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Research Article

ESTIMATION OF MICROFINANCE DEMAND AND SUPPLY: WITH SPECIAL REFERENCE TO ASSAM

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Abstract

The paper delves to estimate microfinance demand, supply and its mismatch in India in general and Assam in particular. Since exact estimation is a bulky task, it adopts an approximation model based on poverty database, mixmarket database and some complementary reports on microfinance. The study shows that microfinance demand has shown a trend of increasing growth for India as well as Assam and stands its candidature as a potential matured market in future. The supply of microfinance for India as a whole is at low level, which shares only 0.70 per cent of gross domestic product of India. From the regional perspective, southern region dominates the supply of microfinance and Assam shares the least. The study indicates a huge mismatch between demand for and supply of microfinance and considering mixmarket average loan size all the regions of India are deficient in terms microfinance supply. The study further indicates some of the possible reasons for the mismatch.

Key words: microfinance; demand; supply; demand-supply gap; Assam; SBLP

Introduction

Poverty remains a critical challenge for policymakers and development practitioner as well as academicians and it is not new to us. Understanding the pervasive nature of poverty, United Nations, in the Millennium Development Goals, prioritised eradication of poverty and extreme hunger. A number of development policies have been implemented targeting poverty eradication, but did not meet the expectation. Microfinance as a tool of poverty eradication has emerged in the late 1970s in Bangladesh. The promising role of microfinance in poverty eradication is well discussed by academicians as well as practitioners. Microfinance is a credit plus approach, which provides not only credit but also more financial services such as insurance, transfers, savings, etc. Since the incarnation of modern microfinance in Bangladesh, the global outreach has demonstrated a considerable growth. It has been reported that as of December 2010, 3652 microfinance institutions (MFIs) reached about 205 million clients of which, 66.99 per cent were among the poorest when they took their first loan (Maes and Reed, 2012). However, microfinance outreach is still limited, because a vast majority of the regions in the world cannot access financial services (Beck et al., 2005) although poverty is severe and pervasive (World Bank, 2005). Therefore, emerging concern in the growth of microfinance is the uneven degree of provision of microfinance within countries (Rhyne and Otero, 2006).

In Indian context, microfinance is operating under two broad models - self-help group (SHG) model and MFI model, where MFI model has gained momentum recently, albeit operational for over three decades. The model shares 25.53 per cent of the total microfinance client outreach of 54.87 million as on 2007-08 with an outstanding credit of INR 6124 crore (Srinivasan, 2009, 2012). The model has also been operating in Assam, which is a priority state in terms of SHG bank linkage programme (SBLP) for a period of almost two decades with infinitesimal share as compared to national total. The model shares only 0.98 per cent in terms of client outreach and 0.75 per cent in terms of loan portfolio (Srinivasan, 2009). It is thus an indication that there is a scope of increasing outreach and the assertion is justified with the coming up of new players in the market, which have hidden potentiality. Most of the MFIs in India operate in the relatively developed southern regions of the country while, nearly non-existent in its backward regions like North East India (Hume and Thankom, 2009).

With this backdrop, the present study delves to undertake the following objectives:

- a) To estimate microfinance demand of Assam.
- b) To estimate microfinance supply of Assam.
- c) To estimate microfinance demand-supply gap in the state.

Methodology

In the present study, microfinance demand is calculated to substantiate the necessity of microfinance in view of entrenched poverty in the state. Appropriate estimation of demand for particular market is really a bulky task, and the problem is more delicate in estimating demand for microfinance. Although some analysts use some hypothetical ways to ballpark figure on microfinance demand in various regions in the globe, the approaches are just an approximation since estimation of an exact microfinance demand is not possible due to appropriateness of secondary data and reliability of some base indicators like population growth rate and poverty ratio. For example, Guangwen (2010) estimated microfinance demand in China and George *et al.* (2007) estimated microfinance demand for India. However, specific demand estimates for Indian microfinance are relatively non-existent.

