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Microfinance Outreach and its Linkages to Human Development: Evidences from South Asia with Special Reference to India

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Abstract

The progress of microfinance outreach can be seen as an effective intervention mechanism to enlarge people's choice, with respect to some basic indicators of human development. The most important choices are considered to be a long and healthy life, to be educated, and to enjoy a decent standard of living. Under the circumstances, attempts have been made in this paper to examine the cross-country variations in outreach of microfinance sector and that of human development in South Asia, and to establish the empirical relationship between them. In addition, the relationship between microfinance outreach and human development across Indian states is of special interest in this paper. Substantial evidence presented in this paper cast doubt on the empirical association between microfinance outreach and human development, especially after the 'microfinance meltdown' in 2008 in South-Asian countries as a whole, and the Indian economy in particular. Therefore, microfinance is not a panacea for achieving human development, rather these semi-formal microfinance institutions can only be a means to promote financial inclusion in low financially inclusive regions which are characterised by the limited presence of formal financial institutions.

Keywords: Microfinance Outreach, Human Development, Convergence, South Asia, India

Introduction

South-Asian countries reflect a similar historical precedence in the financial sector development (CGAP, 2014). The era of organised sector finance in South-Asian countries (namely Bangladesh, India, and Pakistan) can be located through the implementation of Cooperative Credit Societies Act of 1904. However, the cooperative sector in this region has derailed from its original mission (World Bank, 2006). Another milestone in the outreach of institutional finance in the region can be marked by the nationalisation of commercial banks in the 1970s. The first experiment with microfinance took place in Bangladesh in 1972. Thereafter, Grameen Bank, SEWA Bank, and BRAC were all undertaken in the 1970s (World Bank, 2006). In the 21st century, an innovation of branchless banking networks in South Asia rapidly transformed the scenario of financial inclusion in this region (CGAP, 2014).

The process of financial inclusion enhances economic opportunities, which can be utilised in financing education and health expenditure. Income, health, and education are three important pillars of human development. However, the state of human development in South-Asian countries needs to be prioritised by the policy makers. In the human development report, it is evident that only one country in South Asia, namely Sri Lanka, secured a higher ranking in human development; the other countries in the region are either classified as medium (India, Maldives, Bangladesh, and Bhutan) or low human development (Nepal, Pakistan, Myanmar, and Afghanistan) (UNDP, 2014). Against this backdrop, this paper attempts to investigate a cross-country variation in the progress of microfinance outreach and human development in South Asia. Further, this paper investigates the relationship between microfinance access and human development across Indian states.

Conceptual Framework

Inclusive development empowers the citizens of a country to exploit the economic opportunities, especially among the excluded sections of the population (Rauniyar & Kanbur, 2009). In the existing literature, several studies were conducted to shed some light on the finance-led

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growth theory (King & Levine, 1993; Levine, 1997; Demirguc-Kunt & Levine, 2008). However, empirical studies on finance-human development linkages (Singh, 2011; Kuri & Laha, 2011a; Arora, 2012; Dutta & Singh, 2019) are relatively scanty. Only a few studies were done to establish a causal link between microfinance outreach and its implications on the indicators of human development (Habib & Jubb, 2015). Indeed, it is difficult to delineate the role of microfinance in achieving human development, as the conceptualisation involves a direct and indirect form of connection in explaining the relationship (Duvendack et al., 2011).

Global experiences suggest that microfinance programmes not only provide financial services to the poor, but also influence various social development among their members, with a substantive time-lag (World Bank, 2001). Microfinance intervention measures not only enhance the standard of living and empower poor women, but also significantly affect their household resource allocation in favour of health and education (Habib et al., 2006; Rahman, 2002). Attainment of all of these well-being indicators undoubtedly induces the process of human development. Microfinance institutions often provide financial services that are complemented with other non-monetary services (Arouri et al., 2014). These financial mix packages (microfinance plus) can have direct implications on the human development indicators (Kuriakose & Joseph, 2020).

Income inequality and poverty can be conceived as a gridlock in the progress of human development. A well-developed financial sector can reduce income inequality by disproportionately increasing the income of the population at the lowest stratum, thus helping in the alleviation of poverty (Beck et al., 2006). Further, empirical evidence in India supports that the expansion of rural banking network, especially after nationalisation of commercial banks, led to a significant decline in rural poverty (Burgess et al., 2004; Pande, 2004). Financial development, thus, paved the way towards achieving a higher human development via alleviation of poverty. Microfinance is not a panacea in addressing poverty, as the incidence of poverty is not just a manifestation of lack of access to financial services, but also relates to vulnerability, powerlessness, and dependency (Bhatt, 1998). Poverty alleviation programmes need a coordinated combination of microfinance and other development services (Khandker, 2005; Mosley & Hulme, 1998), as the poor need more than financial services to improve their lives (Dunford, 2002; Khandker, 2005). Impact on poverty is relatively strong to those who are closest to the poverty line, and relatively weak to those who are further away from the poverty line (Hulme & Mosley, 1996).

