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Impact of Sectorial Advances on Priority Sector NPA – Case of BSE Bankex

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Abstract

Indian banks have noticed exponential growth along with a paradigm shift in its regulatory framework. To provide sufficient credit facilities to agricultural, SMEs, and other weaker as well as important sections of society, the concept of priority sector lending (PSL) has evolved in the year 1967-68. Along with its positive results, PSL also contributes substantially to non-performing assets (NPAs) of banks. Lower profitability, lower value of loan, defaulting borrowers, lower productivity of agricultural sector, government interventions are some of the reasons why PSL is not much attractive for commercial banks. It is important to note that every sub-sector of priority sector is not equally risky creating a need to study that how different sectors contribute towards NPA. This research paper concentrates on how sector-wise lending affects NPA in priority sector. Constituents of BANKEX are studied for a period of 4 years (2014 – 2017). Statistical tools like descriptive, correlation analysis and multiple regression are used for data analysis. Gross NPA in priority sector is taken as dependent variable whereas the ratio of agricultural lending to total lending (ALTL), industrial lending to total lending (ILTL), service lending to total lending (SLTL) and personal lending to total lending (PLTL) are taken as exploratory variables. The study concludes that NPA in priority sector is positively related with agricultural lending, industrial lending, and personal lending whereas service sector lending has negative effect on NPA. The results are statistically significant for industrial and service sector lending. Outcome of the study will enable the banks to devise better credit policy for sensitive sectors and help them to reduce credit exposure in those areas.

Keywords: Priority Sector Lending, Non – Performing Assets, Sector-wise Lending, Multiple Regression Model

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Introduction

Economic growth of a country is functional to its banking system and financial services. Banks play a significant role in boosting the economy to a progressive stage. Bank, in general, is defined as an organization which accepts the deposits and does credit creation. Banks are acting as mobilisers to transfer the funds from savers to investors. In modern times, the role of banks has changed dramatically, and banking system has evolved as the heart of economy. Indian banking

system has experienced exponential growth. With the increase in size of banking system, there is a parallel increase in the problem of non-performing assets (NPAs) with every bank.

RBI has initiated the policy of Priority Sector Lending way back in 1967-68 to promote agricultural, rural credit and for development of small scale industries. As the banks are made to lend a fixed percentage of their total advances to priority sector, the problem of NPA is also increasing in this sector. Higher NPAs erode the profitability of banks and adversely affects the credibility of it.

Concept of Non-Performing Asset (NPA)

NPA is defined as a set of assets which are not generating any return to the bank. Banks earn by lending money to public at a rate higher than that paid on deposits. Hence, if the loan interest or principal or both remains unpaid (Shabbir & Mujoo, 2014), banks will lose a substantial part of its income.

According to Reserve Bank of India,

- An asset (leased asset also) becomes an NPA when it stops generating income for the bank.
- An NPA is a loan or an advance;
  - Whose interest amount or instalment of principal remains unpaid for more than 90 days in respect of a term loan,
  - In case of an Overdraft/Cash Credit (OD/CC), the account remains 'out of order',
  - In the case of bills purchased or discounted, it remains overdue for a period of more than 90 days,
  - For short duration crops, the principal amount or interest on that remains unpaid for two crop seasons,
  - For long duration crops, the principal amount or interest on that remains unpaid for one crop season
  - In case of a securitization transaction undertaken as per the guidelines on securitization dated February 1, 2006, the amount of liquidity facility remains outstanding for more than 90 days,
  - The overdue receivables showing positive mark-to-market value of a derivative contract remain unpaid for a period of 90 days from the specified due date for payment in respect of derivative transactions.

Concept of Priority Sector Lending (PSL)

Priority sector was first defined by National Credit Council in 1972. Priority sector is defined as set of industries which require a distinctive credit and lending policy for its development. It may not get timely and adequate credit without special dispensation (Dave, 2016). RBI has assigned several sectors as priority sectors. Scheduled Commercial banks and foreign banks are required to deploy specified percentage of their total lending in these areas. Initially the banks were given a target of 33.33% as a part of priority sector lending in 1974. Based on the recommendations of Krishnaswammy committee, the targets are revised to 40%. According to RBI, following sectors are specified as priority sectors.

