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Empowering Self-Help Groups: The Impact of Financial Inclusion on Social Well-Being

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Abstract: Financial inclusion (FI) relates to the access and availability of financial services to society, especially in low-income groups. FI is pivotal in achieving 7 of the 17 Sustainable Development Goals (SDGs). This paper explores the level of FI in the rural areas of Maharashtra and measures the impact of FI on the social conditions of Self-Help Groups (SHGs) prevalent in these areas. The study is based on a 424 SHGs survey conducted in the Pune, Thane, and Palghar districts of Maharashtra, India. The impact of FI on SHGs is evaluated using a Structural Equation Model (SEM). The results of the study show that physical banking services, Business Facilitators (BFs), and Business Correspondents (BCs) improve the social conditions of rural SHGs. Additionally, BCs and BFs mediate the relationship between physical banking services and social conditions. The study also reveals an insignificant association between BCs and BFs and insurance services. The present study highlights the importance of increasing the awareness of insurance policies through financial literacy programs and making timely availability and accessibility of BCs and BFs to enhance financial inclusion in rural areas.

Keywords: financial inclusion; social condition; self-help groups; business correspondents and facilitators; sustainable development goals; structural equation modeling; financial literacy

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1. Introduction

Financial development is considered a fundamental prerequisite for achieving poverty alleviation, reducing income inequality, promoting gender equality, and fostering overall social progress (Kaur and Kapuria 2020; Abosedra et al. 2021; Barik et al. 2022; Singh and Jha 2023; Jha and Kırşanlı 2023). Financial inclusion takes precedence as a primary objective in the economic policies of developing and least-developed nations (Ahmad and Law 2022). It functions as a catalyst by providing diverse financial services and government schemes to vulnerable segments of society, particularly in developing countries like India. A crucial step towards attaining financial inclusion is the establishment of bank accounts, reflecting the key drivers of the availability, ease of access, and utilization of banking financial services. Numerous empirical investigations have substantiated the positive correlation between these three dimensions and financial inclusion (Kuri and Laha 2011; Raman 2012; Serrao et al. 2012; Laha and Kuri 2015; Swamy 2014; Goel and Sharma 2017). Financial inclusion serves as a platform for individuals to save surplus funds, which can be subsequently mobilized in the form of loans for small businesses and households. Moreover, it provides access to credit, thereby assisting them in managing their financial crises effectively (Sarma and Pais 2011; Arora 2010; Kumar 2011; Goel and Sharma 2017; Niankara 2022).

Financial inclusion extends beyond the mere provision of bank accounts to encompass a broader array of services and government schemes, resulting in positive externalities. These positive spillover effects transcend immediate impacts and manifest in various domains, particularly in the context of poverty alleviation. Financial inclusion contributes to the effective implementation of poverty alleviation initiatives by facilitating greater awareness and the utilization of government schemes. Consequently, it bestows economic

and social empowerment upon rural households, leading to heightened productivity and an overall enhancement of their living conditions and standards of living (Kuri and Laha 2011; Serrao et al. 2012; Laha and Kuri 2015; Rupa and Uma 2015; Goel and Sharma 2017; Rastogi and E 2018; Sethi and Sethy 2018; Survase and Inumula 2019; Nandru et al. 2021; Lal 2021; Ofoeda et al. 2022; Ozili et al. 2023).

FI plays a pivotal role in achieving 7 of the 17 SDG goals outlined under the 2030 agenda for sustainable development. These goals include no poverty (SDG1), zero hunger (SDG2), good health and well-being (SDG3), gender equality (SDG5), decent work and economic growth (SDG8), industry innovation and infrastructure (SDG9), and reduced inequalities (SDG10) (Survase et al. 2021; Ozili and Iorember 2023; Pushp et al. 2023).

A developed financial system and infrastructure can provide economic growth and achieve development goals if people are included in this financial system. The Government of India introduced Pradhan Mantri Jan-Dhan Yojana (PMJDY) as a national mission of financial inclusion on 4 August 2014. The main objective of this mission is to provide financial services such as deposit, saving, credit, remittance, and insurance services at affordable rates to uplift the poor class of society (PMJDY report, Department of Finance Service Ministry of Finance Government of India 2021; Zouari-Hadiji 2023).

Since the launch of PMJDY in 2014, approximately 52 crore bank accounts have been opened, amounting to INR 217,137 crore deposits and issuing 35.16 crore Rupay Debit Cards to beneficiaries at the national level as of January 2024 (PMJDY report, 31 January 2024). The report also notes that approximately 56% of the total beneficiaries who opened a bank account are females. Waikar and Karmarkar (2017) studied the role of banks through PMJDY in financial inclusion in the Indore District. The study found that schemes such as Atal Pension Yojana (APY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), and Pradhan Mantri Suraksha Bima Yojana (PMSBY) played crucial roles in enhancing financial inclusion.

2. Research Gap, Research Questions, and Hypotheses

Inadequate access to financial services is termed financial exclusion. Rural areas are deprived of financial/banking services since the banking business is not profitable due to the low utilization of financial services (Kolloju 2014; Saxena and Mishra 2016). This has led to financial exclusion in rural areas. Hence, there is a need for a mediator between banks and rural households to connect banking services to rural households. The Business Correspondence Model (BCM) was introduced by RBI in January 2006 (Bhaskar 2006). BCM refers to the banking facilities and services provided through a third party, which acts as a bank agent in unbanked areas. RBI has permitted banks to engage intermediaries such as BFs and BCs as agents of the bank to extend banking services to unbanked areas since 2006.