The causal link between microfinance outreach and human development is conceptualised in Fig. 1. Strengthening of human capabilities of the people, to qualify for productive employment is considered a precondition to providing equal opportunity to all. Access to microfinance facilitates in meeting expenditure on education and health (through increasing income of the poor), which ultimately helps in the formation of human capability (Habib et al., 2006). There is reasonably robust evidence that microfinance access can improve economic conditions within the households (Fenton et al., 2017; Kuriakose & Joseph, 2020; Zeb et al., 2021), as well as social relations in the wider community (Kabeer, 2005). Microfinance programmes not only benefit the health of the women beneficiary, but are also seen as being beneficial to children's health (Rahman, 2002) and their nutritional status (Habib et al., 2006; Rahman, 2002). Thus, microfinance is expected to aid the process of human development.

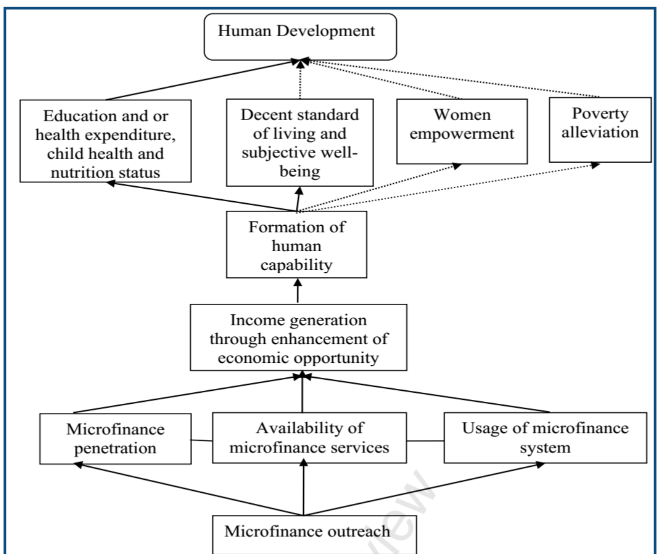


FIGURE 1: A CONCEPTUAL FRAMEWORK ON ASSOCIATION BETWEEN MICROFINANCE OUTREACH AND HUMAN DEVELOPMENT

NOTE: STRONG RELATIONSHIP
WEAK RELATIONSHIP

Fig. 1

Even though some individual studies could find a favourable impact of microfinance outreach on poverty and women empowerment, however, no general conclusions can be drawn. In fact, available systematic reviews on microfinance impact evaluations also refute its commendatory role in alleviating poverty and empowerment of women (Gaile & Foster, 1996; Sebstad & Chen, 1996; Goldberg, 2005; Odell, 2010; Duvendack et al., 2011). In the light of systematic reviews, the weak relationship is marked by dashed arrow lines in Fig. 1. Thus, there are some indirect channels in the causality between microfinance access and human development. In the conceptual framework, it is presumed that economic activities through microfinance programmes may result in improved returns to assets, thereby leading to human development. However, improved returns to assets may not be devoted in meeting health- and education-related expenditure (Goetz & Sen Gupta, 1996; Kabeer, 2001, 2005). In the backdrop of inconclusive evidence in the existing studies, this paper made a renewed attempt to investigate how microfinance outreach is associated with the human development in South Asia.

In fact, some earlier attempts were made in exploring this empirical relationship in continents, like Africa (Arouri et al., 2014), Latin America (Yeoh, 2017), and South Asia (Yeoh, 2017). The impact of global financial crisis in late 2007 on the operation of MFIs is varied, depending upon the economic environment in the domestic and international scenario (De Bella, 2011), and the role of governments in managing the crisis (Dohulilova et al., 2009). However, the existing literature did not throw much attention on the relationship between the microfinance outreach and human development in South Asia, specifically after the global financial crisis in late 2007. This paper made an attempt to fill that caveat in the existing literature.

Data And Methodology

Construction of Index of Microfinance Outreach and Human Development Index

To make a comparative analysis of the South-Asian countries in microfinance outreach, two specific microfinance penetration indicators (following MIX and Intellecap, 2009)[1] are used in this study: the number of microfinance borrowers as a proportion of total population and the proportion of borrowers to the total population of poor people. The first indicator captures the penetration (or outreach) of microfinance programmes, while the second underscores the success of microfinance institutions in eradicating poverty. For human development, the study exclusively relied on the Human Development Report (HDR, 2015) for accessing human development index of South-Asian countries. In the subsequent HDR, there are some changes in the methodological construct of the HDI. So this study relied on HDR (2015) for compilation of a dataset of HDI for South-Asian countries for 1990-2014.

This study considers two popular delivery models of microfinance programmes: the self-help group-bank linkage (SBL) and the microfinance institution (MFI) models in measuring a comprehensive Index of Microfinance Outreach (IMO) across Indian states. The comprehensive index encompasses three dimensions of microfinance outreach: penetration, availability, and usability of microfinance services. In addition, different reports prepared by the Planning Commission (2011), Roy (2012), and Suryanarayana et al. (2011) are considered to obtain the estimated value of HDI across Indian states in 1981-2011. The three dimensions for measuring IMO among Indian states and their respective data sources are provided in Table 1.

