

THE IMPACT OF EXISTENCE OF NPA'S IN BANKING SECTORS ON INDIAN STOCK MARKET

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Abstract:

An asset, including a leased asset is termed as a Non-Performing Asset (NPA) when it ceases to generate income for the bank. According to RBI, NPA as a credit facility in respect of which the interest and / or instalment of principal has remained 'past due' for a specified period of time as stipulated by RBI. NPA is an important parameter in the analysis of financial performance of a bank as it affects liquidity and profitability and poses threat on quality of asset and survival of banks. It shows the credit risk of the banks. At present, it is observed that Public Sector Undertaking Banks (PSU) are facing more problems than Private Sector Banks (PrSB). A rising level of NPAs in the banking sector can severely affect the economy in many ways. Suppose NPAs are not properly managed, it can cause financial and economic degradation which in turn signals an adverse investment climate. Researchers have investigated many factors and dimensions which influence NPA level in banks vis interest rate deregulation, reserve requirements, barriers to entry in the industry, bank size and credit rating which influence NPA level in banks. However, very less research has been done for assessment of impact of NPA on stock market performance of the banks. This paper looks at an empirical analysis of 37 listed banks (comprising PSU and PrSB) and attempts to find impact of NPA on share prices of listed banks for past 5 years. Findings and interpretations are presented on the basis of Regression analysis and Paired T test.

Keywords: *Non-Performing Asset (NPA), Quality of asset, Public Sector banks, Private Sector banks, Share prices*

INTRODUCTION

What are NPA's?

Non-performing assets are assets which can be classified as loans and advances and that are in default or are in arrears on scheduled payments of principal and interest. In basic sense, NPA's are assets which cease to generate income for banks. It Is a debt obligation where the borrowers have not paid up interest and principal repayment to the lenders(banks) for an extended period of time. In most of the cases the loans and advances are considered as non-performing only when the payment has not been made for a period of 90days or more.

Types of NPA's

NPA's are classified into 3 categories:

1. Sub-standard assets:

A loan asset that has remained non-performing for a period less than or equal to 12 months for the entity.

2. Doubtful assets:

A loan asset that has remained in the substandard category for a period of 12 months for the entity.

3. Loss assets:

A loan asset where loss has been identified by the bank, internal or external auditor or central bank auditor but the amount has not been written off, wholly or partially.

REVIEW OF LITERATURE

(Dubey, Dutta, Deva, Kumari, Pallawi, 2015): An empirical analysis of the entire universe of 39 listed banks (comprising 24 PSU Banks and 15 PSB) to find correlation between Non-Performing Asset levels and stock market performance of listed banks for the past 15 years and attempted to estimate linkages between NPA and bank stock market returns.

(Garg, Ankita, 2016): A study on management of non-performing assets in context of Indian Banking System, NPA lead to opportunity cost also as that much of profit could have been invested in some return earning project/asset besides effecting current profit it also effects future stream of profit, which may lead to loss of some long-term beneficial opportunity. Now a day's banks have to employ specialists to look after the NPAs in their banks. The hiring of employees and management taking care of the NPAs is another cost the banks have to incur which results in additional burden. Time and effort devoted to NPAs could have been diverted to some other activities which would reap more benefits.

(**Tiwari &Garg, 2018**): Study of non-performing assets of Indian banking system and its impact on economy, concluded the status of NPA's of scheduled commercial banks in India by selecting 3 public sector and private sector banks each and analyzing their NPA ratio to prove the mismanagement in banks and its adverse impact on the economy.

(**Miyan, 2017**): A study of Comparative Statistical Approach towards NPA of PSU and Private Sector Banks in India, the results and trends show that NPAs are increasing over the study period, and Non-Performing Assets of public sector banks are higher than private sector banks. The return on asset is also much higher in private sector as compared to the PSUs and overall has a downward trend. The public sector banks are required to loan money to the poorer sections of the society where the chances of recovery of money is very low. That is a major reason why the NPAs of public sector banks have sharp declining trend. Private banks have more professional and competent behavior and are also able to make effective plans to recover funds from borrowers whether individuals or institutions.