BCs and BFs play a crucial role in the branchless areas by providing financial services, particularly in the rural areas, which helps to improve the social condition of rural households (Handoo 2010; Ramasubbian and Duraiswamy 2012; Chauhan 2014). Bakshi (2012) has stated that BCs and BFs are other banking channels similar to automated channels (ATMs, debit cards, credit cards, internet banking, mobile banking, and E-wallets). However, BCs and BFs have a human element catering to the needs of low-income groups, unlike automated channels that target the literate population, which mainly includes the upper and middle classes of society.

Kolloju (2014) opined that financial services are of the utmost importance for the socio-economic development of the poor class and unbanked section in rural areas (Rastogi and E 2018). He argued that banking/financial services have not reached these sections as the banking business is unprofitable due to the lesser usage of financial services. He mentioned that BCs and BFs could play a significant role in providing financial services in such areas. Similarly, Saxena and Mishra (2016) state that even after various government schemes/initiatives, a large portion of society in rural areas remains excluded due to the non-availability of basic financial services. BCs and BFs play a crucial role in covering such classes by providing door-step financial services. The BC and BF model helps in improving

the socio-economic conditions of the vulnerable class by providing government schemes and financial services in the absence of bank branches in rural areas. In light of the above background, the study aims to address the following three Research Questions (RQs).

RQ1: Do BCs and BFs substitute banks in branchless areas to provide financial services?
RQ2: Do BCs and BFs enhance the insurance services in rural areas?
RQ3: Do BCs and BFs improve the social conditions of rural households?

Many studies have demonstrated that BCs and BFs can support traditional banks in offering financial services in branchless locations. According to Kumar and Sharma (2017), branchless banking is one of the alternative banking channels that is increasingly important for providing customers with financial services. They also opined that using banking agents can help financial institutions reach more people in remote places by enabling clients to perform simple banking operations without the requirement for a physical branch. Aziz et al. (2022) emphasizes the prospects and challenges for branchless banking in Malaysia while highlighting the advantages of efficiency, time savings, security, and cost-effectiveness. Collectively, these results lend credence to the premise that BCs and BFs may successfully offer financial services in locations without physical bank branches. This is tested through the below hypothesis.

H_1. *BCs and BFs complement physical banks in branchless areas to provide financial services.*

Numerous studies have revealed that the penetration of insurance in rural areas of India is very low (Singh and Naik 2018; Radhika and Satuluri 2019; Murthy and Kumar 2023; Chatterjee et al. 2023). Further, there is a low penetration and poor density of insurance services in rural India, Ahmed (2013). Furthermore, the primary obstacles encountered by insurance businesses include low per capita income, a tame attitude among the populace, indifference by intermediaries to travel to remote locations, and a lack of financial literacy (Cbilamge 2015). The state of insurance service in rural areas is tested through the below hypothesis.

H_2. *BCs and BFs improve insurance services in rural households.*

BCs and BFs play a crucial role in improving the social conditions of rural households by providing financial services in the absence of banks (Sharma and Kukreja 2023). The role of BCs and BFs in improving social conditions is tested through the following hypothesis.

H_3. *BCs and BFs improve the social conditions of rural households.*

PMJDY aims to provide two insurance services viz. PMJJBY and PMSBY to the poor class of society at a minimum premium. PMJJBY provides a two-lakh death cover at INR 330 premium per annum and, PMSBY covers INR 2 lakhs for accidental death and INR 1 lakh for partial disability at INR 12 per annum. In addition, 1.26 Bank Mitras delivers branchless banking services in rural areas. Hence, banking services and insurance play a vital role in protecting rural households from financial crises (Habib et al. 2016; Jütting 2004; Asfaw and Von Braun 2005; Prinja et al. 2017).

Ahmed (2013) argued that there is a low penetration of insurance among the poor class particularly in rural areas in India. His study stated that approximately 8% to 10% of rural households are covered under life insurance. The study concluded that there is a lack of awareness and wrong perception about insurance products. Similarly, Yusuf et al. (2009) opined that people's attitudes toward insurance services are negative due to low awareness and support from the insurance institutions in Nigeria. Khanal (2007) stated that insurance companies failed to undertake long-term investments in Bangladesh, Malaysia, and Nepal. His study found a positive relationship between financial deepening and economic growth in these countries.

Rupa and Uma (2015) revealed a significant impact of financial inclusion on indicators of social conditions such as education expenditure, access to health care, confidence level, skills and empowerment, risk management, and nutritional status. Similarly, Survase and Inumula (2019) explored seven indicators of social conditions of rural households such as sanitation facilities, purified/potable drinking water, electricity, personal care access, social security, the standard of living, and overall social status. Their study showed a significant association between these indicators and financial inclusion. Other studies have also revealed a positive association between financial inclusion and the social conditions of rural households (Pailwar et al. 2010; Kuri and Laha 2011; Serrao et al. 2012; Xu et al. 2022). With this background, the study tried to investigate the role of banking branches in providing insurance services and improving social conditions in rural areas. The study has framed the following research questions concerning physical banking and insurance services.

RQ4: Do physical banks improve insurance services in rural areas?
RQ5: Do physical banks improve the social conditions of rural households?
RQ6: Do insurance services improve the social conditions of rural households?

Though there is less penetration of insurance services in rural areas, the presence of banking services enhances insurance services in rural areas (Demirgüç-Kunt and Klapper 2012; Goel and Sharma 2017; Niankara 2022). Hence, the role of physical banking in providing insurance services in rural areas is tested through the following hypothesis.