In this study, a variant methodology as compared to George et al. (2007) has been adopted. While George et al. (2007) used incidence of poverty using population data and poverty ratios from Census 2001 to estimate microfinance demand, the present study simply adopt India's poverty estimates for 2009-10 (Planning Commission, 2012) and mix market database. To calculate microfinance demand, first, state wise number of poor is calculated which is based on the latest poverty estimation for India (Planning Commission, 2012). Secondly, average loan portfolio is calculated from a database of 1132 MFIs which were reported to MiX Market database as on 2010. To arrive at the final microfinance demand, the number of poor is multiplied by the average loan size¹, which is fixed for all concerned regions. In addition, customary micro loan slab² of MFIs operating in Assam is also considered in estimating microfinance demand. The rationale for adoption of such a simple methodology rest on two grounds- first, so far as Indian official data base on poverty is concerned, poverty estimates for 2009-10 is the latest database which was published in the year 2012. Secondly, the theoretical microfinance exerts the notion that microfinance are for poor people. Therefore it implies that since microfinance deals with the poor section of population therefore latest official database seems to appropriate for such estimation.

Geography and Demography of Assam

Assam the gateway of North East India is geographically bounded by latitudes 24°08′10″ N and 27°58′15″ N and longitudes 89°42′05″ E and 96°01′14″E (Baruah and Choudhury, 1999). Two foreign countries and seven Indian states bound the state. Bhutan and Arunachal Pradesh are in the north of the state. To the east, there are Arunachal Pradesh, Nagaland and Manipur. Mizoram and Meghalaya skirt the southern boundary and to the west, there lie West

Bengal, Bangladesh and Tripura. The state shares 632 kilometre of international boundary with Bangladesh (57.44) and Bhutan (42.56 per cent). It also shares 2275.3 kilometres of its national boundaries with West Bengal (5.6 per cent), Meghalaya (31.8 per cent), Nagaland (19.1 per cent), Manipur (6.9 per cent), Arunachal Pradesh (30.9 per cent) and Mizoram (5.7 per cent).

Geographically, Assam is divided into two parts- the plains and the hills. For administrative purposes the plains of the state is divided into 25 districts and the hill areas into 2 districts. Moreover, topographically Assam is divided into two major units, viz. the Brahmaputra Plain and the Barak Plain. Karbi Plateaus and North Cachar Hills separate the two plains (Baruah and Choudhury, 1999).

The Brahmaputra valley is spread over an area of 56339 sq. kms and is largely an alluvial plain with a length of about 772.45 km and an average width of 80.47 km. The Bhutan and Arunachal bound it on the north, on the east by the hills of *Patkai* and its branches lying in Arunachal and on the south by the hills of Nagaland and the plateaus of Karbi and Meghalaya. The valley has 22 administrative districts, which comprises about 72 per cent of the total geographical area of the state and shelters about 86 per cent of total population of the state.

Barak plain is surrounded by the North Cachar hills in the north, in the east by Manipur hills and in the south by Mizoram hills. It is open only to the west. The plain is about 70 km wide on the average from the north to the south. The region is relatively small, which has only three districts and accounting for only about 8.8 per cent of the total area of the state and shelters about 7.5 per cent of total population of the state.

The shape of Karbi plateau is oval and highly dissected along its margins. The plateau gives out many streams to the surrounding lowlands of Golaghat and Nagaon districts and there are terraces at places where these rivers emerge to the plain. The North Cachar Hills generally have North East-South West alignment and lie between the Karbi plateau in the north and Barak plain in the south. It is in this district that the highest hill range of Assam, i.e. Barail Range lies. It extends from the south eastern boundary of the Meghalaya Plateau and run across the North Cachar Hills district and Nagaland in the East-North-East direction and ultimately joins Patkai Range in the Indo-Myanmar border. Both the region constitutes about 19.2 per cent of the total area of the state along with 6.5 per cent of the state population in two administrative districts (popularly known as Hills Area Districts).

¹Average loan size of the 1132 MFIs was calculated at \$710.68 as against \$533.4 that was equivalent to INR 33175. This is because where the former is actual average loan size; the latter is average loan balance per borrower.

²Microloan slab indicates that in India, loan under microfinance sector is fragmented by the performance of clients and client groups. The range of loan is INR 2000 to INR 25000, where INR 2000 is the lower ceiling of microloan, which is advanced for a fresh group or client. It is more prominent in SHGs rather than JLGs. When the client or group repays loan regularly, it becomes trustworthy and thus become eligible for an advanced tier of loan. This particular feature is known as sequential lending.