(**Singh, 2016**): A high level of NPAs in Indian banks reflects the state of health of the industry and trade. Hence it is important to trim down NPAs to improve the financial health in the banking system. This paper explains the status and trend of NPAs in Indian Scheduled commercial banks, the factors contributing to NPAs, explores reasons for high impact of NPAs on the scheduled commercial banks in India and recovery of NPAs through various known channels.

RESEARCH DESIGN

Statement of problem:

- The financial position of Indian's public sector banks has deteriorated sharply since 2011. An incremental nature of NPAs in the banking sector can severely affect the economy in many ways.
- NPAs have been on the rise for both public and private banks and they effect the share prices of the listed banks. We will be exploring the different internal and external factors which effect NPAs and ultimately influence the share prices

Sources of data:

Secondary data has been taken for the purpose of this research paper. The secondary of banks was sourced from the annual reports of respective banks. The historical stock data has been collected from the following websites:

- <http://www.bloomberg.com/asia>
- <http://www.moneycontrol.com/>

Objective of the study:

- To find out the trends of NPA in the Indian Banking Sector.
- To evaluate the performance of PSU and private banks via NPA analysis.
- To analyse the impact of NPA's of listed banks on stock prices.

Limitations of study:

- The results are probabilities and not certain
- The non-performing assets have been identified from the Reserve Bank of India Publications.
- The study of non-performing assets of listed banks is limited to the end of 2018 i.e., restricted to 5 years only.

Hypothesis:

- H_0 = There is no relationship between change in MCAP of banks and change in NNPA.

H_1 = There is relationship between change in MCAP of banks and change in NNPA.

- H_0 = There is no significance difference in the NNPA between public sector banks and private sector banks.

H_1 = There is significance difference in the NNPA between public sector banks and private sector banks.

METHOD OF ANALYSIS

ANALYSIS OF THE TREND OF NNPA OF PUBLIC SECTOR BANKS

TABLE1.1

NET NON-PERFORMING ASSETS AND DESCRIPTIVE STATISTICS AND RANKS OF INDIVIDUAL PUBLIC SECTOR BANKS									
NAME OF THE BANK	2014	2015	2016	2017	2018	MEAN	SD	CAGR	RANK
Allahabad Bank	3.19	3.99	6.76	8.92	8.04	6.18	2.24	20.31	18
Andhra Bank	2.45	2.93	4.61	7.57	8.48	5.21	2.43	28.19	14
Bank of Baroda	1.28	1.89	5.06	4.72	5.49	3.69	1.75	33.81	9
Bank of India	2.06	3.36	7.79	6.9	8	5.62	2.44	31.17	12
Bank of Maharashtra	0.52	4.19	6.35	11.76	11.24	6.81	4.26	84.91	1
Canara Bank	2.18	2.65	6.42	6.33	7.48	5.01	2.16	27.96	15
Central Bank of India	2.9	3.61	7.36	10.2	11.1	7.03	3.33	30.79	13
Corporation Bank	1.19	3.08	6.53	8.33	11.33	6.09	3.63	56.94	3
Dena Bank	1.39	3.82	6.35	10.66	11.95	6.83	3.99	53.77	4
IDBI Bank	1.58	2.88	6.78	13	16.69	8.19	5.82	60.24	2
Indian Bank	2.26	2.5	4.2	4.39	3.81	3.43	0.88	11.01	21
Indian Overseas Bank	2.5	5.68	11.89	13.99	15.53	9.92	5.00	44.09	5
Oriental Bank of commerce	2.27	3.34	6.7	8.96	10.48	6.35	3.15	35.79	8
Punjab & Sind Bank	2.16	3.55	4.62	7.51	6.93	4.95	2.02	26.26	16
PNB	2.85	4.06	8.61	7.81	11.24	6.91	3.07	31.58	11
SBI	2.57	2.12	3.81	3.71	5.73	3.59	1.25	17.39	20
Syndicate Bank	1.56	1.9	4.48	5.21	6.28	3.89	1.85	32.12	10
UCO Bank	2.38	4.3	9.09	8.94	13.1	7.56	3.81	40.65	6
Union Bank of India	1.61	2.71	5.25	6.57	8.42	4.91	2.49	39.22	7
United Bank of India	7	6.22	9.04	10.02	16.49	9.75	3.63	18.69	19
Vijaya Bank	1.55	1.92	4.81	2.36	4.32	2.99	1.32	22.75	17