H_4. *A positive relationship exists between physical banking services and insurance services in rural areas.*

Previous research has shown that the socio-economic vulnerability of people in rural areas exposes them to financial risk (Murphy and Scott 2014; De Silva and Kawasaki 2018). Financial risk can be mitigated through banks by providing access to credit, saving, and insurance services (Sarma and Pais 2011; Arora 2010; Demirgüç-Kunt and Klapper 2012; Goel and Sharma 2017; Niankara 2022). Hence, the presence of banking facilities and insurance services helps them to mitigate risks and improves their social conditions. This is tested through the following hypotheses.

H_5. *Physical banking services improve the social conditions of rural households.*

H_6. *Insurance services improve the social conditions of rural households.*

Based on the above research questions and hypotheses of the study, the following conceptual model is proposed for the study (Figure 1).

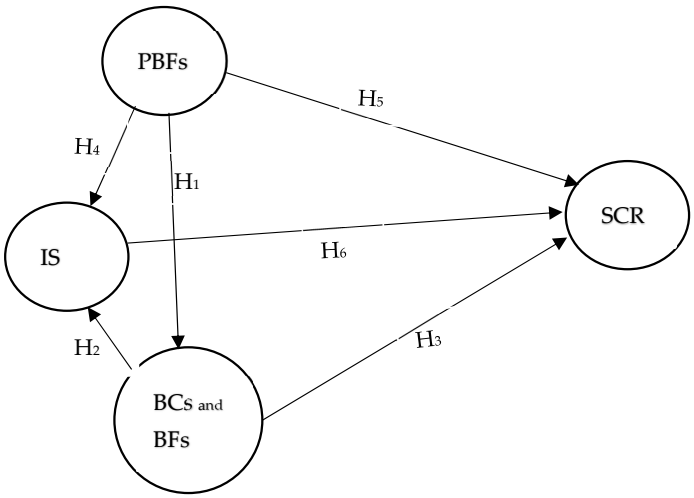

Figure 1. Conceptual Framework.

The study examines the relationship between the presence of PBF and BCs and BFs. It also explores the association between BC and BF and insurance services (ISs) in rural areas. In addition, it assesses the impact of BC and BF on the SCR in rural areas.

It also explores the association between PBF and IS in rural areas. In addition, it assesses the impact of physical banking facilities on the SCR in rural areas. The study measures the impact of insurance services on the social conditions of the SHGs in rural areas.

3. Data and Research Methodology

A questionnaire survey was used to conduct this cross-sectional investigation. The data analysis relied heavily on SEM, which gives a graphical depiction of the research interactions in two steps, comprising measurement and structural models (Asif et al. 2023). The data were collected using the convenient sampling method. The targeted population was SHGs that were selected from 12 villages of the Pune, Thane, and Palghar districts of Maharashtra, India. The survey of 422 respondents of SHG households was conducted using a scheduled questionnaire. We used a five-point Likert scale to record the responses of the respondents on identifying the factors influencing financial inclusion and social conditions of the respondents. The study considered a total of 56 indicators to measure the response of the respondents regarding financial inclusion and social conditions (refer to Appendix A). The study identified thirteen financial services provided in rural areas. The level of financial inclusion is measured by considering the availability, access, and usage of these financial services in rural areas (Sarma and Pais 2011; Myeni et al. 2020). The study considered seventeen indicators of the social conditions of rural households (Serrao et al. 2012; Rupa and Uma 2015; Survase and Inumula 2019). The impact of financial inclusion on social conditions is measured using these indicators.

The study applied an exploratory factor analysis (using SPSS 27.0) and confirmatory factor analysis (using AMOS 24.0) to investigate the associations between the research variables. Furthermore, the Average Variance Extracted (AVE), Convergent Values, and squared correlations were used to confirm the reliability and validity of the research constructs (Hair et al. 2010).

4. Analysis and Results of the Study

The results of the study are presented in five sub-sections viz. descriptive analysis, exploratory factor analysis, measurement model, structural model, and mediation analysis.

4.1. Descriptive Analysis

This section includes the demographic profile of the respondents, a summary of descriptive statistics, and the reliability of the construct. The majority of the respondents, i.e., 87 percent, are below the age of 45 years and 13 percent are over 45 years. The sample comprises respondents from various castes such as the General Category, Other Backward Class (OBC), Scheduled Caste (SC), and Schedule Tribe (ST) category, and the majority of the sample, i.e., 85%, comprises SC, ST, and OBC.

The level of education is low among respondents with only 6 percent of respondents having completed graduation, postgraduation, or a diploma. It is noted that the majority of the respondents, 85 percent, have only completed secondary or higher secondary education and 9% are illiterate.

The survey comprises respondents from various occupations. The majority of the respondents are farmers (47 percent) followed by private sector employees (18.6 percent), daily laborers (15 percent), and self-employed (14 percent). A small portion of respondents are public sector employees (3 percent) and unemployed (2.4 percent). Respondents are selected equally from three districts, Pune, Thane, and Palghar, of the Maharashtra state (Table 1).

Table 2 provides the variable correlation coefficient. The correlation is statistically significant, providing initial support for the hypotheses.

The statistical reliability of the scale is calculated based on Cronbach's Alpha (≥0.6) and the factor loading (≥0.5) to obtain statistically significant outcomes from the proposed model (Hair et al. 2010). All the variables are statistically significant, indicating the high internal consistency of the scale (Table 3).

Table 1. Demographic Profile.