Table 1: A List of Microfinance Outreach Indicators

Dimension	*Description*	*Data Sources*
Indicator of Microfinance Penetration	Number of SHG members and MFI clients per 100,000 population of the state	Mix Market data (2014)[2], NABARD Microfinance data (2014), and Census of India, 2011
Indicator of Microcredit Availability	Number of SHGs and MFIs per 100,000 population of the state	MFIN (2014), NABARD Microfinance data (2014)[3], and Census of India, 2011
Indicator of Microfinance Usage	Volume of loan disbursement of SHGs and gross loan portfolio of MFIs as a proportion of NSDP of the state	MFIN (2014), NABARD Microfinance data (2014), and CSO (2015)

Source: Author's own presentation.

[1] These two penetration rates do not capture the state of poor microfinance borrowers. There can be a large number of micro borrowers relative to the poor population. However, it may be possible without a single poor individual having a loan.

[2] Mix market data (2014), NABARD microfinance data (2014), and MFIN data (2014) are collected from the Inclusive Finance Report (2014, page 16-17, 106).

[3] MFIN stands for Microfinance Institutions Network. It is an industry association of NBFC-MFIs. However, the networks do not provide information on the non-profit MFI segment of the microfinance sector (Nair & Tankha, 2015).

In the construction of IMO, we have followed a similar methodology as developed by the United Nations Development Programme (UNDP) for other development indices (HDI, HPI, and GDI)[4]. At first, the three dimension indices are estimated, and then IMO is measured by considering normalised inverse Euclidean distance method. Technically, dimension index for the ith dimension (d_i) is measured by $d_i = \frac{A_i - m_i}{M_i - m_i}$(i.e., $0 \le d_i \ge 1$), where A_i = actual value of dimension i, m_i = minimum value of dimension i, and M_i = maximum value of dimension i. In identifying minimum and maximum values, this study determined data-driven minimum and maximum values from the dataset itself (in contrast to UNDP Goal Post Method). By considering the three dimension indices, IMO is measured as follows:

$$IMO = 1 - \sqrt{\frac{(1-d_1)^2 + (1-d_2)^2 + (1-d_3)^2}{3}}$$

The numerator of the second component in this index actually measures the Euclidean distance of d_i from the ideal point 1. The distance measure is at first normalised by $\sqrt{3}$ and then subtracted by 1 to ultimately derive the inverse normalised distance (Sarma, 2008). The index lies between 0 and 1 after normalisation of data. A higher score of a region in IMO corresponds to a greater outreach of the microfinance sector in the region. Depending on the relative position of the region in IMO, regions can be classified into three broad categories: low outreach (IMO value below 0.3), medium outreach (IMO value between 0.3 and 0.5), and high outreach (IMO value above 0.5) of the microfinance sector.

Convergence Analysis

In this analysis, absolute sigma convergence is only considered for the indices of microfinance outreach and human development across the countries of South Asia, and Indian states over time. Absolute σ convergence prevails if the dispersion of any indices ($D_{i,t}$) across regions decreases over time (Barro & Sala-i-Martin, 1992). This implies that microfinance outreach or human development across regions becomes more equal over time, i.e., $\sigma_{i,t+\tau} < \sigma_{i,t}$, where $\sigma_{i,t}$ is the standard deviation of $\log(D_{i,t})$ across regions i in time t.

Empirical Results and Discussion

Microfinance Outreach and Human Development in South Asia

Traditionally, the microfinance sector has a well-rooted connection in the Asian countries on account of the strong presence of MFIs in numbers, highest volume of savings and credit, and large participation of the poorest women as members (Lapenu & Zeller, 2001). In Asia and Pacific region, a significant percentage of poor households (68.8 per cent) participate in the microfinance sector. Another distinguishing characteristic of the microfinance sector in Asia is the existence of a variety of alternative delivery mechanisms in the process of lending to solidarity groups or individuals (Weiss et al., 2003).

Participation of a large number of active microfinance borrowers does not necessarily mean the success of MFIs in outreaching its services to poor households. Therefore, there is a need to identify the number of poor households who are active borrowers. In this direction, this paper estimates the values of two penetration indicators: the proportion of borrowers to total population and the proportion of borrowers to the total population of poor people. Empirically, there is a visible progress of MFIs operating in South-Asian countries in the light of these penetration indicators during 2000-2010[5]. However, country-level differences are observed in microfinance penetration in the region. In comparison to other South-Asian countries, Bangladesh and Sri Lanka achieved a significant depth in the outreach of microfinance services. In addressing the poor population, the microfinance sector in these two countries included more or less one-third of the poor people in their network. It is to be noted that Sri Lanka made remarkable progress in the sharp reduction of poverty, especially after the implementation of the National Samurdhi Programme. This is primarily reflected in the scaling up of microfinance outreach to the poor household in a robust way. India, being South Asia's largest economy, still trails behind Sri Lanka and Bangladesh in serving poor households through

[4] In the literature on financial inclusion, Sarma (2008) at first formulated an Index on Financial Inclusion (IFI), which was extensively applied in other studies (Kuri & Laha, 2011a, 2011b; Chattopadhyay, 2011).