Assam shares 2.38 per cent of total geographical area of India and shelters to 2.57 per cent of total population of India as per Census of India 2011. According to 2011 census, the provisional total population for the state is 31169272 with a marginally better sex ratio of 954 than national average (940). The population of the state in 2011 was 26,638,407. Thus it has recorded a decadal variation of about 16.93 per cents. The density of the state has also remained very high for quite a few decades. According to the provisional population figures of 2011 census, the density of the state is 398 persons per square km as compared to 382 sq. km for the whole of India. In 2001, the density for India was found to be 312 per sq. km while that for Assam was at a higher level at 340 per sq. km.

While 68.84 per cents of total households are populated in rural areas in India, it is quite higher at 85.9 per cents for Assam. Therefore, it is indicative that the economy of Assam purely based on rural population hub. In addition, literacy ratio is also less in Assam (72.2 per cent) in comparison to all India level of 73 per cents. It is interesting to note that workforce participation rate in the state is lower (38.4 per cent) than national level (39.8 per cent). Male workforce in the state is much higher (53.6 per cent) as compared to female work force (22.5 per cents). Among the total workforce, main workforce allocates 72.6 per cents while marginal workers constitute only 27.4 per cents. It is noteworthy that while out of total workforce only 30 per cents are involved in agriculture and allied activity in India,

it stood at 15.4 for Assam, counting dominance of female (63 per cent) in the sector.

Results and Discussions

Demand for Microfinance in the State

Microfinance services are demanded by household, micro enterprises of both formal and informal sector. While household demand for microfinance arises due to consumption smoothening and to cope up other inadvertent situations; microfinance demand is also urged as fresh investment for livelihood in the form of small and micro enterprises at individual level.

Despite the potential role as assumed to be played in the economy of Assam, there is hardly any official estimation on demand and supply of microfinance sector. Based on the methodology an estimation of microfinance demand in Assam and India is made, which is shown in Table 1.

The estimation indicates that the demand for microfinance in Assam ranges from INR 2292 Crore to INR 38018.6 Crore with an average demand of INR 8824.2 crore. On the other hand, the demand for microfinance for India ranges from INR 70936 crore to INR 1176651 crore with an average demand of INR 273104 crore. The estimated demand for Assam shares in the range of 2.6 to 43.2 per cent of NSDP and 1.2 to 20.1 per cent of GDP of India. Although the picture shows a bright microfinance demand, is it predictive in nature?

Table 1: Potential Microfinance Demand for Assam and India for the period 2009-10 (Based on National Poverty Estimates 2009-10)

Loan Size	Potential Client		Microfinance Demand (INR Crore)		Microfinance Demand as a per cent of NSDP and GDP		
	Assam	India	Assam	India	NSDP (Assam)	GDP (India)	
2000			2292	70936	2.6	1.2	
5000	11640000 (2.10 %)	354680000 (3.14 %)	5730	177340	6.5	3.0	
10000			11460	354680	13.0	6.0	
15000			17190	532020	19.5	9.1	
20000			22920	709360	26.0	12.1	
25000			28650	886700	32.5	15.1	
7700 (Indian Average) ³			8824.2	273104	10.0	4.7	
33175 (Global Average)	<u></u>		38018.6	1176651	43.2	20.1	

^{1.} Average loan size indicates Gross Loan / Number of active borrowers, which was \$710.7 as on 2010. Average loan size is based on the average of 1132 MFIs as reported to Mix market database in 2010

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^{2.} Exchange rate is based on the RBI reference rate as on 31st December 2009 where INR 46.68 equal \$1

^{3.} Figures in bracket indicates compounded annualized growth rate of poverty during the period 1999-2000 to 2009-10

^{4.} Gross Domestic Product (GDP) at factor cost (current prices) for India is considered for year 2008-09, stood at INR 5868331 Crore and Net State Domestic Product (NSDP) at factor cost (current prices) for Assam for the same period was INR 88023 Crore
Source: Calculation based on National Poverty line 2009-10

³ Indian average is based on the average loan portfolio of 88 MFIs reported to MIXMarket database.

