A Study on Disbursement of Personal Loans by Scheduled Commercial Banks in India: An Empirical Analysis

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Abstract

The focus of the paper is to analyze the position of personal loans disbursed by the scheduled commercial banks in India for the period of 2004-05 to 2015-16 (latest data available from the RBI report on personal loan details). RBI data show that the maximum share of total personal loan goes mostly to the Southern region which is distantly followed by the Western region and a very small percentage remains for the North-Eastern region. With regard to the regional concentration of the personal loan portfolio of banks, the Herfindahl-Hirschman index (HHI) value lies in the range of 2379 to 2604. In terms of inequality in distribution across the regions, disparity is quite high with Gini coefficient value ranging between 35 and 40 during the period. In terms of growth rate of personal loan per capita, the Southern and Western regions come at number two and three respectively. The growth in this loan category in the North-East is surprisingly more than the other states and this is mainly due to the sudden rise in flow of this loan during the past few years. With regard to the inter-regional difference, the statistical tests show a significant difference among the regions.

Keywords: *Banking, Personal loan, Concentration risk, Gini coefficient, Entropy diversification index, Inter-regional difference*

Introduction

Banking sector plays a strong and very important link in the growth of a national economy. This sector creates a channel through which funds are transferred to those institutions, business houses and individuals looking for funds for productive usages as well as asset creation (Timsinsa, 2014). The connect between bank credit and economic progress has been rightly pointed out in various studies as seen in King and Levine (1993), Rajan and Zingales (1998), Das and Maiti (1998), Hassan et. al. (2011), Pradhan (2011) and Levine et al. (2000). Hence, the importance and the role of banking in an economy is unquestionable.

Banking business in India has been expanding as evident in an increasing ratio of bank credit to the country's GDP. In RBI report, data on ratio have shown an increase from 35% in 2004 to 52% in 2014. Similarly, the credit-deposit ratio (another very important banking parameter) also shows a positive trend rising from 65% in 2004 to 78% in 2014. This increasing trend of demand for loans is a good sign at the macro level. The movement pattern is evident in the Chart 1.

Chart 1: Growth of banking in India in Appendix

The present investigation looks into a very important area of bank credit, i.e. personal loans and its disbursement pattern in the country during the study period. This is an important area as research supports that a concentration of credit flows among regions leads to regional imbalance and distracts national cohesiveness (Peng et al., 2008). Hence, there is a need to look at the pattern of credit flows among regions of India over the years.

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According to RBI, there are eight sub-categories of personal loans advanced by commercial banks as follows: Consumer durables, Housing loans, Advances against fixed deposits, Advances against shares, bonds etc. Credit card outstanding, Educational loans and Vehicle loans. These loans are unsecured and asset created through these loans are guarantee for repayments. An analysis of RBI data show that, the share of personal loans as a percentage of the total non-food credit has been declining from 24% in 2007-08 to 19% in 2014-15. A similar declining trend is also visible in the case of ratio of personal loans to the total bank credit **(see table 1 in Appendix).**

Literature Review and Research gap

In this section, literature relating to banking and bank credit are reviewed.

Several studies in India in the area of agricultural credit have been carried out such as academic contributions of Satyasai (2008); Giri (2015), Mohan (2004); Singh and Singh (2013), Godara et al. (2014); Kumar et al. (2010); Dar (2015); Vallaserri (2015), Garhwal and Joshi (2017). Some of these look into the area of disparity in flow or regional imbalance as evident in the research papers of Raut et al. (2018), Pal and Ghosh (2007), Swamy (2001); whereas a few others look upon the issue of trend, status or determinants (Devaraja, 2011; Ramakumar, 2014; Shukla et al., 2012; Ramakumar and Chavan, 2014; Vallaserri 2015; Dar 2015; Kumar et al. 2010; Mohan, 2010; Biradar and Ali , 2000; Garhwal and Joshi , 2017). A limited number of papers focus on the impact side of credit (Das et al. ; 2009; Kumar et al., 2017). Problems in credit flow have been studied using the quantitative analysis by Satyasai (2008). Chowdhury (2014) looks at the regional disparity in India for the period 1980-81 to 2009-10. The paper mentions the negative effect of regional imbalance on the growth of the economy. Mohanty's study(2013) identifies significant variables influencing loan-disbursement decision. His research on a few local commercial banks reveals that key factors such as character, capacity, capital, collateral and conditions are determinants of decision-making of loan disbursement. Shabbir (2013) looks into the region-wise assessment of performance with respect to priority sector advances during 1996 to 2012. Gupta and Jain (2012) discuss about the lending practices of co-operative banks in India and point out certain constraints of cooperative banks such as limited ability to mobilize resources, low level of recovery and high transaction cost etc. Research of Banerjee et al. (2004) investigate how the banking sector reforms have unfolded in the country and find that though bank credit is important for all sectors of the country, the share of personal loan is quite low in the total credit. Mohan (2004) in a Memorial Lecture mentions the importance of finance for creating impulse of growth and suggests the changing modes of financing for development. Rodriguez's (1998) study shows the capability of banks to bring about disparity in development by bringing about disparity in regional distribution of loans.