[5] In this analysis, the time period is not uniform across South-Asian countries. A consistent data on poverty estimates is not available for all countries in a same year.

microfinance programmes. Even though there is a visible expansion of microfinance institutions in India, it has been seen that the microfinance sector could serve only 8 per cent of the poor people in 2010, in comparison to a significant 33 per cent in Bangladesh (Table 2).

Table 2: Microfinance Penetration Indicators in South-Asian Countries

Country	Poverty Headcount Ratio	Borrowers/ Population	Borrowers/ Poor	Year
Bangladesh	50.5	12.63	25.00	2005
Bangladesh	43.3	14.12	32.61	2010
India	41.6	0.41	0.98	2005
India	32.7	2.70	8.27	2010
Nepal	53.1	0.86	1.61	2003
Nepal	24.8	2.70	10.90	2010
Pakistan	22.6	0.61	2.72	2006
Pakistan	21	0.96	4.55	2008
Sri Lanka	7	3.65	52.14	2007
Sri Lanka	4.1	6.46	157.63	2010

Source: Author's estimation from MIX Data and World Development Indicators dataset.

Note: Reproduced from Laha (2015).

Like microfinance access, the scenario of human development also reveals a country-level variation in the attainment of quantitative indicators of human development. Latin America (0.740) and Europe and Central Asia (0.738) account for higher levels of human development in comparison to Sub-Saharan Africa (0.502) and South Asia (0.588) (UNDP, 2015). Gender difference is another salient characteristic in human development: on average, female HDI is about eight per cent lower than the male HDI in the world. Interestingly, the gender gap in human development is remarkably higher in South Asia (17 per cent) (World Bank, 2012). The trend of human development in 1990-2000, as reported in Table 5, suggests that Bangladesh, Myanmar, and Nepal exhibit a relatively high growth rate in human development. However, except in Bangladesh, a satisfactory level of human development could not be explained by the strong presence of the microfinance sector in these countries. Modern microfinance was rooted in Bangladesh by the inception of the Grameen Bank in the 1970s. Since the development of microfinance has substantial time-lag implications on the change in education and health condition, the growth rate in human development may be partly attributable to the microfinance outreach in Bangladesh. In the first decade of the 21st century, acceleration in the growth rate of human development was noticeable in Afghanistan, India, and Myanmar. India made significant progress in the movement of the microfinance sector, with the implementation of SHG-Bank linkage programme successfully in 1992, and thereby may have a likely implication on human development in the next decade. However, microfinance came into the picture in the landscape of Afghanistan as a part of reconstruction measures in 2002. Being a late starter in the development of the microfinance sector, progress of human development in Afghanistan may not reflect microfinance outreach in the country. Even though almost all countries improved over time in human development, the growth rate of HDI values shows signs of a slowdown in 2010-14, in comparison to earlier periods, specifically in Maldives, Myanmar, Sri Lanka, and Nepal (Table 3). However, except Sri Lanka, the microfinance sector has no significant presence in Maldives, Myanmar, and Nepal. In other words, countries having an insignificant presence of microfinance programmes witnessed deceleration in the growth rate of human development. Thus, the slowdown in the growth of human development cannot be explained by the implications of 'microfinance meltdown' in the region of South Asia.

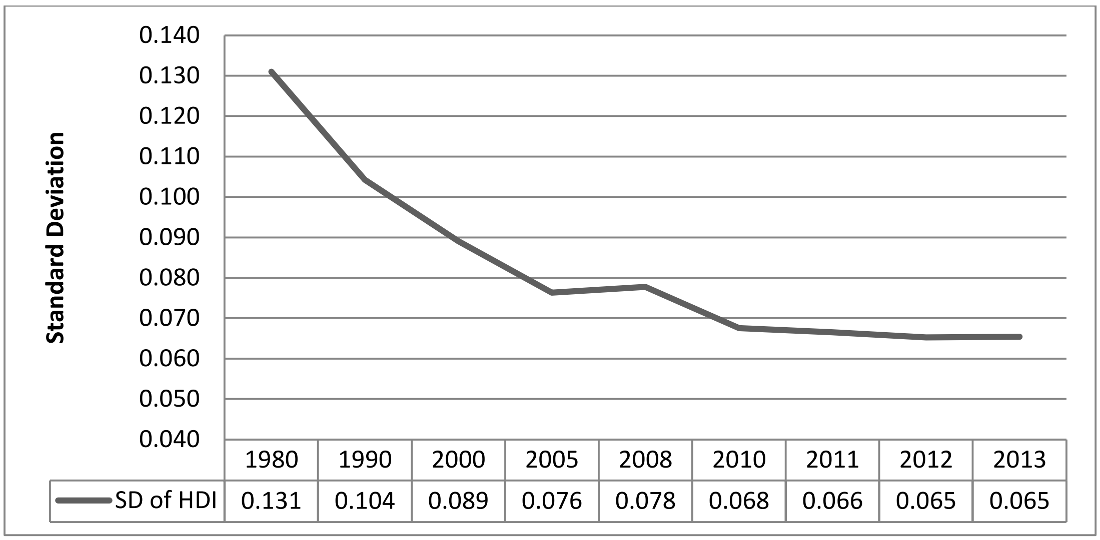
Table 3: Trend of HDI across South-Asian Countries