The above table shows the Net NPA ratio of public sector banks for a period of five years starting from 2014 to 2018 along with different statistics such as Mean, Standard Deviation, and growth rate via CAGR. Ranks are assigned to individual banks as per their CAGR of the

NNPA ratio in ascending order with the interpretation that high performance of bank leads to lower NPA and vice-versa.

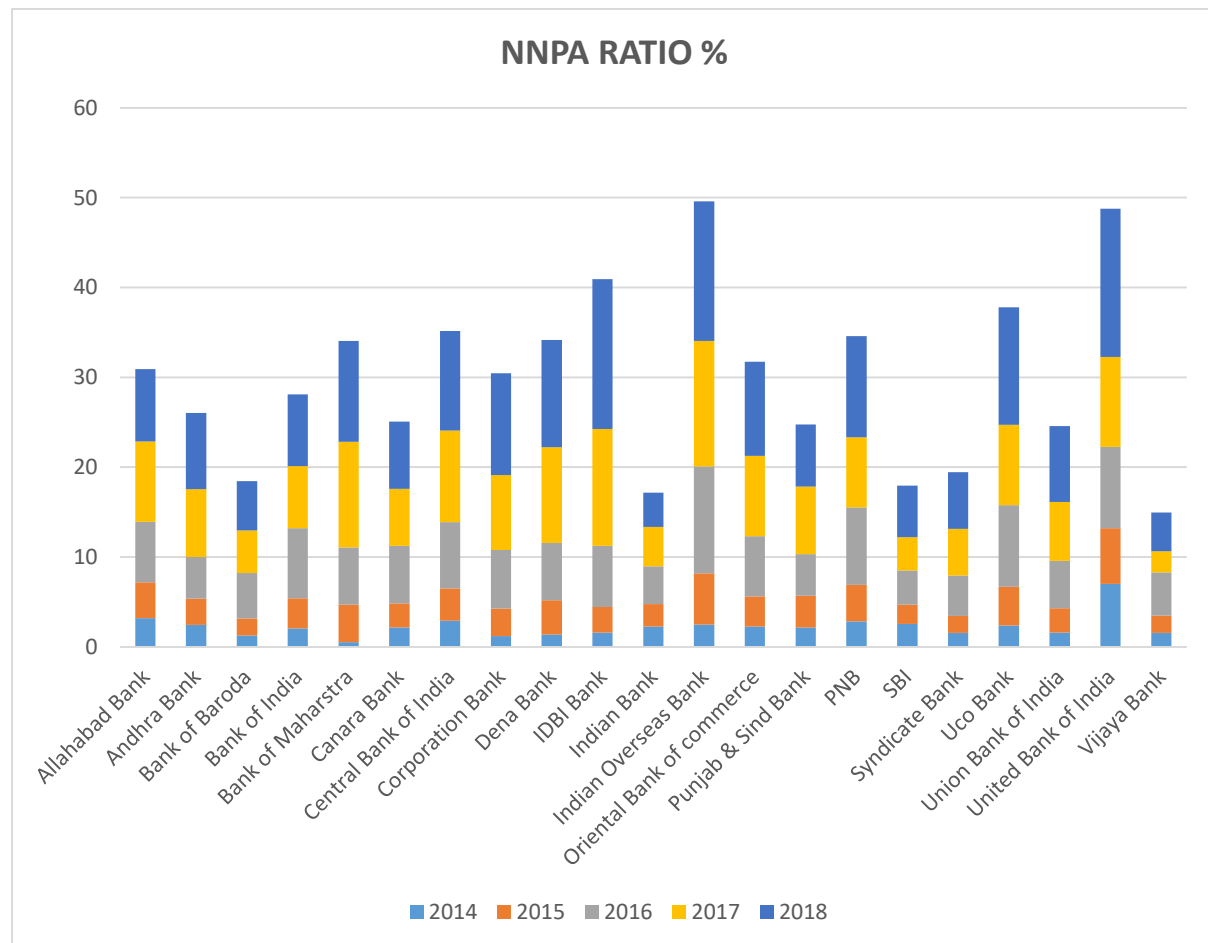


CHART 1.1

The above diagram signifies the NNPA ratio of all the public sector banks for a period of five years and break of individual bar highlights the annual netNPA ratios of a five year period starting from 2014 to 2018. It can be seen from the diagram that some of the banks have high net NPA ratio from year to year while some banks have kept the growth of net NPA under controlled situation. From this diagram, it is seen that Vijaya Bank, Indian Bank, Bank of Baroda and SBI has been able to keep their NNPA low relative to other banks. Indian Overseas Bank, United Bank of India IDBI Bank has the highest bar which shows that the mean of NNPA ratio is the highest.

ANALYSIS OF THE TREND OF NNPA OF PRIVATE SECTOR BANKS

TABLE2.1