Research gap

While banking sector of India has been of research interests, the exclusive study on personal loans has not been done in Indian context. The present study aims to plug the gap that exists in this area of research . Also, this research aims to use a new approach of investigations i.e. the concept of concentration risk and disparity with respect to loan disbursement by scheduled commercial banks .

Objectives of the study

The present research has manifold objectives as given below:

i. To understand the regional pattern of the personal loan portfolio of banks.

ii. To determine the concentration risk for the banks.

iii. To identify the disparity level across different regions.

iv. To understand the growth pattern of personal loans across regions.

v. To test for regional difference in pattern of l the personal loan portfolio of banks.

Research Design

The study is based on secondary data collected from the website of Reserve Bank bulletin available in its website for the period 2004 to 2015. The empirical and quantitative research undertaken here focus on the personal loans disbursed by the scheduled commercial banks. This study applies the different statistical tools viz. concentration measures like the Herfindahl-Hirschman index (HHI) and Entropy diversification index (EDI). The value of HHI for a particular year is the sum of the square of the share of the six regions in India i.e. Northern (NR), Eastern (ER), North-Eastern (NER), Central (CR), Western (WR) and Southern (SR). Ihe index is measured as per equation :

HHI = ∑ (s i 2), where‘s’ is the share of the different regions (i = 1 to 6)

The other measure of diversification is by using entropy measures, one of which is the Entropy Diversification Index (EDI) which is given by:

EDI t = ∑ mit ln (1/mit), where m is the share of region ‘i’ in personal loan and t for time .

Similarly, for the disparity measure, the researchers in this paper compute the Gini coefficient which is a very popular measure for computing inequality. It uses the concept of Lorenz curve. Higher is the value (maximum is one hundred), more is the disparity and closer is the value towards zero means less inequality.

Furthermore, for estimating the growth rate over the study period, the semi-log method is applied. The equation is given as ln (Yt) = a + b.t, where Yt is the standardized value of personal loan measured per lakh of the population. Furthermore, the test for normality is done using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Since, data are found to be non-normal, Kruskal-Wallis test which is the non-parametric counterpart of ANOVA is applied.

Analysis and findings

Descriptive statistics of personal loan

This is the first part of the analysis where the researchers look into the characteristics of the variable (standardized personal loan) under study.

Table 2: Descriptive statistics of Personal loan per capita in Appendix

The table 2 shows that the southern and central regions respectively have taken the maximum and minimum personal loan per capita from the scheduled commercial banks. The average loan for the southern region stands at Rs. 9733 in contrast to a paltry Rs. 3001 for the north-eastern region. The values of skewness for all the regions show that they are all slightly skewed to the right and in most cases they are moderately skewed. With regard to the kurtosis measure, it is seen that for all the regions, a platykurtic distribution is observed. Similarly, by looking at the standard deviation scores, it can be inferred that the deviation around the mean is maximum and minimum for the southern and eastern regions.

Region-wise share

This part of the analysis shows the share of different regions in the personal loan portfolio. For the study period, the maximum portion of personal loans goes to the southern region with an average share of 37.65% which is distantly followed by the western region (22.93%). The northern region is closely behind with a mean share of 18.13%. The

central and eastern regions have a share of around 10% each. The minimum share of loans goes to the north-east.

Table 3: Share of regions in the personal loan portfolio of banks in Appendix

Concentration measure

This section of the analysis looks into the extent of concentration of loan on the basis of regions by computing the values of HHI and EDI for different years. The calculation shows that till 2011, the portfolio shows a moderately concentrated market with a score of less than 2500 for HHI after which the movement shows a tilt towards increasing concentrated market which is evident from the increasing share of the southern and western regions. The trend of EDI shows a similar pattern.