Country	HDI Value				Average Annual HDI Growth (%)			
	1990	2000	2010	2014	1990-2000	2000-2010	2010-2014	1990-2014
Afghanistan	0.297	0.334	0.448	0.465	1.20	2.97	0.97	1.89
Bangladesh	0.386	0.468	0.546	0.570	1.94	1.57	1.07	1.64
Bhutan	..	..	0.573	0.605	..	..	1.39	..
India	0.428	0.496	0.586	0.609	1.49	1.67	0.97	1.48
Maldives	..	0.603	0.683	0.706	..	1.25	0.86	..
Myanmar	0.352	0.425	0.520	0.536	1.90	2.03	0.72	1.76
Nepal	0.384	0.451	0.531	0.548	1.62	1.64	0.78	1.49

Country	*HDI Value*				*Average Annual HDI Growth (%)*			
	1990	*2000*	*2010*	*2014*	*1990-2000*	*2000-2010*	*2010-2014*	*1990-2014*
Pakistan	0.399	0.444	0.522	0.538	1.07	1.62	0.79	1.25
Sri Lanka	0.620	0.679	0.738	0.757	0.91	0.85	0.62	0.83
South Asia	0.437	0.503	0.586	0.607	1.42	1.55	0.86	1.38
World	0.597	0.641	0.697	0.711	0.71	0.85	0.47	0.73

Source: Human Development Report (UNDP, 2015).

A sigma converging trend in human development in South Asia can be observed if the regional dispersion (measured by standard deviation) in HDI values across the countries exhibited a declining trend over the period of analysis. Fig. 2 presents a trend of standard deviation of the logarithms of HDI estimates. It indicates a continuously declining trend from a very high value of 0.131 in 1980 to 0.065 in 2013, and therefore suggests a converging trend in the HDI. Thus, countries from lower human development groups continue to converge towards those at the higher level in South Asia.



Source: Author's own presentation.

Fig. 2: Converging Trend of HDI in South Asia

Microfinance Outreach and Human Development in India

The microfinance sector has a unique characteristic in providing doorstep financial services to the rural poor households. Thus, the sector can secure a distinct position in facilitating the process of financial inclusion through an alternative means of institutional intervention (NABARD, 2008). In the context of India, traditional network of institutional finance (viz. commercial banks, cooperative banks, and Regional Rural Banks) are effectively utilised in implementing one of the major microfinance models in India, i.e. SHG-Bank Linkage Programme (SBLP). In this process of bank linkage programme, the role of self-help promoting institutions (i.e. NGOs, rural clubs, government agencies, and individual 'volunteer' promoters) is crucial in the formation and nurturing of groups. It is to be noted that this programme is successful in targeting women, as a majority of the SHGs (80%) were exclusively women SHGs and they shared nearly 86% in the disbursement of loans. The cumulative progress of SBLP has been shown in Table 4. It is evident that the programme has significantly scaled up in the last decade in the formation of new groups and the growth in outstanding loans. However, the negative shock of the global financial crisis was reflected in the formation of new SHGs in the subsequent period. In fact, the number of new SHGs financed by banks registered a decline of around 27.66 per cent in 2009-12 (i.e. number of groups decreased from 15,87,000 as of 2009-10 to 11,48,000 SHGs in 2011-12). Bank loans outstanding to SHGs also became unmanageable.

Table 4: Progress of SHG-Bank Linkage Programme

Year	*New SHGs Financed by Banks*			*Bank Loan** Outstanding as on 31 March 2011*		
	No.	*Amount (Rs. Crore)*	*Growth (%)*	*No.*	*Amount (Rs. Crore)*	*Growth (%)*
2002-03	2,55,882	1,022.34	87.00	7,17,360	2,048.68	
2003-04	3,61,731	1,855.53	81.50	10,79,091	3,904.21	90.57
2004-05	5,39,365	2,994.25	61.37	16,18,456	6,898.46	76.69
2005-06	6,20,109	4,499.09	50.26	22,38,565	11,397.55	65.22
2006-07	11,05,749*	6570.39	--	28,94,000@	12,366.49	--
2007-08	12,27,770*	8849.26	34.68	36,26,000	16,999.90	37.47
2008-09	16,09,586*	12,256.51	38.50	42,24,000	22,679.85	33.41
2009-10	15,87,000	14,453.30	17.92	48,52,000	28,038.28	23.62
2010-11	11,96,000	14,547.73	0.65	47,87,000	31,221.17	11.35
2011-12	11,48,000	16,534.77	13.66	43,54,000	36,340.00	16.40

Source: NABARD as mentioned in Economic Survey, 2011-12 and 2012-13.