Demographics	Household Details (N = 426)	% of Respondents
Age	Less than 25 years	13
	26 to 35 years	39.4
	36 to 45 years	34.9
	More than 45 years	12.7
Caste	SC	22.1
	ST	33.5
	OBC	27.9
	Secondary and Higher	16.5
Education	Illiterate	8.7
	Below Secondary	48.3
	Secondary and Higher Secondary	36.8
	Graduation and Diploma	3.8
	Post-Graduation and above	2.4
Occupation	Self Employed	13.9
	Private Sector Employee	18.6
	Public Sector Employee	3.1
	Farmer	46.9
	Daily Labor	15.1
	Unemployed	2.4
District	Pune	36.1
	Thane	30.2
	Palghar	33.7

Source: Author's Compilation.

Table 2. Correlation Matrix.

Construct	SCR	PBF	IS	BCs and BFs
SCR	1.000			
PBF	0.499 **	1.000		
IS	0.256 **	0.577 **	1.000	
BCs and BFs	0.44 **	−0.177 **	−0.129 **	1.000

Source: Author's Compilation. Note: ** significant correlation coefficient at the 0.01 (2-tailed).

Table 3. Reliability of Factors.

Construct	No. Items	Cronbach's Alpha (Reliability)
PBFs	8	0.933
IS	3	0.95
BCs and BFs	3	0.875
SCR	9	0.934

Source: Author's Compilation.

4.2. Factor Analysis

Factor analysis is used to identify the relevant items of the constructs (Hair et al. 2010). The results in Table 4 indicate that a total of four factors have emerged viz. social conditions, physical banking facilities, insurance schemes, and BCs and BFs. The total variance explained by these four factors is 72.34%. The Kaiser–Meyer–Olkin (KMO) value is 0.923, which is higher than 0.6, indicating the adequacy of the sample for factor analysis (Hair et al. 2010). The social conditions factor includes nine indicators, whereas the physical banking

facilities factor consists of eight indicators of financial services. The insurance service factor includes three indicators and the BC and BF factor includes three indicators. Other variables (33 indicators) have less than 0.5 factor loading and, hence, are not considered for further analysis.

Table 4. Exploratory Factor Analysis Results.

Rotated Matrix [a]		
Construct	**Items**	**Factor Loading**
SC	SC2—Helped for all Health Access	0.782
	SC3—Improved confidence level	0.661
	SC6—Improved nutritional status	0.744
	SC7—Access to basic sanitation facilities (i.e., lavatory)	0.781
	SC11—Personal care access (i.e., oral, hair, and body care)	0.834
	SC12—Entertainment (i.e., movies)	0.590
	SC15—Helped in Family and Cultural Function	0.768
	SC16—Improved Social Security (i.e., feeling of security in the society)	0.871
	SC17—Improved Overall Social Status	0.876
PBF	AVFS1—The bank branch is available at your place	0.828
	AVFS3—Automated Teller Services (ATMs) is available	0.881
	AVFS10—Deposit/withdrawing cash facility is available	0.699
	ACFS3—Automated Teller Services (ATMs) are easily accessible	0.846
	ACFS6—Cheque book is easily available to you	0.641
	UFS1—Availed financial services through the bank branch	0.785
	UFS3—Use of Automated Teller Services (ATMs) is frequent	0.842
	UFS9—Availed overdraft facility of the bank	0.533
IS	AVFS8—Insurance schemes are available	0.882
	ACFS8—Insurance facilities are easily accessible to you	0.886
	USF8—Availed insurance facilities through the bank/BC/BF	0.872
BC and BF	AVFS2—BC and BF are available at your place	0.744
	ACFS2—BC/BF are easily approachable	0.894
	UFS2—Availed financial services through BC/BF	0.845

Total cumulative variance: 72.342
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. [a]
[a]. Rotation converged in 7 iterations.

Source: Author's Compilation. Note: Eigen Values of all constructs are >1 and KMO is 0.923.

4.3. Measurement Model

The measurement model relates the measured variables to latent variables. In Figure 2, the variables presented in the rectangle are called measured variables (e.g., UFS3, UFS1), and those presented in ellipse are called latent variables (e.g., PBF, SCR). Co-variance numbers are presented on the double-sided arrow connecting the two latent variables. The relationship between latent variables and measured variables is presented in Figure 2. Figure 2 shows the final measurement model and the standardized regression weights associated with each item.

The measurement model was estimated through an iterative process until the regression weights were greater than 0.5. Some co-variances are negative, which is justified by the literature review. Table 5 provide the goodness-of-fit of the initial model and the final model. As shown in Table 5, the initial model failed to meet the acceptable limits and, hence, it was rejected. In the final model, all the indices have met their acceptable limits, indicating that the model is statistically significant.