NET NON-PERFORMING ASSETS AND DESCRIPTIVE STATISTICS AND RANKS OF INDIVIDUAL PRIVATE SECTOR BANKS									
PRIVATE BANK/YEAR	2014	2015	2016	2017	2018	MEAN	SD	CAGR	RANK
Axis Bank	0.44	0.46	0.7	2.5	3.4	1.50	1.37	50.52	9
City Union Bank	1.23	1.3	1.53	1.71	1.7	1.49	0.22	6.69	8
DCB Bank	0.91	1.01	0.75	0.79	0.72	0.84	0.12	-4.58	5
Federal Bank	0.74	0.73	1.64	1.28	1.69	1.22	0.47	17.96	7
HDFC Bank	0.27	0.25	0.28	0.33	0.4	0.31	0.06	8.18	1
ICICI Bank	0.97	1.61	2.98	4.89	4.77	3.04	1.79	37.51	14
IndusInd Bank	0.33	0.31	0.36	0.39	0.51	0.38	0.08	9.10	2
J&K Bank	0.22	2.77	4.31	4.87	4.9	3.41	1.98	86.02	16
Karnataka Bank	1.91	1.98	2.35	2.64	2.96	2.37	0.44	9.16	12
Karur vysya Bank	0.41	0.78	0.55	2.53	4.16	1.69	1.63	58.95	10
Kotak Mahindra Bank	1.1	0.9	1.1	1.3	1	1.08	0.15	-1.89	6
Lakshmi Vilas Bank	3.44	1.85	1.18	1.76	5.66	2.78	1.82	10.47	13
RBL Bank	0.31	0.27	0.59	0.64	0.78	0.52	0.22	20.27	4
South Indian Bank	0.78	0.96	2.89	1.45	2.6	1.74	0.96	27.23	11
The Dhanlaxmi Bank	3.8	3.29	2.78	2.58	3.19	3.13	0.48	-3.44	15
Yes Bank	0.05	0.12	0.29	0.81	0.64	0.38	0.33	66.51	3

This table shows net non-performing asset ratio of each banks for a period of five years with statistics data like Mean, Standard Deviation, and growth rate of NNPA ratio via CAGR.