1. Agriculture
2. Micro, Small and Medium Enterprises

3. Export Credit
4. Education
5. Housing
6. Social Infrastructure
7. Renewable Energy
8. Others

Literature Review

Researchers have worked in the area of NPA and PSL independently. Very few scholars had the fusion of these two. This section provides the review of the past studies conducted on the said topic. It will also help to identify the research gap.

Ahmed (2010), in his research work, studied the lending pattern of banks in different sectors along with growth in different sectors. He had collected data of banks of the Barak valley (Assam) for 10 years (1998 – 2007). Based on the data analysis, he commented that banks are over achieving the targets of PSL for the said region during reference period. Besides he also found that recovery rate of PSL is showing a declining trend affecting bank's earning and credibility. Researcher also studied how different sub-sectors in priority sector affect the NPA and found that PSL has positive relationship with NPA, but it was not statistically significant. Soni and Heda (2014) had studied the impact of NPA on profitability. They took 5 public sector banks for the year 2009-2013. Statistical tools like mean and t-test were used, and they concluded that NPA are eroding the current profits and interest earning of banks through provision requirements. Laveena and Malhotra (2014), in their research paper, made an empirical analysis of trends of NPAs in private sector banks. Using data for 8 years (2004-2012), they found a mix pattern in changes in NPA. They used correlation analysis to find out how NPA affect profitability of banks. The study advocates that gross NPA has significant impact on profitability of private sector banks. Shabbir and Mujoo (2014) compared the NPAs resulting from priority sectors and non-priority sectors in public sector banks, private sector banks and foreign banks. They took panel data of 11 years (2001 – 2011) and compared the growth in sector wise advances and sector wise NPAs using charts and tables. They concluded that public sector banks are having more NPAs in priority sector as compared to private sector which leads in terms of higher NPA in non-priority sector. Analyzing the sector-wise advances and NPA in priority sector, SSI is the one which contributes highest towards the NPA in priority sector followed by weaker section and agricultural advances in both public and private sector banks. Pandya (2015) studied the relationship between priority sector lending and profitability of scheduled commercial banks. He used secondary data of 10 years from 2005 to 2014 and linear regression analyze the data. Ratio of priority sector advances to total advances was taken as independent variable and return on asset (ROA), return on equity (ROE), return on investment (ROI), ratio of operating profit to total asset and ratio of interest income to total asset were used as dependent variable. He found that priority sector lending has significant impact on all profitability measures except ROE. Dave (2016) studied 5 public sector banks (SBI, Canara, PNB, BOI, BOB) for a period of 5 years (2011 – 2015) to analyze the difference between lending norms of sampled banks. Data analysis was done using ratio analysis and one-way ANOVA. The study revealed that sample banks followed similar lending norms. It is suggested that banks must deploy more funds in priority sector to aid economic growth. Mishra (2016) analyzed data of public sector banks for 10 years (2006 to 2015), and commented that contribution of priority sector lending to total NPA is decreasing in relative terms but increases in absolute terms whereas that of non – priority sector lending is increasing in both relative as well as absolute terms. He also confirmed that PSL is increasing over the period of years. The research also confirmed that both priority and non – priority sector NPA are significantly related. Sharma and Rathore (2016) had used panel data of Indian scheduled commercial banks for 2004-05 to 2014-15 to study the impact

of NPA on profits. To measure profitability variables like ROA, ROE and Net Interest Margin (NIM) are used whereas NPA is measured by Gross NPA to Gross advances ratio and Net NPA to Net advances ratio. Data is analyzed using regression model. The study depicts that ROE and ROA are negatively and significantly affected by NPA whereas NIM and NPA are negatively but insignificantly related. Panda, Panda, & Swain (2017) studied the determinants of PSL of public sector banks in India. They have analyed data of 10 years (2006-07 to 2015-16) using multiple regression model and concluded that factors like Performance, Bank Size, and Efficient Lending are major factors affecting PSL. The study also reveals that private sector banks are better in terms of achieving overall PSL targets.

Based on the above literature, it can be concluded that very less research work is done on this area. Most of the scholars have analyzed how PSL affects profitability (Soni et. al 2014; Pandya, 2015 and Sharma & Rathore, 2016). Few researchers have studied the trend and outlook of banks towards PSL and its effect on NPA. However, no one has tried to identify how different sub-sectors affect the overall NPA in priority sector. In this paper an attempt has been made to find the relationship of sector-wise advances and NPA in priority sector.