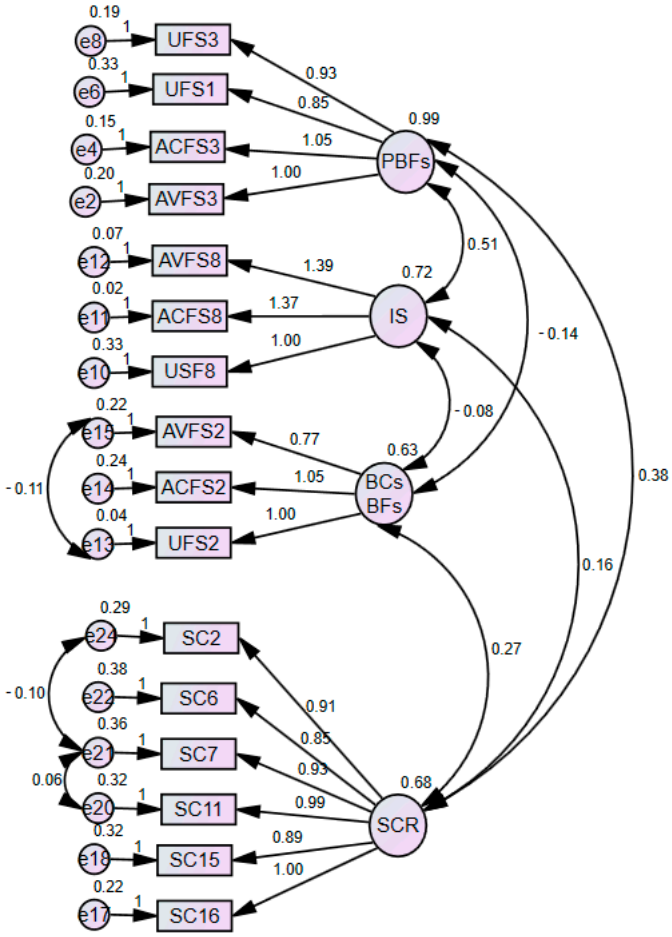

Figure 2. Final measurement model.

Table 5. Initial and Final Measurement Model (Standardized Output).

Measure	Initial Measurement	Final Measurement	Acceptable Fit Criterion
CMIN/DF	3.554	2.675	≤3 indicates an acceptable fit ≤5 indicates a reasonable fit
CFI	0.956	0.974	≥0.90 indicates an acceptable fit ≥0.95 indicates an excellent fit
SRMR	0.068	0.0574	≤0.05 indicates an acceptable fit
RMSEA	0.078	0.063	≤0.05 indicates an excellent fit ≤0.08 indicates an acceptable fit
PCLOSE	0	0.012	≥0.05 the model is considered to have a close fit

Source: Author's Compilation.

Construct Validity

Construct validity is a test to measure a construct. It is tested using discriminant validity and convergent validity, and they are opposite to each other. The discriminant validity indicates that one construct is different from the other construct and, hence, they are unique in nature. The discriminant validity is tested using the square root of the AVE, which should be greater than the correlations of all the corresponding latent constructs (Hair et al. 2010; Jobson 2012). The results presented in Tables 2 and 6 fulfill the requirement of discriminant validity. The convergent validity shows that all the items designed to measure a construct are the same and correlate with each other. The convergent validity

is tested using the Composite Reliability (CR) value, which should be greater than 0.5. Table 6 indicates CR of all latent variables is greater than 0.5, hence it meets the criteria of convergent validity.

Table 6. Discriminant and Convergent Validity.

Construct	No. Items	AVE	CR
PBFs	8	0.58	0.86
IS	3	0.77	0.88
BCs and BFs	3	0.68	0.82
SCR	9	0.59	0.88

Source: Author's Compilation.

4.4. Structural Equation Model

The SEM relates one variable with another. The SEM provides standardized estimates of all the latent variables (Hair et al. 2010). Table 7 indicates the goodness-of-fit indices. All the indices have met the acceptable limits and, hence, this model is statistically significant (Figure 3).

Table 7. Goodness-of-fit Indices of SEM.

Measure	Estimate	Threshold	Interpretation
CMIN/DF	2.675	Between 1 and 3	Excellent
CFI	0.974	>0.95	Excellent
SRMR	0.057	<0.08	Excellent
RMSEA	0.063	<0.06	Acceptable
PCLOSE	0.012	>0.05	Acceptable

Source: Author's Compilation.

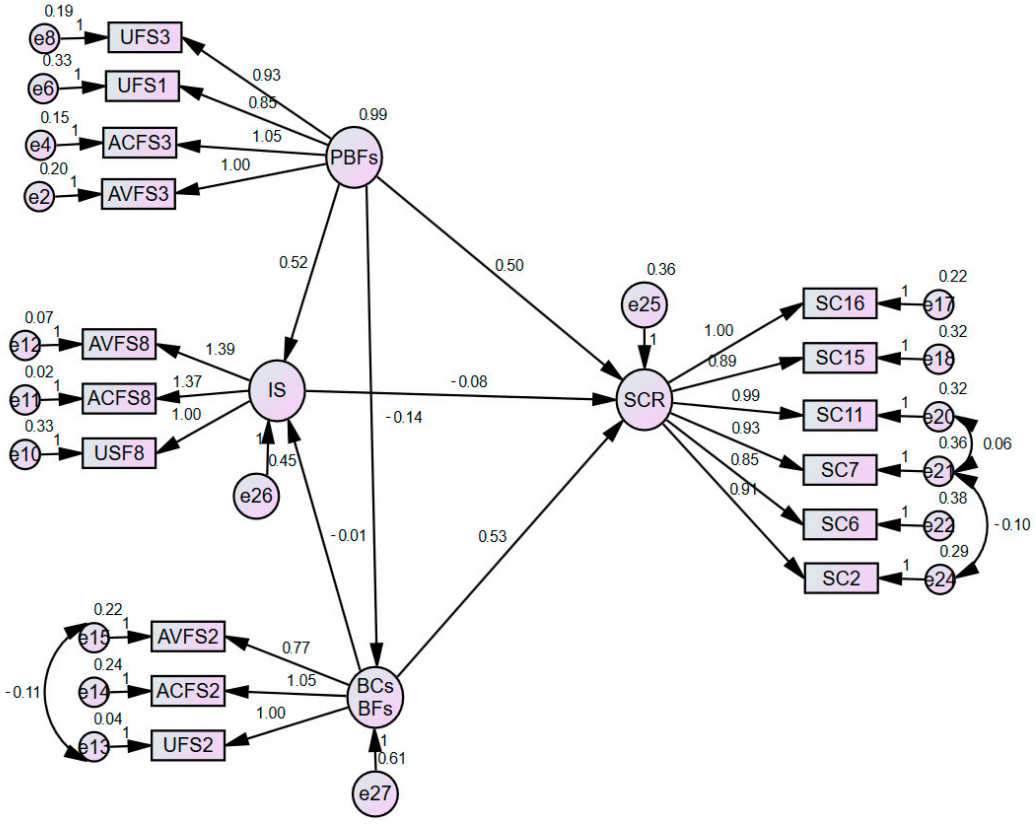

Figure 3. Structural Model.

