is decreased from 22 % in 2012 to 10 % in 2017. The deceleration in recovery was mainly due to a reduction in recovery through the SARFAESI channel. In 2016-2017 DRTs recovered 24 percent and lok Adalats recovered 4 percent, while 7 percent of the amount was recovered under the SARFAESI Act.

Conclusion:

NPAs reflect the overall performance of the banks. The study concludes that there is an increasing trend in GNPA and NNPA of all the SCBs over the period of study. The standard assets are declining and the provisions are increasing. The increasing provisions puts additional burden on banks' profits. The Indian banking sector faced a serious problem of NPAs. However, the increase in ratio of NPAs indicates deterioration in the asset quality of Indian public sector banks and private sector banks. The extent of NPAs is comparatively higher in public sectors banks than private sector and foreign sector banks. Result shows that there is increase in nonperforming assets of the public sector banks in India as the ratio of gross NPAs to total advances had increased from 2.2 to 11.7 between2007-2008 and 2016-2017 and the Net NPA ratio had increased from1.1 to6.9% during the same period where as in private sector banks ratio of gross NPAs to total advances had increased from 2.5 to 4.1% between2007-2008 and 2016-2017 and the Net NPA to net advances had increased from1.1 to% 2.2% and in foreign sector bank ratio of gross NPAs to total advances had increased from 1.9 to 4.0% between2007-2008 and 2016-2017 and the Net NPA to net advances had decreased from0.8 to% 0.6%. While comparing the public sector banks with new private sector banks and foreign sector banks the result shows that there is a significant difference between NPAs ratio of public sector banks with new private sector banks and foreign sector banks whereas no significant difference is found between NPAs ratio of new private sector banks and foreign sector banks. Public sector banks are the major players of the financial system. But the performances of such banks were affected by huge amount of NPAs. Result also shows that Priority sector had contributed lower volume of NPA than non-priority sector in the total NPA of PSBs, in contrary to the popular perception. NPA generated in public sector banks mainly from stressed sectors such as infrastructure, iron and steel, textiles etc. in the post crisis period. Public sector banks have to implement the techniques of write off and restructuring in order to bring down the level of NPA. As compared to this private sector banks have a secured loan policy. Top management of private and foreign sector banks is more professional, core competent and expertise than public sector banks. So, they are more competent in making plans for recovering funds from borrowers (both individuals and institutional). Public sector banks are more exposed to political interference; they are not allowed to act as a professional manner, which results in high level of NPAs. To improve the efficiency and profitability, the NPAs have to be scheduled. Various steps have been taken by government to reduce the NPAs. It is highly impossible to reduce the amount of NPAs to zero percentage. But at least Indian banks should take care to ensure that they give loans to creditworthy customers. The money blocked in NPAs has a direct impact on profitability of the bank. As a result of this, financial health of banks has been affected adversely.

Limitation of study:

- The scope of the study does not include old private sector bank as due to non availability of data for time period 2012-2017.
- The study is confined only for the period of Ten years from 2008 to 2017

References:

- Balasubramaniam, C.S (2001) Non-performing assets and profitability of commercial banks in India: assessment and emerging issues. Abhinav Journal, Vol.1, Issue no.7, ISSN 2277-116
- Chatterjee, C. & Mukherjee, J. and Das, R. (2012) Management of nonperforming assets - a current scenario. International Journal of Social Science & Interdisciplinary Research, Vol.1 Issue 11
- Garg, A. (2016). A study on management of non-performing assets in context of Indian banking system. International Journal of Engineering Technologies and Management Research, 3(11), 15-25.
- Joseph, A. L., & Prakash, M. (2014). A study on analyzing the trend of NPA level in private sector banks and public sector banks. International Journal of Scientific and Research Publications, 4(7), 1-9.
- Kadanda, D., & Raj, K. (2018). Non-performing assets (NPAs) and its determinants: a study of Indian public sector banks. Journal of Social and Economic Development, 20(2), 193-212.
- Mohnani, P. Deshmukh, M. (2013) A Study of Non-Performing Assets on Selected Public and Private Sector Banks. International Journal of Science and Research (IJSR), Volume 2, Issue 4

- Mohnani, P., & Deshmukh, M. (2013). A study of non-performing assets on selected public and private sector banks. International Journal of Science and Research (IJSR), 2(4), 278-281.
- Paul, P., Bose, S. K., & Dhalla, R. S. (2011). Efficiency measurement of Indian Public sector banks: Non performing asset as negative output. Asia Pacific Journal of Finance & Banking Research, 5(5).
- Prasad Bhavani G.V. & Veena D. (2011) NPAs Reduction Strategies for Commercial Banks in India. IJMBS Vol. 1, Issue 3, September, pp 47-53.
- Rajeev, M., & Mahesh, H. P. (2010). Banking sector reforms and NPA: A study of Indian Commercial Banks. Bengaluru: Institute for Social and Economic Change.
- Rajput, N., Arora, A. P., & Kaur, B. (2012). Management of nonperforming assets a study of Indian public sector banks. International Journal of Management, IT & Engineering, 2(4), 197-210.
- Reserve Bank of India: Reports on Trends and Progress of Banking in India – Various years
- Roy, P., & Samanta, P. K. (2017). Analysis of Non-Performing Assets in Public Sector Banks of India. International Journal of. Management,8(1),21-29.
- Samir, D., & Kamra, D. (2013). A comparative analysis of non-performing assets (NPAs) of selected commercial banks in india. Opinion: International Journal of Management, 3(1).
- Satyanarayana, S. (2016). Non-Performing Assets of Commercial Banks in India-A Study. International Journal of Trend in Research and Development, 3(6), 168-173.
- www.rbi.org.in