Research Methodology

The present section deals with the problem statement, objectives of the study, sampling plan, research tools, description of variables used in study, hypothesis, etc. The study is based on secondary data collected from the annual reports of the sample banks. The reference period for the study is 4 years i.e. 2014 – 2017. The reason for choosing such short span is the availability of balanced panel data. Banks are required to report their sector-wise lending in priority sector after the circular issued by RBI titled 'Disclosure in Financial Statement – Notes to Accounts' dated July 1, 2015.

Problem Statement

Priority sector is one such area where only a few commercial banks are interested to deploy their funds. The possible causes are smaller loan amount and high rate of defaulters. Banks are compelled to invest 40% of their credit in the said sector. It is important to note that every sub-sector of priority sector is not equally risky which creates a need to study that how different sectors contribute toward NPA. Banks should have a diversified portfolio within the priority sector which will reduce the risk. It will also enable the banks to identify the weaker section and modify their credit and recovery policy accordingly. The study will also help the regulators while deciding about the targets of amount to be lent in priority sector.

Objectives of the Study

- To study the trend in sector-wise NPAs of priority sector.
- To analyze how sectoral advances in priority sector affect NPA in that sector.

Sampling Plan

Banks comprising BANKEX, a leading bank index by Bombay Stock Exchange (BSE) are taken as sample. Following banks forming part of BSE BANKEX as on December 13, 2017 were used as sample. BANKEX comprises highly liquid and capitalized banks providing a benchmark for capturing performing stock performance of Indian Banks. It represents appx. 90% of the free float market capitalization of banking sector.

Table 1: Name of Banks			
1.	Axis Bank	2.	IndusInd Bank
3.	Bank of Baroda	4.	Kotak Mahindra Bank
5.	Federal Bank	6.	Punjab National Bank
7.	HDFC Bank	8.	State Bank of India
9.	ICICI Bank	10.	Yes Bank

Hypothesis

H0: There is no significant impact of sectoral advances on priority sector NPA.

H1: There is a significant impact of sectoral advances on priority sector NPA.

Description of Variables

To study how advances in different sectors affect the NPA, regression and correlation analysis is used. Priority sector NPA is taken as dependent variable and the share of each sector in loan amount is taken as independent one. Table - 2 describes the variable used in study. Capital Adequacy Ratio (CAR) has been taken as one of the control variables as it represents the proportion of loss that bank can absorb arising out of credit risk and operating risk. Banks with higher CAR may tend to have less risky lending vis-à-vis lower NPA. Hence it is important to study that whether the change in NPA is because of CAR or due to any other factor.

Table – 2: Description of Variables

Nature of Variable	Name	Symbol	Formula
Dependent Variable	Priority Sector NPA	PSNPA	Extracted from Annual Reports of Bank
Explanatory Variables	Agricultural Lending to Total PSL	ALTL	Agricultural Loan/Total PSL
	Industrial Lending to Total PSL	ILTL	Industrial Loan/Total PSL
	Service Sector Lending to Total PSL	SLTL	Service sector Loan/Total PSL
	Personal Lending to Total PSL	PLTL	Personal Loan/Total PSL
Control Variables	Size	Sz	Log (Total Assets)
	Capital Adequacy Ratio	CAR	Extracted from Annual Reports of Bank

Research Model

For deriving statistical inferences from the data, multiple regression, correlation analysis and descriptive analysis are used. To test multicollinearity and autocorrelation, Durbin-Watson (D-W) statistics and Variance Inflation Factor (VIF) are used. Following regression model is framed to ascertain the effect of independent variable on dependent one.