The hypotheses of the study have been tested in the structural diagram using AMOS. The results are presented in Table 8.

Table 8. Hypotheses Testing from SEM.

Hypotheses	Path			Estimate (β)	p Values $\leq$ 0.01	Result
H_1	BCs and BFs	←	PBFs	−0.14	***	Supported
H_2	IS	←	BCs and BFs	−0.01	0.835	Rejected
H_3	SCR	←	BCs and BFs	0.53	***	Supported
H_4	IS	←	PBFs	0.52	***	Supported
H_5	SCR	←	PBFs	0.50	***	Supported
H_6	SCR	←	IS	−0.08	0.11	Rejected

*** $p < 0.01$. Source: Author's Compilation.

As shown in Table 8, the SEM analysis revealed the existence of a significant inverse relationship (β = −0.14; $p < 0.01$) between PBFs and BCs and BFs for SHGs in rural Maharashtra. Hence, hypothesis H_1 is supported. On the other hand, the analysis showed that BCs and BFs influence the SCR of rural SHGs (β = 0.53; $p < 0.01$) significantly. Hence, hypothesis H_3 is supported. Similarly, PBFs significantly influences the IS (H_2, β = 0.52; $p < 0.01$) and SCR of the rural SHGs (H_3, β = −0.50; $p < 0.01$) positively. Therefore, hypotheses H_5 and H_6 failed to be rejected. On the contrary, the relationship between BCs and BFs and IS is statistically insignificant (β = −0.01; $p < 0.01$). Hence, hypothesis H_2 is rejected. The relationship between IS and SCR is statistically insignificant (β = −0.08; $p < 0.01$). Hence, hypothesis H_6 is rejected. As hypotheses H_2 and H_6 are rejected, the IS factor is eliminated from the final model. Further analysis is conducted by considering BCs and BFs as a mediator between PBFs and SCR.

4.5. Mediation Analysis

The main objective of the mediating analysis is to examine whether a change in a mediating variable can mediate the effect of the independent variable on the dependent variable (Hair et al. 2010). The study has examined the mediating effect of BCs and BFs direct, indirect, and total effects using Barron and Kenny's mediation analysis in AMOS 23. The mediating model has tested statistically significant, meeting all the thresholds (Table 9 and Figure 4).

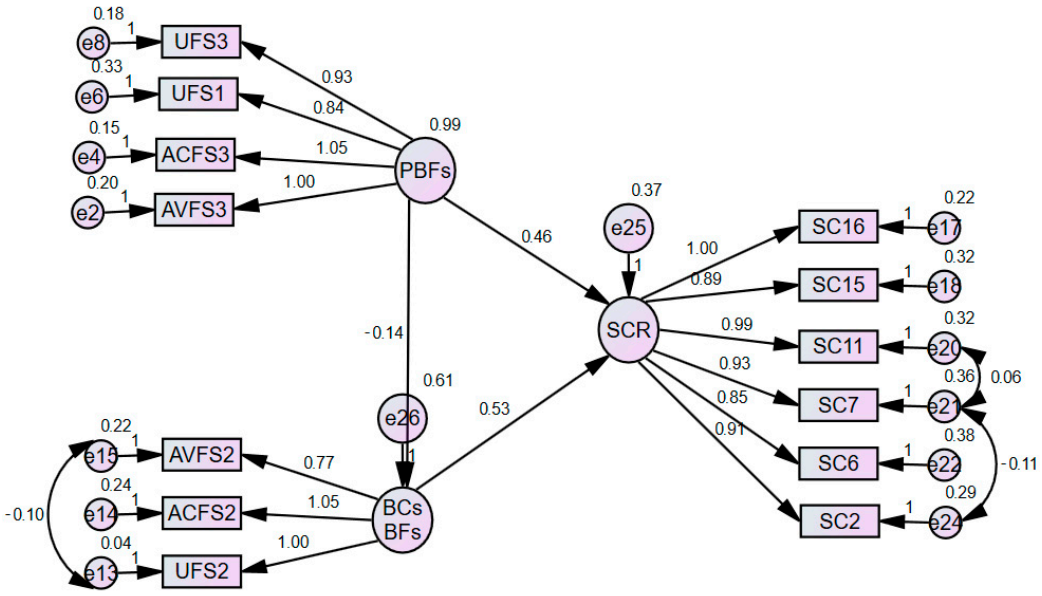

Figure 4. Mediating Analysis.

Table 9. Test of Mediating Analysis: goodness-of-fit indices.

Measure	Estimate	Threshold	Interpretation
CMIN/DF	2.647	Between 1 and 3	Excellent
CFI	0.975	>0.95	Excellent
SRMR	0.057	<0.08	Excellent
RMSEA	0.062	<0.06	Acceptable
PCLOSE	0.015	>0.05	Acceptable

Source: Author's Compilation.