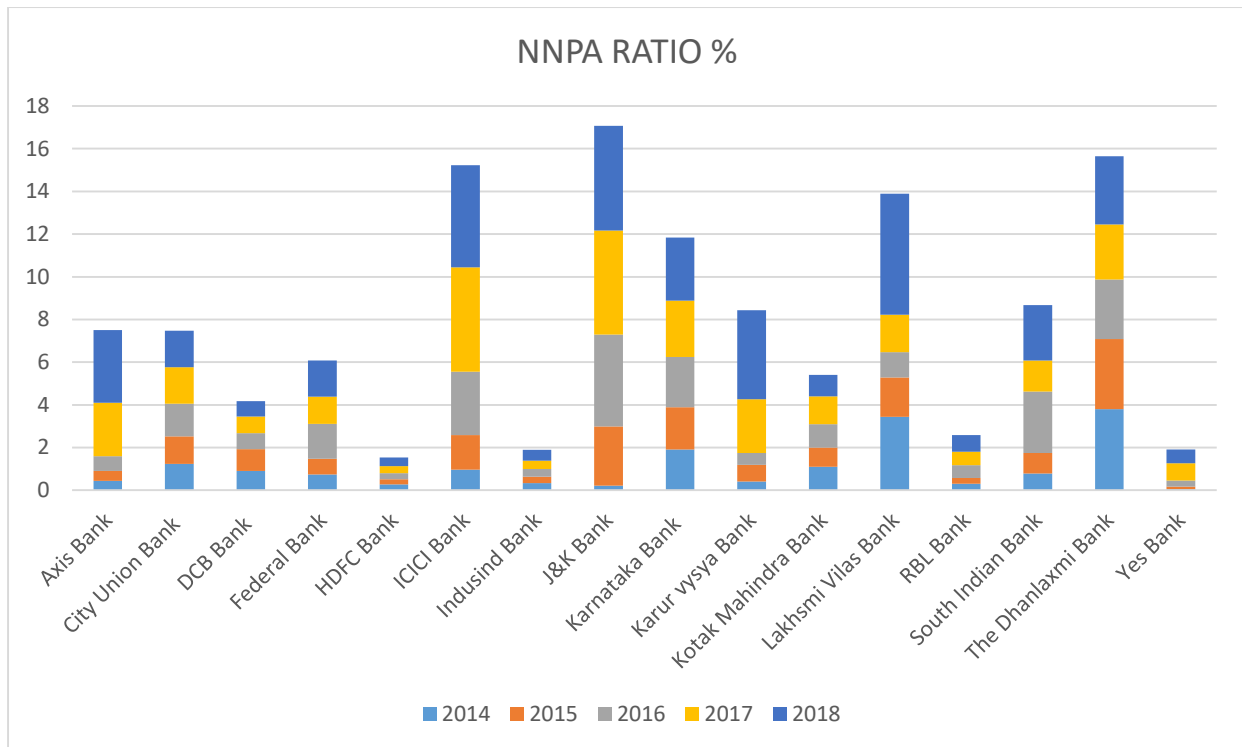


CHART2.1

From the above diagram, it can be inferred that banks like HDFC Bank, IndusInd Bank, RBL Bank and Yes Bank are able to keep their net NPAs under control for the last five years relative to other private banks. However, banks such as Jammu & Kashmir Bank, The Dhanlaxmi Bank, Lakshmi Vilas Bank & ICICI Bank has higher level of bar which shows that their net NPA levels are higher relative to other banks.

MARKET CAPITALISATION TREND OF PUBLIC AND PRIVATE SECTOR BANKS FOR THE LAST FIVE YEARS

We have taken the total market capitalization of each bank for the analysis of the trend of stock market performances. We have not taken the stock prices as it is subject to changes due to different corporate announcement such as Bonus, Stock Split etc. Market Capitalization is not affected due to these corporate announcements.