Table 2: Region wise Potential Microfinance Demand and Share (1999-00 to 2009-10)

State/ Region	Microfinance Demand (in IN	R)	Share to all Indi Demand	Growtha		
	1999-00	2009-10	1999-00	2009-10		
Assam	185016975000	386157000000	2.56	3.28	7.64	
Northern	744778750000	450018875000	10.29 3.82		-4.91	
North Eastern Region (NER)	261949800000	500279000000	3.62	4.25	6.68	
Eastern	2897205925000	3527199175000	40.02	29.98	1.99	
Central	85725000000	3780291250000	1.18	32.13	46.03	
Western	1363923775000	1354535250000	18.84	11.51	-0.07	
Southern	1534974075000	1593859700000	21.21	13.55	0.38	
All India	10009561000000	11766509000000		1.63		

a. Growth in terms of compounded annualized growth rate for the period 1999-00 to 2004-05 Source: National Poverty Estimate 1999-00 and 2004-05, Planning Commission, Govt. of India

It is observed that the poverty ratio in Assam has shown a declining trend during the period as compared to Indian scenario. As microfinance clients are generally poor, therefore, microfinance demand will shrink in future. Contrary to this notion, the coverage of microfinance may be broadened by inclusion of people just above the poverty line. Therefore, it seems that as an outcome of government projects and policies, the Below Poverty Line (BPL) section may be upgraded to just above the poverty line and they may be in demand for microfinance for better livelihood and employment opportunities. Therefore, it is clear that although the estimation does not based on in-depth market research, it still provide a scenario of microfinance demand structure in the state.

However, there exists regional dispersion of microfinance demand due to differences in the size of poverty. It is observed form Table 2 that except the negative growth of microfinance demand in Northern and Western regions, all other regions demonstrate a positive growth of microfinance demand for the period.

Although Assam and NER shares infinitesimal to all India microfinance demand in 2009-2010, the growth of microfinance demand for the period is positive for both Assam and NER. Similarly, the share for the regions to all India total has been increased for the reference period. On the other hand, against a high growth of microfinance demand, Northern regions demonstrate a diminishing share to all India total. It is worth mentioning that against a moderate increase in the microfinance demand for Southern regions, it shares a commendable amount to all India total which is next to Eastern region.

Assuming other things constant, it seems from the estimation and discussion that microfinance sector in NER in general and Assam in particular has the potentiality for becoming a matured market in terms of the growth of microfinance demand, which is above the national growth.

Supply of Microfinance in Assam

In Assam, microfinance is operating under two broad models, e.g., SBLP model and MFI model. SBLP is a national microfinance model of India, which is under the supervision of NABARD. The model was initiated in 1992 by NABARD and since then it encompasses vast outreach in terms of client outreach and credit outstanding in all regions of the country. Although SHG approach is quite older practised non-formal version of microfinance in India, the new version of the microfinance approach by rural financial institutions assumed the form of the SBLP. While, in this model a number of commercial banks and government agencies advances credit, the route of delivery is channelized in various forms as such three widely practised models exist in India. This model has worldwide attraction as a possible way of delivery microfinance services to poor that have been difficult to reach directly through banks or other financial institutions. Under the SHG-bank linkage program, NGOs and banks interact with the poor, especially women, to form small homogenous groups not exceeding 20 members. These small groups are encouraged to meet frequently and collect small thrift amounts from their members and are taught simple accounting methods to enable them to maintain their accounts. This is the first step in establishing links with the formal banking system. Groups then, meet often and use the pooled thrift to impart small loans to members for meeting their small emergent needs. Gradually the pooled savings grow and soon they are ready to receive external funds from the rural commercial banks. By aggregating their individual savings into a single deposit, self-help groups minimize the bank's transaction costs and generate an attractive volume of deposits.

