

An Analysis of Skewed Pattern of Geographic Penetration of Microfinance With Reference To Correlation between GDP and Microfinance Penetration Index

Dr.G.Brindha, Ms. J. Pavithra

Associate professor, Dept Of MBA, Bharath University, Chennai – 600073, India

Research Scholar, Centre for Professional Development, Bharath University Chennai – 600073, India

ABSTRACT: Microfinance is a sunrise sector in India. The geographic penetration of microfinance across the different states show a skewed pattern with exceptionally very high penetration in southern states of the country and almost negligible in northern and the central region. This paper seeks to identify GDP as one likely reason behind this pattern of growth by finding an association between GDP and microfinance penetration index of different states of the country.

KEYWORDS: Microfinance, Correlation, GDP, MPI

Research Question:

Is there a correlation between GDP of a state and its Microfinance penetration index ?

Hypothesis:

H1: States with higher GDP tend to have better microfinance penetration.

H2: There is a regional pattern in Microfinance penetration

Measures:

1. GDP of the states for the Years 2008 and 2009 are taken
2. Two separate indicators of Microfinance penetration are used
 - (a) Microfinance Penetration Index (MPI)ⁱ and
 - (b) Microfinance Poverty Penetration Index (MPPI)ⁱⁱ for each of the states for the year 2008 and 2009

LITERATURE REVIEW

The Lopsided growth story

The microfinance sector is growing at a rate of more than 30% and looking at the huge share of the “unbankable” population i.e. the poor population and the rural population the future of microfinance sector looks relatively safe. But what appears to be an issue of concern is that the geographic penetration of this sector is not in tandem with the respective share of poor population of the states. The geographic penetration of microfinance as calculated by the microfinance penetration index (MPI) and microfinance poverty penetration index (MPPI) is rather skewed. The southern states have been, by and large the lone drivers of this growth with almost negligible contribution from states which are home to the majority of the poor population in the country. According to The State of the Sector Report 2009 report the southern states account for 69% of total loan outstanding and 55% of all MFI clients. The northern and central region which are home to a larger portion of the country’s population, and the rural poor, account for an abysmal 3% of total clients and only 7% of the poor living.

While there can be many a reasons for this skewed pattern of growth including differences in infrastructure, socio-political and cultural demography, this paper essentially seeks to identify the relationship between the GDP of the state and the

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 11, November 2013

microfinance penetration index. A positive co-relation would indicate that higher GDP of a state sets favorable condition for growth of microfinance in that state. A negative or zero co-relation would call for a robust policy support from the government to create an environment conducive for the growth of microfinance.

II. DATA AND METHODOLOGY

The GDP data for different states for years 2008 and 2009 have been obtained from ⁱⁱⁱVMW analytical services .The values for Microfinance penetration index (MPI) and Microfinance poverty penetration index (MPPI) both for year 2008 and 2009 have been obtained from “Microfinance-the state of the sector report 2009” .The method of calculation for MPI and MPPI as stated in the report is as follows:

^{iv}The number of credit clients of MFIs and members of SHGs with outstanding loans to banks were computed and each states share to the country’s total mf clients was worked out. The intensity of penetration of microfinance (MPI) was computed by dividing the Share of the State in microfinance clients with share of population. Intensity of Penetration of Microfinance among Poor (MPPI) was derived by dividing the share of the state in microfinance clients by share of the state in population of Poor. Since the microfinance clients are in the numerator, a value of more than 1 indicates that clients acquired were

more than proportional to the population. Higher the score is above 1, better the performance. Lower the score from 1 which is the par value, poorer is the performance in the state.

Regions	States	GDP2008 Indian Rupee (Ten Million)	MPI 2008	MPPI 2008	GDP2009 Indian Rupee (Ten Million)	MPI 2009	MPPI 2009
NORTH REGION	Himachal Pradesh	32,221	1.21	3.33	36,924	1	2.75
	Rajasthan	176,420	0.7	0.88	201,675	0.36	0.46
	Haryana	154,231	0.13	0.26	182,588	0.15	0.29
	Punjab	144,309	0.08	0.27	165,804	0.13	0.41
	Jammu & Kashmir	31,793	0.08	0.41	34,767	0.02	0.08
	New Delhi	144,303	0.04	0.08	165,948	0.08	0.16
NORTH- EAST	Assam	71,625	1	1.39	79,277	0.69	0.96
	Meghalaya	8,472	0.12	0.18	9,611	0.21	0.31
	Tripura	10,821	0.51	0.76	11,964	0.92	1.36
	Sikkim	2,298	0.15	0.18	2,612	1.53	1.91
	Manipur	5,848	0.29	0.46	6,344	0.3	0.49
	Arunachal	3,888	0.1	0.16	4,536	0.77	1.22
	Nagaland	6,329	0.14	0.2	7,068	0.06	0.09
Mizoram	3,412	0.6	1.35	3,809	0.44	1	
EAST	Orissa	119,066	2.68	1.59	133,601	2.13	1.26
	Bihar	114,616	0.3	0.2	142,504	0.25	0.16
	Jharkhand	69,253	0.43	0.29	75,711	0.37	0.25