PUBLIC SECTOR BANKS:

TABLE 3.1

PSU Bank	2014	2015	2016	2017	2018	CAGR	RANK
Allahabad Bank	9587.93	10568.87	5785.46	7747.34	5099.85	-14.60	14
Andhra Bank	11146.35	13769.53	9107.06	10100.56	7250.79	-10.19	10

Bank of Baroda	38135.11	43254.19	38889.09	45754.20	37645.69	-0.32	6
Bank of India	39827.06	34136.23	16915.61	24270.97	18109.55	-17.88	15
Bank of Maharashtra	10289.88	9627.27	7540.72	8800.97	3533.90	-23.45	18
Canara Bank	19383.33	26968.74	13935.32	22198.99	19350.33	-0.04	5
Central Bank of India	14361.98	30711.88	21391.72	30438.18	20844.32	9.76	3
Corporation Bank	9223.81	8760.79	6462.33	8769.11	5104.91	-13.75	13
Dena Bank	13667.23	11487.25	6517.35	8652.15	4247.01	-25.34	20
IDBI Bank	20137.61	21895.41	21401.99	23159.79	22265.47	-1.87	7
Indian Bank	5516.15	8330.66	4990.23	13364.12	14399.14	27.11	4
Indian Overseas Bank	24869.57	20712.41	14794.58	13033.90	8534.39	-23.46	19
Oriental Bank of commerce	14104.39	12946.42	5799.31	8912.53	5796.15	-19.93	16
Punjab & Sind Bank	2553.40	2578.82	1954.60	3107.02	1988.49	-6.06	8
PNB	41082.85	39862.68	23382.05	41601.84	26349.67	-10.51	11
SBI	171200.37	238286.50	173404.75	261133.45	223203.95	6.86	1
Syndicate Bank	13676.68	14356.97	9594.93	10098.06	7872.95	-12.90	12
UCO Bank	28852.75	25253.57	15286.62	14218.73	8543.10	-26.23	21
Union Bank of India	16032.83	18311.55	15290.78	18223.90	10996.28	-9.00	9
United Bank of India	9398.40	8586.38	5729.26	6947.30	3810.49	-20.20	17
Vijaya Bank	5183.99	6064.29	4088.50	8933.41	6768.53	6.90	2

From the above table, we can see that out of 21 banks, only 4 banks have a positive CAGR.

Positive CAGR

Central Bank of India, Indian Bank, SBI and Vijaya Bank has positive Compounded Annual Growth Rate in their market capitalization. Indian Bank has the highest CAGR of 27.11 percent in the last 5 years followed by Central Bank of India with 9.76 percent and Vijaya Bank and SBI with a CAGR of 6.90 percent and 6.86 percent.

Negative CAGR

17 public sector banks have delivered negative CAGR over the last 5 years.

PRIVATE SECTOR BANKS:

TABLE 3.2

BANK NAME	2014	2015	2016	2017	2018	CAGR	RANK
Axis Bank	75007.28	143907.98	114158.27	126035.04	130811.43	14.92	7
City Union Bank	3937.56	7073.70	6938.30	11069.81	12632.39	33.83	3
DCB Bank	1881.65	3434.52	2437.35	5268.32	4982.76	27.57	5
Federal Bank	18903.37	26128.22	9125.08	18081.91	17686.03	-1.65	14
HDFC Bank	197940.13	270365.32	283145.45	381236.64	388615.58	18.37	6
ICICI Bank	160212.63	202798.36	152147.01	178228.44	179064.59	2.82	10
IDFC Bank	0.00	0.00	16424.84	20186.38	16118.47	-0.94	13
IndusInd Bank	30095.96	52992.20	58102.27	84634.39	107821.86	37.58	2
J&K Bank	8559.19	5309.64	3380.13	4173.65	3366.21	-20.81	17
Karnataka Bank	3313.58	3521.29	2892.49	3974.88	3251.40	-0.47	12
Karur Vysya Bank	5439.70	7902.32	6342.20	8149.38	7328.27	7.73	9
Kotak Mahindra Bank	74148.53	125151.85	129807.58	166233.76	199876.98	28.13	4
Lakshmi Vilas Bank	1820.73	2598.66	2074.07	4237.70	2511.66	8.37	8
RBL Bank	0.00	0.00	0.00	20887.06	20155.88	-3.50	15
South Indian Bank	4024.65	4567.30	3183.54	3870.90	4124.13	0.61	11
The Dhanlaxmi Bank	1812.92	1554.65	985.45	1489.46	1065.69	-12.44	16
Yes Bank	19073.43	37664.84	39878.93	71455.04	70320.32	38.57	1

From the above table, we can identify the positive CAGR of private sector banks in the last five years in terms of their stock market performances.