MFI model on the other hand is a newer model in Assam as well as India. Under this model, finance is provided by a microfinance organisation. Microfinance organisation also forms SHG not exceeding 20 members in the group and Joint Liability Group (JLG) of 3 to 5 members. The creation

and formation of such groups are under the discretion of respective branch managers of the MFIs. These MFIs are registered under Societies Registration Act 1860, Section 25 Company and Non-Banking Financial Corporation Act. In Assam, Bosco Reach Out was the first of its kind, which supports SHGs for better livelihoods. In subsequent period another five more prominent professional MFIs were emerged, out of which RGVN (NE) and ASOMI and Bandhan have considerable depth and breadth of outreach. The present analysis is based on the database of MiX Market and Bharat Microfinance Quick Data 2010 from where 7 MFIs from Assam and 439 MFIs from India are considered for estimating supply of microfinance.

A recent microfinance supply scenario is portrayed in Table 3, where it is apparent that microfinance supply in terms of total loan outstanding for the concerned period stands at INR 346.2 billion, which is 0.70 per cent of GDP of India. Further, the share of microfinance supply of Assam is the least as compared to all other regions of the country, while southern region captures a lions' share of total microfinance supply of India. The share of microfinance supply under MFI model in southern region is 71.36 per cents.

The supply of microfinance is catered by SBLP model, which shares commendably large portion of total microfinance supply in both Assam and India. However, the share of loan outstanding to total loan outstanding of microfinance under MFI modelin Assam is comparatively higher than central and western regions. It is estimated that the supply of microfinance under MFI model is still lower as compared to SBLP model in Indian states as well as Assam. Since microfinance under MFI model is a nascent delivery mechanism and the issues of equity funding and

securitisation emerged as coveted mechanism, therefore, it seems the model could penetrate to the considerable depth of outreach in India and which results in better supply of microfinance via this model. Instantaneously, in Assam there are a few professional MFIs and institution like ASOMI able to receive foreign investment. Similarly, premier MFI like SKS in India shows the way of receiving equity capital from open market.

The Demand Supply Gap

In the previous section the condition of demand for and supply of microfinance are discussed separately. In this section, it is tried to portray the mismatch between the two with the help of Table 4.

It is clear from Table 4 that for all loan sizes (except INR 2000 and INR 5000 in Southern region of India) microfinance supply is deficient to meet microfinance demand. It is observed that the gap is more prominent with the larger loan sizes than smaller loan sizes. Considering mix market average loan size, it depicts that microfinance supply is 98.9 per cents deficient to meet the demand of microfinance of Assam. Similarly, in India microfinance supply only cater 3 per cent of total demand indicating a gap of 97.1 per cents.

The gap is due to the absence of adequate number of MFIs in rural areas of the state and the country as a whole. NABARD's effort in SHG financing also unable to mitigate the demand gap since there are a large number of remote rural areas in Assam as well as India are untouched and as a result they are out of the coverage of microfinance operation.

Table 3: Region wise microfinance supply in India (As on 2009)

	SBLP Model		MFI Model		Total		Regional Share		Share of		
							to All India Total		MFI Model		
Region/ State	Client Outreach (in Lakh)	Loan Portfolio (in INR Crore)	Client Outreach (in Lakh)	Loan Portfolio (in INR Crore)	Client Outreach (in Lakh)	Loan Outstanding (in INR Crore)	Client Outreach (in %)	Loan Outstanding (in %)	Client Outreach (in %)	Loan Outstanding (in %)	Share to GDP# (in %)
Northern Region	24.98	678.92	2.92	290.56	27.90	969.48	3.34	2.80	10.47	29.97	0.02
Assam	13.33	328.55	1.35	70.33	14.69	398.88	1.76	1.15	9.22	17.63	0.01
North Eastern Region	17.67	469.31	1.38	70.33	19.06	539.63	2.28	1.56	7.26	13.03	0.01
Eastern Region	140.02	3023.00	30.01	1150.30	170.04	4173.30	20.36	12.05	17.65	27.56	0.08
Central Region	49.82	2045.33	7.57	363.19	57.39	2408.52	6.87	6.96	13.19	15.08	0.05
Western Region	59.02	1551.15	5.84	273.63	64.86	1824.78	7.77	5.27	9.00	15.00	0.04
Southern Region	342.14	14912.14	153.77	9793.30	495.91	24705.43	59.38	71.36	31.01	39.64	0.50
All India	633.65	22679.84	201.49	11941.30	835.15	34621.14	2000		24.13	34.49	0.70

Note: # Share to GDP indicates supply of microfinance as per cent of GDP of India at current prices for the year 2008-09.