Table 4: Concentration measure in the personal loan portfolio of banks in Appendix

Disparity measure across regions

Another interesting aspect of the analysis looks into the extent of disparity across different regions. The values of Gini coefficient for different years are calculated on the value of standardized loan (normalized by the population of the region). The range of values lies between 35.67 and 40.43 (table 5) exhibiting a high level of inequality in personal loan distribution and this has been increasing.

Table 5: Disparity measure of personal loans across regions in Appendix

Growth rate across different regions

This section of the study looks at the growth rate of the personal loan portfolio of banks using the semi-log trend equation.

Table 6: Growth rate in personal loans across regions in India in Appendix

As we look at the table 6, in all the six regions, the trend equation shows that R-squared values exceeding 95% in all the cases, thereby showing a large proportion of the variation in personal credit flow among of regions. The significance of F-statistic values show that the trend equation is a good fit in all the regions and hence the equation is accepted. With regard to the growth in flow of credit, the north-eastern region shows the highest growth rate with a value of 15.27% which is closely followed by the southern region (14.53%). The flow to the western and central regions shows a growth rate of 13.68% and 13.43% respectively. The eastern region shows the slowest rate of around 11% which is lesser than values for the other five regions. The overall growth rate shows that demand for personal loans (that consists of consumer durable loans, housing loans, vehicle loans etc.) is high across all regions of the country.

Test for inter-regional difference

In this section, the researchers test for difference among the six regions. The hypothesis is:

H0: There is no difference among the regions.

H1: There is a difference among the regions.

For this, first the test for data normality is done using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The p-value is found to be 0.000 which thereby rejects the null hypothesis.

Table 7: Test for Normality in Appendix

Owing to the rejection of the null hypothesis, Kruskal-Wallis test, a non-parametric test is used that rejects the null hypothesis at 1% level with a p-value of 0.000 and chi-square test statistic value of 55.511. Hence, there is a significant difference among the regions.

Table 8: Kruskal-Wallis Test result for regional rank in Appendix

Conclusion

Performance parameters with regard to the credit disbursement by the scheduled commercial banks are showing a healthy sign. The credit-deposit ratio in the country is at a healthy level of close to 80%. This study aims to analyze in detail the pattern of disbursement of the personal loans across different regions of the country. The stress points of the empirical study are to identify the level of concentration risk, disparity across regions, trend across regions and difference among the six regions of the country. The portfolio of banks shows that of the total industry credit, the personal loans category holds almost one-seventh portion and as a percentage of the non-food credit it stands at around one-fifth. The analysis of data across regions shows a wide range of variability of personal credit disbursement though results also point consistent rise in the credit flow of all regions. With regard to the share of regions, the southern states enjoy close to forty percent distantly followed by the western and northern regions. The regional bias is also reflected in the concentration measure and inequality index. Though the share of some regions is comparatively more than others, the growth rate does not follow that order in toto. The regions with the maximum growth include the north-eastern, southern and western regions. Though the name of the NER comes as a surprise, the main reason is the sudden jump in the personal loans in the recent years which has increased the overall growth rate. Results of statistical test for the inter-regional difference show that there is a significant difference among the regions. Hence, these are very important findings.

Recommendations and Scope for further research

On the basis of findings of this research the Government of India and RBI need to bring about strict norms that will help to reduce the disparity level of personal loans across the regions of the country. It will not only help in the balanced development of the country but will also bring equality and opportunities for all.

In the future endeavor, researchers can aim at identifying the main reasons behind the demand for personal loans and can also focus on the recovery aspect in this category of loan. The contribution of such loans to the NPA of public and private sector banks would be an important academic exercise.

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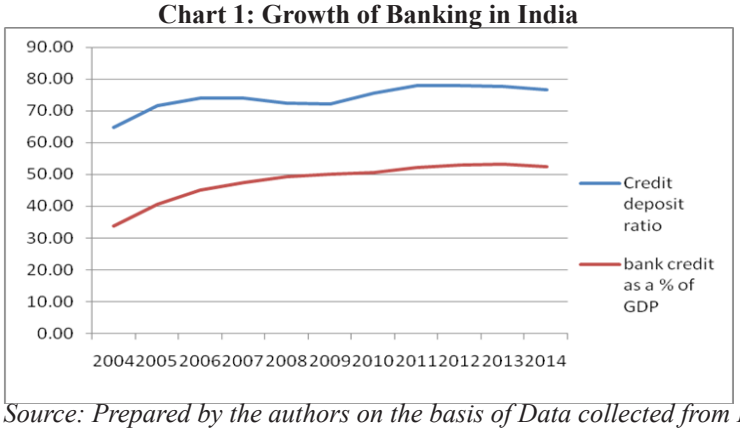
Appendix

Chart 1: Growth of Banking in India



Source: Prepared by the authors on the basis of Data collected from RBI report.