Note : * Include existing SHGs also, which were provided repeat bank loan.

** Includes repeat loans to existing SHGs.

@ from 2006-07 onwards, data in respect of number of SHGs financed by banks and bank loans are inclusive of SHGs financed under the Swarnajayanti Gram Swarozgar Yojana (SGSY) and the existing groups receiving repeat loans. Owing to this change, NABARD discontinued compilation of data on cumulative basis from 2006-07. As such data from 2006-07 onwards are not comparable with the data of the previous years.

In addition to the success of SBLP, micro finance institutions (MFIs) in India are significantly scaled up in channelising doorstep financial services to the deserving sections. A general trend of transformation of the microfinance sector from not-for-profit models to for-profit models is evident across the countries of the world, and the Indian economy in particular (ADB, 2012; Sriram, 2012). In India, not-for-profit players in the microfinance sector seem to have weathered the financial crisis much better than the for-profit sector (Sriram, 2012). However, unlike many developing countries, the Indian microfinance sector usually practices two different models of service delivery: savings-led slow growth model of Self Help Group (SHG) and credit-led fast growth model of Joint Liability Group (JLG). The SHG model of microfinance is inherently linked to the 'poverty alleviation school of microfinance', while the JLG model owes its origin to the 'financial system school'. The debate between these two schools has been an ongoing one in microfinance discourse in recent times (Sarma & Mehta, 2013). In reality, adoption of the translated version of the Grameen Bank model in Indian microfinance institutions (MFIs)[6] – the JLG model – has become a symbol of commercialisation of microfinance. In the process of commercialisation of the microfinance sector, India had the most devastating 'microfinance meltdown' in the state of Andhra Pradesh in 2010. The collapse of the microfinance industry in this southern state, the epicentre of the crisis, has ultimately dampened the confidence of the microfinance movement across other parts of the country. However, several proactive regulatory measures by the RBI since 2012 have helped the sector improve its performance in the last three years. In fact, there is a visible improvement in client base, employee, loan officers, and gross loan portfolio of NBFC-MFIs after the implementation of the regulatory measures (Nair & Tanka, 2015).

Empirical evidence in 2014 suggests that the outreach of the microfinance programme is widespread among the

[6] Most MFIs in India follow a JLG-based model with a commercial approach (Sarma & Mehta, 2013).

poor population in the southern region. In the southern region, more than 93 per cent of the poor households have been covered under microfinance programmes (Table 5). The exceptionally high percentage may be due to the multiple membership of the same person in alternative models of the microfinance sector. All other regions do not perform satisfactorily in addressing the financial need of poor households through microfinance, in reference to the national average (24 per cent). The slow progress of microfinance outreach in the central and northern parts of the country is a major concern in achieving financial inclusion through microfinance programmes. However, it is to be noted that the microfinance sector accelerates the pace of financial inclusion mainly in the low financially inclusive states, where penetration of formal financial institutions is significantly low, thereby necessitating the role of semi-formal institutions (like microfinance) in including the excluded segments of population in the network of institutional finance. In the context of the northern region, expansion of semi-formal institutions may not be the policy priority, due to the existence of a well-developed institutional financial network in this region.

Table 5: Microfinance Penetration across Indian States

State	*No. of SHG Members (Million)*	*No. of MFIs Clients (Million)*	*Total Microfinance Members (Million)*	*Population (Million)*	*Number of Poor (Million)*	*Members/ Population*	*Members/ Poor*
Haryana	0.27	0.2	0.47	25.35	3.24	1.85	14.51
Himachal Pradesh	0.23	0	0.23	6.86	0.75	3.35	30.67
Jammu & Kashmir	0.01	0	0.01	12.54	1.93	0.08	0.52
New Delhi	0.01	0.22	0.23	16.79	2.67	1.37	8.61
Punjab	0.18	0.18	0.36	27.74	3.16	1.30	11.39
Rajasthan	1.69	0.65	2.34	68.55	15.15	3.41	15.45
Total Northern Region	2.39	1.25	3.64	157.83	26.9	2.31	13.53
Assam	1.42	0.88	2.3	31.21	12.95	7.37	17.76
Manipur	0.05	0.01	0.06	2.57	1.29	2.33	4.65
Meghalaya	0.04	0.03	0.07	2.97	0.74	2.36	9.46
Sikkim	0	0.01	0.01	0.61	0.11	1.64	9.09
Tripura	0.07	0.26	0.33	3.67	0.93	8.99	35.48
Total North-East Region	1.58	1.19	2.77	41.03	16.02	6.75	17.29
Bihar	2.47	1.95	4.42	104.1	43.81	4.25	10.09
Jharkhand	0.85	0.43	1.29	32.99	14.25	3.91	9.05
Odisha	3.24	1.34	4.58	41.97	19.5	10.91	23.49
West Bengal	6.14	3.87	10.01	91.28	27.54	10.97	36.35
Total Eastern Region	12.7	7.59	20.3	270.34	105.1	7.51	19.31
Chhattisgarh	0.93	0.35	1.28	25.55	12.48	5.01	10.26
Madhya Pradesh	1.05	1.64	2.69	72.63	32.78	3.70	8.21
Uttar Pradesh	3.21	2.27	5.48	199.81	80.91	2.74	6.77
Uttarakhand	0.26	0.24	0.51	10.09	1.84	5.05	27.72
Total Central Region	5.45	4.5	9.96	308.08	128.01	3.23	7.78
Goa	0.04	0.01	0.05	1.46	0.09	3.42	55.56
Gujarat	0.8	0.72	1.52	60.44	16.88	2.51	9.00
Maharashtra	2.66	2.4	5.06	112.37	22.83	4.50	22.16
Total Western Region	3.5	3.13	6.63	174.27	39.8	3.80	16.66
Andhra Pradesh	16.98	3.37	20.35	84.58	11.73	24.06	173.49