Model 1: $PSNPA = \alpha_1 + \beta_1 ALTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Model 2: $PSNPA = \alpha_2 + \beta_1 ILTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Model 3: $PSNPA = \alpha_3 + \beta_1 SLTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Model 4: $PSNPA = \alpha_4 + \beta_1 PLTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Where,

α = Intercept of the regression line

β = Regression Co-efficient (Slope) of independent and control variable

i = Number of Banks (1 to 10)

t = years from 2014 to 2017

Data Analysis and Interpretation

Descriptive Statistics

Table 3: Descriptive Statistics

Particulars	N	Minimum	Maximum	Mean	Std. Deviation
Priority Sector NPA	40	.0015	.1189	.034530	.0308734
ALTL	40	.24	.50	.3600	.06816
ILTL	40	.03	.28	.1876	.06318
SLTL	40	.09	.68	.2721	.14616
PLTL	40	.00	.39	.1810	.12328
Size	40	11.87	13.43	12.5690	.43808
Capital Adequacy Ratio	40	.1128	.1883	.146770	.0204421

Table - 3 shows the descriptive statistics of the data. It is evident from the table that on an average, 36% of total PSL is deployed in the agricultural sector followed by 27.21% in service sector and industries and personal loan are having third position. Based on this, it can be concluded that most of banks' PSL is in agricultural sector, but it is observed that loans are not used for productive purpose according to Union Bank of India (UBI) report (2008). The average NPA in priority sector is 3.45% whereas the same in non-priority sector is 4.23% during the same period.

Correlation Analysis

Correlation analysis of the data is shown in Table -4. Priority sector NPA is having positive relationship with all variables except service sector lending and capital adequacy ratio. Industrial lending is having a correlation coefficient 0.352 which is significant at 5% level of significance. So, banks are required to be more cautious while investing in industrial sector. It is important to note that more lending in service sector will result into reduction of NPA in priority sector. The relation is significant at confidence level of 5%. Agricultural and Personal lending is positively related with NPA, but the relation is not statistically significant. Capital Adequacy ratio negatively affects the priority sector NPA which is also significant at 1% level.

Table 4: Correlation Analysis

	PSNPA	ALTL	ILTL	SLTL	PLTL	Size	CAR
PSNPA	1						
ALTL	.251	1					
ILTL	.352*	-.151	1				
SLTL	-.376*	-.111	-.572**	1			
PLTL	.127	-.297	.272	-.809**	1		
Size	.214	.012	-.030	-.287	.288	1	
CAR	-.711**	-.349*	-.025	.139	.036	-.044	1
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Regression Analysis

Table 5: Regression Model 1: PSNPA = $\alpha_1 + \beta_1 ALTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Parameters	Intercept	ALTL	Size	CAR
Coefficient	0.027242	0.002055	0.012884	-1.058757
t – Value	0.250677	0.037563	1.613048	-5.797327
Significance	0.803489	0.970244	0.115467	0.000001
R – Square	0.538473			
Adj. R2	0.500013			
F – Value	14.000651			
F – Significance	0.000003			
D – W Statistics	1.157693			
VIF	1.138499			

Outcome of regression model – 1 is shown in the Table – 5. Agricultural lending is having positive impact on priority sector NPA, but it is very negligible. It indicates that higher agricultural lending will result in higher NPA because of many reasons. In India, agricultural output is largely dependent on monsoon which is very uncertain. Besides there is technological backwardness in agricultural sector and lower literacy rate of farmers' results into lower output. The overall regression model is statistically significant with p value < 0.05.

Table 6: Regression Model 2: PSNPA = $\alpha_1 + \beta_1 ILTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Parameters	Intercept	ILTL	Size	CAR
Coefficient	-0.014227	0.166207	0.013633	-1.047667
t – Value	-0.155621	3.466411	1.970146	-7.065999
Significance	0.877201	0.001382	0.056551	0.000000
R – Square	0.653957			
Adj. R2	0.625120			
F – Value	22.677735			
F – Significance	0.000000			
D – W Statistics	1.228972			
VIF	1.001597			

Table – 6 shows the outcome of second regression model. Industrial lending has significant positive impact on priority sector NPA. The regression coefficient is 0.17 which is highly significant (p-value = 0.001) confirming that higher industrial lending will result into higher NPA. Reasons for such scenario is lower IIP, technological inferiority, ineffective demand of capital products and inadequate infrastructural facilities. The regression model is highly significant as p value is < 0.05. The value of adjusted R2 shows that 62.51% of change in dependent variable is explained by the exploratory variables taken in the model.