Source: Bharat Microfinance Quick Data 2010, Sa-Dhan; Microfinance in India 2009, NABARD; MiX Market Online Database (Accessed August 2010); Usual calculation done by author

⁺ Although the supply of microfinance shares .01 per cent of GDP of India, it was 0.58 per cent of the Net State Domestic Product of Assam.

Table 4: Regional Demand and Supply Condition of Microfinance in India

Microfinance Demand and Supply	Loan Size (INR)	Assam	Northern	NER	Eastern	Central	Western	Southern	All India
	2000	0.23	0.27	0.30	2.13	2.28	0.82	0.96	7.09
	5000	0.58	0.68	0.75	5.32	5.70	2.04	2.40	17.73
Microfinance	10000	1.16	1.36	1.51	10.63	11.40	4.08	4.80	35.47
demand (INR	15000	1.75	2.03	2.26	15.95	17.09	6.12	7.21	53.20
in lakh million)	20000	2.33	2.71	3.02	21.26	22.79	8.17	9.61	70.94
	25000	2.91	3.39	3.77	26.58	28.49	10.21	12.01	88.67
	33175	3.86	4.50	5.00	35.27	37.80	13.55	15.94	117.67
Microfinance supply (INR in lakh million)		0.04	0.10	0.05	0.42	0.24	0.18	2.47	3.46
	2000	-82.82	-63.14	-83.42	-80.25	-89.47	-77.96	157.06	-51.22
Microfinance	5000	-93.13	-85.26	-93.37	-92.10	-95.79	-91.18	2.82	-80.49
supply as a per cent of microfinance	10000	-96.56	-92.63	-96.68	-96.05	-97.89	-95.59	-48.59	-90.24
	15000	-97.71	-95.09	-97.79	-97.37	-98.60	-97.06	-65.73	-93.50
	20000	-98.28	-96.31	-98.34	-98.02	-98.95	-97.80	-74.29	-95.12
demand	25000	-98.63	-97.05	-98.67	-98.42	-99.16	-98.24	-79.44	-96.10
	33175	-98.96	-97.78	-99.00	-98.81	-99.37	-98.67	-84.50	-97.06

Source: Bharat Microfinance Quick Data 2010, Sa-Dhan; Microfinance in India 2009, NABARD; MiX Market Online Database; Calculation done by author

Further SBLP is also plagued with a number of problems in catering finance to a considerable number of SHGs; out of which reluctance as expressed by public undertaking commercial banks to offer microfinance in view of the problem growing NPA in microfinance sector is the most prominent one.

Even more, there exists still a large rural area as geographically remote in the country and MFIs reluctant to offer the services due to the absence of supportive financial infrastructure and high transaction and operational cost of the services. It therefore appears that both public and private initiative should be constructed in a positive way for the proliferation of the sector in the state.

Conclusion

The above estimation and discussion indicates that except Northern and Western region of India, all other regions have demonstrated increasing growth of microfinance demand. Assam and NER also shows an increasing growth, which is greater than the national growth rate. The demand from microfinance will increase even more since most of the MFIs in India considers person above the poverty line as its client.

However, the supply of microfinance is still inadequate and it is highly deficient if the size of loan is higher. The nascent microfinance market like Assam and NER are considerably deficient in terms of microfinance supply. Although in recent times, a number of MFIs have been joined the operation, it is quite insufficient to meet the burgeoning demand. Increasing rural bank branches and opening the avenues of public-private partnership in the sector may temporarily meet some demand. Moreover, in the absence

of concrete microfinance regulation, it is quite challenging to attract big MFIs, which may increase supply of microfinance significantly. Therefore, it seems that government should make some sort of credible arrangements to helps microfinance sector and for smoother operation. Such type of initiative may attract foreign investment and thus it will become incentive for larger players. On the whole, although mismatch remain as a future challenge, it may be reduced considerably if formal banking system and microfinance becomes complementary of each other.

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