Positive CAGR

The highest CAGR is delivered by Yes Bank of 38.57 percent followed by IndusInd Bank with a CAGR of 37.58 percent, City Union bank with a CAGR of 33.83 percent.

Negative CAGR

The banks which have delivered negative CAGR are Federal Bank (-1.65), IDFC Bank (-0.94), J&K Bank (-20.81), Karnataka Bank (-0.47), RBL Bank (-3.5) and Dhanlaxmi Bank with the lowest CAGR of -12.44 percent.

Conclusion

It can be inferred that the CAGR is positive in the case of only those banks which are doing better performance in terms of NPA management, Net Profit, Management efficiency etc. Which shows the decrease of confidence of investors in the PSBs.

ANALYSIS OF RESULT AND INTERPRETATIONS

These following 2 methods are used in the study

Linear regression

Paired t-test:

Linear regression:

Descriptive Statistics

	Mean	Std. Deviation	N
MCAP	15.1578	17.13553	9
NNPA	2.3193	2.20560	9

Correlations

		MCAP	NNPA
Pearson Correlation	MCAP	1.000	-.892
	NNPA	-.892	1.000
Sig. (1-tailed)	MCAP	.	.001
	NNPA	.001	.
N	MCAP	9	9
	NNPA	9	9

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	NNPA ^b	.	Enter

a. Dependent Variable: MCAP

b. All requested variables entered.

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	.892 ^a	.796	.767	8.27291	.796	27.322	1	7	.001

a. Predictors: (Constant), NNPA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1869.925	1	1869.925	27.322	.001 ^b
	Residual	479.087	7	68.441		
	Total	2349.012	8			

a. Dependent Variable: MCAP

b. Predictors: (Constant), NNPA

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	31.235	4.131		7.561	.000	21.467	41.003
NNPA	-6.932	1.326	-.892	-5.227	.001	-10.068	-3.796

a. Dependent Variable: MCAP

Analysis of the results:

From the results we can say that,

There is a relationship between net NPA of banks and Market capitalization of all banks

Paired t-test:**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PUBLIC	3.3759	37	3.31908	.54565
	PRIVAT	.6995	37	1.05777	.17390
	E				

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 PUBLIC & PRIVATE	37	-.691	.000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PUBLIC - PRIVATE	2.67649	4.12177	.67762	1.30222	4.05075	3.950	36	.000

There are three tables above namely: Paired Sample Statistics, Paired Sample Correlations and Paired Sample T-Test.

Analysis of Results:

From the result, we can say that

- Net NPA of public and private banks were strongly and positively correlated ($r=0.691$, $p<0.05$)
- There is a significant average difference between NPAs of Public and Private Sector Banks ($t=3.950$, $p<0.05$)
- On an average, NNPA of Public Sector Banks were 2.67649 times higher than the NNPA of Private Sector Banks

- From the results of Paired Sample T-Test, we can reject null hypothesis and accept the alternative hypothesis.
- From the table, the level of significance i.e. the p-value is less than 0.05 i.e, 5%. Since, it implies that the probability rate of occurrence of null hypothesis is less, therefore we will reject the null hypothesis and accept the alternate hypothesis which states that there is significant difference between the NNPA of Public Sector Banks and Private Sector Banks.

CONCLUSION

Banks play a very important role in the growth of the economy. The Indian Banking Sector is adversely affected by the mounting NPAs which is becoming a big concern. The banking sector, being the barometer of the economy, is reflective of the macro-economic variables and thus various measures have been taken by the government to control the rising NPAs. Based on data and analysis conducted in this research the following can be concluded with an element of certainty. Net NPA is a factor which affects bank market capitalization and a relationship is established between MCAP and Net NPA. There is also significant difference in the NNPA between public sector banks and private sector banks.

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