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	West Bengal	307,895	0.99	1.1		353,967	1.45	1.61
CENTRAL	Madhya Pradesh	149,840	0.37	0.27		171,547	0.37	0.26
	Chhattisgarh	79,418	0.85	0.57		95,204	0.83	0.56
	Uttar Pradesh	357,557	0.37	0.31		412,151	0.18	0.15
	Uttarakhand	36,045	0.69	0.48		40,238	2.46	1.71
WEST	Gujarat	303,734	0.35	0.57		337,217	0.16	0.27
	Maharashtra	610,108	0.97	0.87		692,749	0.9	0.8
	Goa	17,215	0.27	0.5		19,530	0.46	0.86
SOUTH	Andhra Pradesh	326,547	3.03	5.27		377,346	3.84	6.68
	Karnataka	240,062	2.15	2.37		270,697	1.94	2.14
	Kerala	165,722	1.29	2.36		189,841	1.16	2.13
	Tamil Nadu	304,989	2.18	2.66		339,212	2.24	2.73
	Pondicherry	10,312	0.77	0.96		11,774	0.73	0.91

III.METHODOLOGY

For testing the first hypothesis Pearson’s correlations are found out

For testing the second hypothesis Chi-square test was administered on the data

Test of Hypothesis H1:

The descriptive statistics of the data were as under

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GDP2008	30	2298	610108	133624.97	144176.600
MPI2008	30	0	3	.70	.877
MPPI2008	30	0	5	.90	1.185
GDP 2009	30	2612	692749	152540.53	164030.691

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MPI2009	30	0	4	.77	.971
MPPI2009	30	0	7	1.07	1.461
Valid N (listwise)	30				

The correlation matrix was as under

Correlations

		GDP 2008	MPI 2008	MPPI 2008	GDP 2009	MPI 2009	MPPI 2009
GDP2008	Pearson Correlation	1	.307	.339	1.000	.229	.238
	Sig. (2-tailed)	.	.099	.067	.000	.224	.206
	N	30	30	30	30	30	30
MPI2008	Pearson Correlation	.307	1	.833	.304	.806	.716
	Sig. (2-tailed)	.099	.	.000	.103	.000	.000
	N	30	30	30	30	30	30
MPPI2008	Pearson Correlation	.339	.833	1	.336	.728	.861
	Sig. (2-tailed)	.067	.000	.	.070	.000	.000
	N	30	30	30	30	30	30
GDP 2009	Pearson Correlation	1.000	.304	.336	1	.227	.238
	Sig. (2-tailed)	.000	.103	.070	.	.227	.205
	N	30	30	30	30	30	30
MPI2009	Pearson Correlation	.229	.806	.728	.227	1	.886
	Sig. (2-tailed)	.224	.000	.000	.227	.	.000
	N	30	30	30	30	30	30
MPPI2009	Pearson Correlation	.238	.716	.861	.238	.886	1
	Sig. (2-tailed)	.206	.000	.000	.205	.000	.
	N	30	30	30	30	30	30

** Correlation is significant at the 0.01 level (2-tailed).

IV. FINDINGS

As can be observed the GDP figures had no statistically significant relationship with both the measures of microfinance penetrations i.e. MPI and MPPI.

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The hypothesis is not accepted on the basis of not having sufficient evidence to reject the null hypothesis. From the above discussion it can be inferred that the above research proves that there is no proof to establish the relationship between the GDP figures and microfinance penetration levels

Significance of the research lies in refuting the general perception that higher GDP states tend to have better microfinance penetration.

Test of Hypothesis H2:

For the Chi Square test the regions were recoded into categories and the result of the chi square test were as under
Test Statistics

	Region recoded	MPPI 2009
Chi-Square	3.200	16.667
df	5	4
Asymp. Sig.	.669	.002

- (a) 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.0.
(b) 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.0.

Findings:

The relationship was significant at .002 Alphas. So the hypothesis **H2** was accepted. There does exist a regional pattern in the spread of Microfinance Penetration.

V.CONCLUSION

GDP has no Correlation with the Microfinance Penetration Index of a state. This implies that states with higher GDP and lower MPI need to put pro-active robust Government policy support to promote the growth of the sector in the state and provide financial access to the poor. As the Microfinance penetration level shows regional patterns, states with low MPI will eventually catch-up with neighboring states which have higher MPI. The high levels of penetration in the southern region of the country support this finding. Microfinance Institutions operating in southern region can also look at strategic expansion in states with low MPI which are much less competitive and an ideal ground to beget first mover advantage.

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