State	No. of SHG Members (Million)	No. of MFIs Clients (Million)	Total Microfinance Members (Million)	Population (Million)	Number of Poor (Million)	Members/ Population	Members/ Poor
Karnataka	4.38	5.48	9.86	61.10	13.57	16.14	72.66
Kerala	1.52	0.91	2.44	33.41	3.83	7.30	63.71
Puducherry	0.18	0.08	0.25	1.25	0.1	20.00	250.00
Tamil Nadu	5.81	3.98	9.78	72.15	16.39	13.56	59.67
Total Southern Region	28.87	13.82	42.68	252.49	45.62	16.90	93.56
Grand Total	54.49	31.48	85.98	1204.04	361.45	7.14	23.79

Source: Author's calculation based on Mix Market data (2014), NABARD microfinance data (2014), Census of India (2011), and Poverty Estimates of Rangarajan Committee (2012)[7].

However, the earlier analysis of microfinance indicators rests on only penetration of microfinance services, i.e. the number of people linked with the microfinance sector. Such partial analysis often neglects the demand side dimension of the problem of microfinance outreach. A comprehensive analysis on microfinance outreach, therefore, can address the problem from the perspective of both the demand and supply side dimensions. In this context, this paper is uniquely positioned in constructing a composite index on microfinance outreach by considering the demand for (i.e. usage of financial services) and the supply of microfinance services (i.e. penetration and availability of the microfinance sector). Table 6 presents the variations in the outreach of the microfinance sector across major states of India in 2014.

Table 6: Index of Microfinance Outreach and its Dimensions for Indian States

State	Dimension on Microfinance Penetration	Rank	Dimension on Microfinance Availability	Rank	Dimension on Microfinance Usage	Rank	IMO	Rank
Andhra Pradesh	0.477	2	1.000	1	1.000	1	0.698	2
Assam	0.318	3	0.225	7	0.940	2	0.403	3
Bihar	0.082	13	0.116	13	0.381	5	0.182	10
Chhattisgarh	0.242	5	0.179	9	0.543	4	0.303	4
Delhi	0.268	4	0.000	19	0.155	11	0.134	12
Gujarat	0.055	15	0.063	17	0.075	13	0.064	15
Haryana	0.128	10	0.050	18	0.114	12	0.097	13
Jharkhand	0.127	11	0.126	11	0.343	6	0.192	9
Karnataka	0.143	8	0.355	5	0.263	7	0.249	6
Kerala	0.150	7	0.225	8	0.242	9	0.205	8
Madhya Pradesh	0.020	18	0.069	16	0.066	14	0.051	17
Maharashtra	0.028	16	0.115	14	0.000	19	0.046	18
Odisha	0.157	6	0.384	4	0.243	8	0.255	5
Puducherry	1.000	1	0.717	2	0.670	3	0.749	1
Rajasthan	0.026	17	0.120	12	0.017	18	0.053	16
Tamil Nadu	0.138	9	0.399	3	0.167	10	0.226	7
Uttar Pradesh	0.000	19	0.077	15	0.038	17	0.038	19
Uttarakhand	0.059	14	0.126	10	0.042	16	0.075	14
West Bengal	0.105	12	0.333	6	0.063	15	0.159	11
India	0.112		0.232		0.216		0.185	

Source: Author's calculation on IMO is based on data sources mentioned in Table 1.

[7] All the data sources mentioned in Table 6 have been accessed from the Inclusive Finance Report (2014, page 16-17).

Table 6 reveals that Puducherry is first in the ranking of IMO in the reference period of study, followed by Andhra Pradesh and Assam. States like Assam, Chhattisgarh, and Odisha excel in the overall index of microfinance outreach in comparison to three other southern states (Tamil Nadu, Kerala, and Karnataka). On the lower stratum, we have Rajasthan, Madhya Pradesh, Maharashtra, and Uttar Pradesh. The estimated values of IMO are observed to lie between 0.749 (in Puducherry) and 0.038 (in Uttar Pradesh). This wide range of variation in the values of the index reveals a significant difference in the outreach of the microfinance sector across Indian states.