Barron and Kenny's Mediation Model

Table 10 indicates that PBFs significantly influence BCs and BFs ($\beta = -0.151$; $p < 0.01$) and SCR ($\beta = -0.378$; $p < 0.01$). However, the relationship between PBFs and BCs and BFs is inverse as they complement each other in the branchless rural areas. The BCs and BFs also influence the SCR of SHGs in the rural areas of Maharashtra significantly ($\beta = 0.361$; $p < 0.01$).

Table 10. Individual Independent Variable and Dependent Variable.

Path			Estimate (β)	p Values $\leq$ 0.01
SCR	←	PBF	0.378	***
BC and BF	←	PBF	−0.151	***
SCR	←	BC and BF	0.361	***

*** $p < 0.01$. Source: Author's Compilation.

As compared to the initial model, the effect of PBFs on SCR has improved significantly ($\beta = -0.55$; $p < 0.01$) by considering BCs and BFs as a mediating variable between PBF and SCR (Table 11 and Figure 4). Similarly, the effect of BCs and BFs on SCR has also improved significantly ($\beta = 0.51$; $p < 0.01$). Hence, BCs and BFs are a partial mediating variable.

Table 11. Individual Independent Variable and Dependent Variable.

Path			Estimate (β)	p Values $\leq$ 0.01
SCR	←	PBF	0.55	***
BC and BF	←	PBF	−0.18	***
SCR	←	BC and BF	0.51	***

*** $p < 0.01$. Source: Author's Compilation.

5. Discussion

Financial inclusion serves as a secure and accessible platform for rural households to engage in saving, depositing, and investing their surplus funds. Additionally, it offers remittance services, facilitates access to credit, and provides a range of financial services tailored to the needs of vulnerable segments of society (Demirgüç-Kunt and Klapper 2012; Adedokun and Ağa 2021). Consequently, financial inclusion assumes a pivotal role in empowering poor groups, with particular relevance to rural populations in developing nations such as India.

The primary objective of this study was to identify factors that contribute to the advancement of financial inclusion in rural areas and to assess its impact on the social well-being of rural households. Three key factors were identified as significant drivers of financial inclusion in rural areas: (1) the presence of physical banking services, including ATMs and brick-and-mortar banking branches; (2) the availability and accessibility of insurance services; and (3) the utilization of BCs and BFs. These findings complement earlier research, which also explored various outreach channels for financial services (Handoo 2010; Gupta and Singh 2013; Iqbal and Sami 2017).

Regarding the first key factor, the study observed that the availability and accessibility of ATMs and physical banking branches positively influence usage, thereby contributing to

greater financial inclusion in rural areas. The second key factor, insurance services, was found to enhance financial inclusion when made readily available and accessible, resulting in increased service utilization among rural populations. The third key factor, involving BCs and BFs, plays a crucial role in expanding financial inclusion in branchless regions, particularly when their timely availability and accessibility are ensured.

In addition to identifying the factors fostering financial inclusion in rural areas, the study also examined its effects on the social conditions of rural households. Notably, financial inclusion exhibited a significant positive impact on various aspects of social well-being. It led to improvements in nutritional status and access to healthcare facilities. Moreover, financial inclusion facilitated enhanced access to basic sanitation facilities and personal care services. Additionally, it was found to facilitate more efficient handling of financial matters, particularly during family and cultural functions, thereby contributing to a heightened sense of social security among respondents. These findings align with earlier studies, which have also underscored the positive influence of financial inclusion on rural social welfare (Rupa and Uma 2015; Survase and Inumula 2019).

The identified factors were confirmed through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Subsequently, the SEM was employed to examine the relationships among these factors. The results of the SEM indicated an insignificant relationship between BCs and BFs and insurance services, suggesting that BCs and BFs have not adequately provided insurance policies in rural areas. Moreover, the SEM also revealed an insignificant relationship between insurance services and the social conditions of rural households, indicating that insurance services did not have a significant impact on the social well-being of rural households. A significant relationship was found between PBF and the SCR, which became more significant when BCs and BFs served as mediating variables, suggesting a partially mediating role of BCs and BFs. The study further demonstrated an inverse relationship between PBF and BCs and BFs, suggesting that BCs and BFs are more prevalent in branchless areas where bank branches and ATMs are less accessible. This highlights the crucial role of BCs and BFs in providing financial services in rural areas without traditional banking infrastructure. These findings align with the earlier study that the BCs and BFs play a crucial role in improving the social conditions of rural households (Sharma and Kukreja 2023).

Additionally, a significant relationship was observed between PBF and IS, indicating that physical banking facilities serve as an effective platform for enhancing insurance services in rural areas. However, the study found an insignificant relationship between BCs and BFs and IS, indicating a lack of provision of insurance services by BCs and BFs to rural households in Maharashtra. In addition, the study revealed an insignificant relationship between IS and the SCR in rural Maharashtra. This indicates the unsuitability and lack of financial literacy of insurance services in rural areas.

Overall, the study revealed that PBF played a vital role in improving the social conditions of rural SHGs in Maharashtra. Furthermore, the social conditions of rural households improved significantly when BCs and BFs acted as mediators between PBF and SC. The relationship between BCs and BFs and SC was found to be significant, suggesting that BCs and BFs contributed to improving the social conditions of rural households, especially in the absence of physical banking services.

The present study demonstrated a significant impact of financial inclusion on the social conditions of rural households. BCs and BFs, along with physical banking services such as bank branches and ATMs, emerged as the main drivers of financial inclusion in rural areas. However, no significant association was found between insurance services and the social conditions of rural households. Likewise, the relationship between BCs and BFs and insurance services was also found to be insignificant.