Table 1: Personal loans of Scheduled Commercial Banks

Particulars	2007	2008	2009	2010	2011	2012	2013	2014-15
BC (in Rs. bn.)	29966	35798	41318	49298	57924	65040	74505	81126
PL (in Rs. bn.)	5218	5625	5856	6879	7828	8976	10097	11663
NFC (in Rs. bn.)	22048	26018	30396	36674	42897	48696	55296	60030
PL (% of total BC)	17.41	15.71	14.17	13.95	13.51	13.80	13.55	14.38
PL as a % of NFC	23.67	21.62	19.27	18.76	18.25	18.43	18.26	19.43

Note - BC: bank credit, PL: personal loan, NFC: non-food credit
Source: RBI bulletin; computation by researchers

Table 2: Descriptive statistics of Personal loan per capita (all figures are in Rs.)

Statistic	NR	NER	ER	CR	WR	SR
Mean	7222.17	3001.38	2098.76	2084.53	8555.98	9733.43
Median	6155.12	3011.45	1953.35	1762.59	7754.82	8588.70
Standard Deviation	2917.88	1477.03	728.53	943.13	3753.97	4416.04
Kurtosis	-0.65	0.95	-0.61	-0.10	-0.38	-0.82
Skewness	0.53	0.85	0.28	0.83	0.56	0.43
Minimum	3083.86	1018.58	969.30	879.67	3242.61	3658.81
Maximum	12228.43	6200.04	3328.06	3943.91	15441.01	17418.95

Source: Calculated by authors

Table 3: Share of regions in the personal loan portfolio of banks

Year	NR	NER	ER	CR	WR	SR
2004-05	19.07	1.57	10.35	11.13	20.69	37.19
2005-06	19.14	1.80	10.27	10.59	22.15	36.09
2006-07	20.39	1.93	9.94	10.05	22.79	34.99
2007-08	18.73	1.87	10.38	9.57	24.40	35.08
2008-09	17.04	1.94	9.23	10.82	22.70	38.26
2009-10	17.56	2.06	9.16	9.14	24.50	37.58
2010-11	17.50	2.43	9.48	9.72	22.08	38.81
2011-12	18.36	2.16	9.07	9.49	23.01	37.90
2012-13	17.93	2.17	8.45	9.49	23.14	38.82
2013-14	16.83	1.87	8.45	9.79	22.54	40.53
2014-15	18.09	1.98	8.20	10.16	23.53	38.05
2015-16	16.98	2.45	7.89	10.62	23.60	38.45
Avg.	18.13	2.02	9.24	10.05	22.93	37.65

Source: Calculated by authors

Table 4: Concentration measure in the personal loan portfolio of banks

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
HHI	2409	2381	2363	2379	2475	2492	2490	2480	2530	2604	2503	2505
EDI	305	305	304	305	306	307	306	306	308	309	307	307

Source: Calculated by authors

Table 5: Disparity measure of personal loans across regions

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gini	36.18	35.93	35.67	36.47	38.04	38.68	37.91	38.24	39.29	40.43	39.04	38.92

Source: Calculated by authors

Table 6: Growth rate in personal loans across regions in India

Year	NR	NER	ER	CR	WR	SR
F-statistic	252.22*	202.95*	198.73*	303.24*	191.57*	425.95*
Coeff. of det.	96.55%	95.75%	95.66%	97.11%	95.51%	97.93%
Growth rate (%)	12.38	15.27	10.89	13.43	13.68	14.53

Source: Calculated by authors

Variable used: Personal loan per lac of the regional population | Method used: Semi-log method

** significant at 1% level*

Table 7: Test for Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Region	0.1608	78	0.000	0.842	78	0.000

Source: Computed by researchers

Table 8: Kruskal-Wallis Test result for regional rank

	Region	Mean Rank
Var 1	NR	45.91
	NER	23.18
	ER	15.36
	CR	14.91
	WR	49.55
	SR	52.09
	Total	

Source: Calculated by authors

Variable used: Personal loan per lakh population