On the other hand, an overtime trend of HDI has been presented in Table 7. Interestingly, southern states (Tamil Nadu, Karnataka, and Kerala), which excel in microfinance outreach also exhibit a high level of human development. On the other end, three states (Maharashtra, Haryana, and West Bengal), which perform satisfactorily in human development, fail in the outreach microfinance services. Therefore, these states can be categorised as high human development and low microfinance outreach states. States like Assam and Odisha, which have made significant progress in the microfinance sector in recent times, are observed to be lagging behind in human development (Table 6 and 7). This suggests that the states can excel in the performance of human development, even though there is no vibrant microfinance sector in the state. In other words, empirical evidence indicates that microfinance outreach is not necessarily a powerful driving force in ensuring a higher level of human development of the state.

The trend of human development across Indian states indicates more or less a converging trend over time, with certain exceptions in 2001-08. In fact, a divergence trend is visible in the first decade of the 21st century (Fig. 3). However, the trend of human development does not follow the rise and fall of the microfinance sector in India, since the beginning of the 21st century. Since the introduction of SBLP initiated by NABARD in 1992, a significant progress in the development of the microfinance sector is noticeable. The converging trend of human development in the last decade of the 20th century may explain the linkages between microfinance outreach and human development. However, a visible spectacular progress of the microfinance sector does not match with the diverging trend of human development in 2001-08. Specifically, the converging trend of human development after 2008 does not reflect the devastating experience of 'microfinance meltdown' in the state of Andhra Pradesh in 2010. In fact, historical precedence suggests that the collapse of the microfinance industry in this southern state, the epicentre of the crisis, ultimately dampened the confidence of the microfinance movement across other parts of the country. However, the microfinance debacle does not transmit any negative implications on human development in India; rather, a convergence trend in human development is visible during the post-crisis period. Thus, the empirical results cast doubt on the hypothesis that outreach of the microfinance sector can have a positive linkage effect on the progress of human development in India.

Table 7: Trend of Human Development Indices across Indian States

States	*1981*	*1991*	*2001*	*2007-08*	*2011*
Andhra Pradesh	0.298 (9)	0.377 (9)	0.416 (10)	0.473 (9)	0.485 (9)
Assam	0.272 (10)	0.348 (10)	0.386 (14)	0.444 (10)	0.474 (10)
Bihar	0.237 (15)	0.308 (15)	0.367 (15)	0.367 (14)	0.447 (14)
Gujarat	0.36 (4)	0.431 (6)	0.479 (6)	0.527 (6)	0.514 (6)
Haryana	0.36 (4)	0.443 (5)	0.509 (5)	0.552 (5)	0.545 (4)
Karna-taka	0.346 (6)	0.412 (7)	0.478 (7)	0.519 (7)	0.508 (8)
Kerala	0.500 (1)	0.591 (1)	0.638 (1)	0.790 (1)	0.625 (1)
Madhya Pradesh	0.245 (14)	0.328 (13)	0.394 (12)	0.375 (13)	0.451 (13)
Maha-rashtra	0.363 (3)	0.452 (4)	0.523 (4)	0.572 (3)	0.549 (3)
Orissa	0.267 (11)	0.345 (12)	0.404 (11)	0.362 (15)	0.442 (15)
Punjab	0.411 (2)	0.475 (2)	0.537 (2)	0.605 (2)	0.569 (2)
Rajast-han	0.256 (12)	0.347 (11)	0.424 (9)	0.434 (11)	0.468 (11)
Tamil Nadu	0.343 (7)	0.466 (3)	0.531 (3)	0.570 (4)	0.544 (5)
Uttar Pradesh	0.255 (13)	0.314 (14)	0.388 (13)	0.380 (12)	0.468 (12)
West Bengal	0.305 (8)	0.404 (8)	0.472 (8)	0.492 (8)	0.509 (7)
India	0.302	0.381	0.472	0.467	0.504
Standard Devia-tion	0.072	0.077	0.075	0.114	0.052

Source: Estimates of HDI in 1981-2008 are obtained from Roy (2012) and those in 2011 are obtained from Suryanarayana et al. (2011).

Source: Author's own presentation.

Fig. 3: Sigma Convergence of HDI across Indian States

Conclusions

The paper investigates the empirical relationship between the outreach of the microfinance sector and human development across countries in South Asia, with special reference to the Indian economy. Cross-country experiences in South Asia provide substantial evidence to cast doubt on the empirical association between the microfinance outreach and human development, especially after the 'microfinance meltdown' in 2008. In the Indian economy as well, state-wise variation in human development cannot be explained by the outreach of the microfinance sector itself. In fact, the Andhra crisis in 2010 does not transmit any negative implications on human development at the national level. Overall, it can be suggested that microfinance is not the panacea for achieving human development in South Asia. It can only be a means to promote financial inclusion in those low financially inclusive regions. In fact, a presence of well-developed formal financial institutions in a specific region undermines the need for microfinance development as an alternative semi-formal institution. In this backdrop, a comprehensive financial inclusion programme involving alternative financial institutions (i.e., commercial banks, cooperative banks, microfinance sector, and Regional Rural Banks) can be seen as an effective policy in enlarging the well-being of the population of a country.

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