6. Conclusions and Policy Implications

The results of the study reveal that BCs and BFs have a significant role in providing financial services in branchless areas. The timely availability and accessibility to BCs and

BFs are imperative to enhance financial inclusion. Frequent visits by the BCs and BFs to their assigned rural areas would lead to improved availability and accessibility. They should be assigned incentive-based monthly targets such as opening bank accounts and loan disbursement. In addition, BCs and BFs should have frequent interaction with rural households to raise awareness of new government schemes and services. The availability of financial services in remote areas can be achieved through the selection of BCs and BFs from the same village. Adequate and necessary training should be provided to BCs and BFs.

The primary reason for financial exclusion among rural households is a lack of awareness of various banking and financial services. Financial inclusion can be achieved through financial literacy programs that aim to educate rural households on the use of various banking and financial services such as ATMs, mobile banking, and E-wallets. The banks should appoint financial advisors to educate and assist rural households in financial investment decisions.

The present study did not find a significant relationship between insurance services and the social development of rural households. The BCs and BFs did not enhance the insurance services in these places. Hence, there is a need to increase awareness among rural households about the benefits of various government and insurance services/schemes such as Prime Minister Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana, and Sukanya Samriddhi Yojana through BCs and BFs and financial literary programs (Ahmed 2013; Waikar and Karmarkar 2017). The awareness regarding insurance services can be improved through financial literacy programs that include putting hoarding in a visible place, painting at the most common place of a visit, and conducting street act play. A local influential individual can also assist in changing the mindset of the rural household towards the use of insurance services.

The study provides policy implications that can assist in improving access to banking and financial services in rural areas. The government policies should aim at providing adequate training to BCs and BFs and increasing the timely availability and accessibility of BCs and BFs to rural households. The government can overcome the limitation of inadequate financial infrastructure in rural areas in the short term, through increased access to BCs and BF. The policies should aim to educate rural households on financial services, insurance policies, and the use of digital technology such as ATMs and E-wallets (Asif et al. 2023). The government should frame policies that aim to provide need-based financial products and improve access to banking services. The policies aimed at building banking services in rural areas would contribute to improved social conditions in rural households.

The study was conducted in the rural areas of Maharashtra, India. Hence, other areas such as semi-urban and urban are not explored in the study. The research is based on the SHGs that are financially inclusive; non-SHG members are not considered in this research. The study has explored the impact of financial inclusion on the social conditions of SHG households. The association between demographic factors viz. caste, education, culture, social condition, and financial inclusion is not considered in the study.

The present study can be extended to assess the impact of financial inclusion not only on social conditions but also on the economic and psychological conditions of rural households. The present study can be extended to other states of India and state-specific factors can be identified that lead to an improvement in social conditions through FI. This study can also be extended to other developing countries to ensure the accuracy and reliability of the present study.

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Appendix A

AVFS1—The Bank branch is available at your place
AVFS2—BC and BF are available at your place
AVFS3—Automated Teller Services (ATMs) is available
AVFS4—Mobile Banking is available
AVFS5—Internet Banking is available
AVFS6—Cheque Book facility is available
AVFS7—Loan facility is available
AVFS8—Insurance schemes are available
AVFS9—Overdraft facility is available
AVFS10—Deposit/Withdrawing cash facility is available
AVFS11—Mortgage facility is available
AVFS12—A financial adviser is available
AVFS13—NRLM schemes are available
ACFS1—The Bank branch is easily approachable
ACFS2—BC/BF are easily approachable
ACFS3—Automated Teller Services (ATMs) are easily accessible
ACFS4—You have easy access to Mobile Banking
ACFS5—You have easy access to Internet Banking
ACFS6—Cheque Book is easily available to you
ACFS7—Loan facility is easily accessible to you
ACFS8—Insurance facilities are easily accessible to you
ACFS9—The overdraft facility is easily available to you
ACFS10—Deposit/Withdrawing cash facility is easily available to you
ACFS11—You have easy access to mortgage facility
ACFS12—You have easy access to a financial adviser
ACFS13—NRLM schemes are easily accessible to you
UFS1—Availed financial services through the Bank branch
UFS2—Availed financial services through BC/BF
UFS3—Use of Automated Teller Services (ATMs) is frequent
UFS4—Use of Mobile Banking is frequent
UFS5—Use of Internet Banking is frequent
UFS6—Use of Cheque Book is frequent
USF7—Availed loan facility through bank/BC/BF
USF8—Availed insurance facilities through bank/BC/BF
UFS9—Availed overdraft facility of Bank
UFS10—Deposit/Withdrawing of cash is frequent through bank/BC/BF
UFS11—Availed mortgage facility through bank/BC/BF
UFS12—Availed financial advice facility through bank/BC/BF
UFS13—Availed NRLM schemes frequently
SC1—Helped Education Expenditure
SC2—Helped for Health Access
SC3—Improved confidence level
SC4—Improved Skills and Empowerment
SC5—Helped in Risk Management
SC6—Improved Nutritional status
SC7—Access to basic sanitation facilities (i.e., lavatory)
SC8—Access to purified/ potable drinking water
SC9—Enhanced access to electricity
SC10—Helped in getting insurance (general, life, and medical)

SC11—Personal care access (i.e., oral, hair, body care)
SC12—Entertainment (i.e., movies)
SC13—Improved consumption of luxurious goods and services
SC14—Improved traveling and tourism status
SC15—Helped in Family and Cultural Function
SC16—Improved Social Security (i.e., feeling of security in the society)
SC17—Improved Overall Social Status

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