Table 7: Regression Model 3: PSNPA = $\alpha_1 + \beta_1 SLTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Parameters	Intercept	SLTL	Size	CAR
Coefficient	0.098411	-0.053078	0.007899	-1.013281
t – Value	0.957460	-2.250814	1.012708	-6.267414
Significance	0.344721	0.030599	0.317958	0.000000
R – Square	0.595394			
Adj. R2	0.561677			
F – Value	17.658475			
F – Significance	0.000000			
D – W Statistics	1.184696			
VIF	1.108978			

Table - 7 shows the relationship between services sector lending and priority sector NPA. It is found that higher the service sector lending, lower will be the NPA. The regression is -0.05 which is highly significant (p = 0.03). The possible reasons of such scenario are increasing trend of IT and enabled sectors, higher contribution of service sector in GDP and expanding stage of the sector itself.

Table 8: Regression Model 4: PSNPA = $\alpha_1 + \beta_1 PLTL_{it} + \beta_2 Sz_{it} + \beta_3 CAR_{it} + \varepsilon_{it}$

Parameters	Intercept	PLTL	Size	CAR
Coefficient	0.052675	0.027349	0.010648	-1.069209
t – Value	0.494071	0.933455	1.290972	-6.313183
Significance	0.624257	0.356804	0.204942	0.000000
R – Square	0.549362			
Adj. R2	0.511809			
F – Value	14.628923			
F – Significance	0.000002			
D – W Statistics	1.150313			
VIF	1.093471			

Regression outcome of model 4 is shown in Table - 8. Personal lending has positive relation with NPA. The relation is statistically insignificant. The highest value of D-W statistics and VIF is 1.23 and 1.13 respectively showing the lower level of autocorrelation among residuals and multicollinearity in independent variables.

Conclusion

Priority sector lending is evolved and promoted in order to provide sufficient credit to weaker section of the society. Lower value of loan, defaulting borrowers, lower productivity of agricultural sector, government interventions are some of the reasons why PSL is not much attractive for commercial banks. Priority sector contains 8 subsectors which are broadly grouped into agriculture, industry, service and personal & others. The study concludes that every sub-sector is not equally loss making rather service sector brings positive results for banks. Industrial sector is proved to be one of major contributors to priority sector NPA as manufacturing has not developed in its full swing in the country. The study can provide insights to banks and regulators to strengthen the credit norms to reduce NPA in risky sectors and promote more funding in the sector which gives favorable outcome.

References

Ahmed, J. U.-d. (2010). Priority Sector Lending By Commercial Banks in India: A Case of Barak Valley. *Asian Journal of Finance and Accounting, 2*(1), 92-110.

Dave, D. K. (2016). A Study of Priority Sector Lending for Selected Public Sector Banks of India. *International Journal of Research and Analytical Reviews, 3*(1), 84-86.

Laveena, & Malhotra, M. (2014). Empirical Analysis of Non Performing Assets Related to Private Banks of India. *International Journal of Management Excellence, 3*(1), 386-391.

Mishra, A. K. (2016). An Analysis of NPAs in Priority and Non-Priority Sectors with respect to Public Sector Banks in India. *IOSR Journal of Business and Management*, 87 - 92.

Panda, S. K., Panda, G. P., & Swain, D. A. (2017). Determinants of Priority Sector Lending of Indian Public Sector Banks: An Econometric Analysis. *International Journal of Research - Granthalaya*, 5(7), 461-473. https://doi.org/10.5281/zenodo.838920 (Accessed on 04/07/2018)

Pandya, D. B. (2015). Impact of Priority Sector Advances on Bank Profitability: Evidence from scheduled commercial banks of India. *BVIMSR's Journal of Management Research, 7*(2), 75-81.

Shabbir, N., & Mujoo, D. R. (2014). Problem of Non Performing Assets in Priority Sector Advances in India. *Journal of Economics and Development Studies, 2*(1), 241-275.

Sharma, S., & D.S., R. (2016). Measuring the Impact of Non-Performing Assets on the Profitability of Indian Scheduled Commercial Banks. *IOSR Journal of Economics and Finance, 7*(6), 40-46.

Soni, P., & Heda, D. B. (2014). NPA's Impact on Financial Performance of Public Sector Banks. *Research Hub - International Multidisciplinary Research Journal, 1*(3), 1-4.

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