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SOCIO-ECONOMIC BASED DIFFERENTIATION IN FINANCIAL LITERACY AND ITS ASSOCIATION WITH FINANCIAL INCLUSION IN UNDERDEVELOPED REGIONS: A CASE STUDY IN INDIA

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Abstract: *In the recent developments, financial inclusion is considered as a one of the key determinant and largely important for the development of rural communities of regions which are not only have deficiency of resources but also relevant for the communities which are facing socio-economic deprivation. On the other side, financial literacy is also considered as a one of the major aspect which determines the standing and degree of financial inclusion. Financial literacy reflects the capability and potential of an individual to understand finance and to take effective decisions regarding the use and management of individual or households finance. The present study is an attempt to determine the differentiation in the level of financial literacy on the basis of socio-economic variables. Further, this study has also focused to understand the level of impact of financial literacy on financial inclusion. For examining the financial inclusion, five criterions were demarcated; being a bank account holder, frequency of using bank account,User of mobile banking and insurance and institutional credit holders. Financial literacy was found high among males, higher income groups and among the younger population while it was low among Scheduled caste and older age individuals. Further,the study also found that financial literacy has strong association with financial inclusion and have positive impact on the financial inclusion.*

Keywords: *Financial inclusion, Financial Literacy, Hill Rural areas, Socio-Economic parameters*

JEL classification: *G50, G51, G52, G53, R19, R29*

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INTRODUCTION

Financial literacy is having skill, knowledge and understanding of the financial system for making effective, timely and adequate decisions by an individual a group or by households. Financial literacy thus refers to understanding finance and the

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ability to use it to make the sound financial decision. (Hogarth and Hilgert, 2002). The Organisation for Economic Co-Operation and Development (2013) stated that financial literacy is a combination of awareness,attitude, knowledge, skill and behavior which required to make better financial decisions and ultimately to attain individual financial well-being. Financial literacy plays a significant part in enhancing financial inclusion leading to the development of communities and regions. RamaKrishnan (2011)mentions that, financial literacy is considered as an important adjunct for encouraging financial inclusion, financial development and financial stability. According to Mahdzan and Tabiani (2013) stated in his work that with increasing financial literacy and capability of individual also increase to handle their financial resources and promotes better financial decision-making. Xu and Zia (2012) also cited that financial education has a significant impact on the financial behavior of individuals. Carpena et al. (2011) also said that financial education allows individuals to recognize financial costs and benefits of certain products. Thus, financial literacy is the one of an essential component to enhance financial inclusion in a comprehensive way.

Even after being an essential component for enhancing the economic and regional development through its positive impact on financial inclusion, various studies show that financial literacy has lagged behind and there is the paramount necessity to focus on its improvement. (Lusardi &Mitchell, 2011; Atkinson & Messy, 2012). One of the main reasons for high levels of financial illiteracy could be attributed to larger focus on supplyside factors for enhancing financial inclusion while ignoring the essential demand side factors. Financial literacy is one of such factors and further the impact of financial illiteracy is detrimental and has negative impact on financial inclusion and restricts its benefits to the community. Lusardi, A. and Tufano, P (2009) in their study stated that individuals with low level of financial literacy are faces more problem with financial behavior with debt. People with poor financial literacy are more likely to borrow financial resources at high interest (Lusardi &Tufano, 2009; Stango & Zinman, 2009). On the basis of above discussion, it is felt that financial literacy mostly impacting the poor communities. With this, the study is to understand the impact of financial literacy on financial inclusion but it is more important to also identify the more vulnerable-major target groups of population for enhancing financial literacy among them.

LITERATURE REVIEW

The Level of Financial literacy differs as per variations in socio-economic and demographic variables. Potrich, Grigion (2015) and Heenkenda (2014)in their study found that there is a significant association of financial literacy with socioeconomic and demographic variables. OCED (2013) observed that performance of an average women in the tests of financial knowledge and financial skills is less than men. (Worthington, A.C., 2006) also observed that financial literacy is lowest among unemployed persons, non-english speaking background, females, and possess low level of education. Ansong and Gyens are (2012) in a study conducted in Ghana concluded that age is positively related to financial literacy. Taft et al (2013) in their study found that age and education have positive relationship with financial literacy and married men are more familiar with finance. Agarwal, et al (2009) also confirmed that financial literacy is generally higher among adults but lower among young and elderly individuals. (Xu. L& Zia, 2012) shows that financial literacy has aninverted-U shape association with age. (Worthington, A.C., 2006) in his study found that financial literacy is highest among persons aged between 50 to 60 years in all professionals like farm owners and business people. Monticone (2010) and Atkinson and Messy (2012) found that the persons belong to low income levels have low financial literacy levels. kumar et al. (2013) in his study on financial literacy among Jasmine farmer in Tamilnadu revealed that the farmers with higher income and higher educational status have higher financial literacy.

Ananth andÖncü (2013) in a study conducted in Andra Pradesh observes that there are challenges in regulating consumer finance at the bottom of the pyramid in a vast country like India where basic financial literacy is non-existent in rural areas. Financial literacy leads to a positive impact on the level of financial inclusion. Shabna (2014) revealed in the study that lack of awareness, low financial literacy and cost of transaction are the important barriers to financial inclusion. Rama krishna (2011)found in his study that financial products have direct relation with the financial literacy.

RESEARCH METHODOLOGY

1. Sample

Uttarakhand comprises of 10 hill districts while other three are designated as plain area districts. The present study was limited to the hill rural areas of Uttarakhand state for which a sample of three hill districts of the state was selected. The sample districts for the study were Pauri Garhwal, Tehri Garhwal and Chamoli district, comprising of about 85 percent of a rural area. Pauri Garhwal is one of the largest districts among all three and comprises of 15 development blocks while Chamoli has 9 development blocks and Rudraprayag has 3 blocks. The sample size from each development block was based on the population size of the district. Stratified and judgment sampling methods were utilized for selecting the sample from the thirteen development blocks. A total of seven development blocks from the Pauri district, 4 blocks from the Chamoli district and 2 blocks from the Rudrapraygdistricts were randomly selected for the study. From these selected development blocks a total of 78 villages and 780 rural households were selected from the population so that all the various groups (based on income status, religion, caste,etc) of the targeted population are covered in the study. From 780 households a total of 2073 individual of the age group of 15 years and above age were studied.

2. Material and Methods

For the present study, financial literacy was measured in terms of 10 parameters at three-point scale. The ten parameters were awareness about (1) Jan Dhan Yojana, (2) Awareness towards the process of using debit card, (3) awareness for the use of KCC card, (4) credit card, (5) Rupay debit card, (6) about overdraft facility, awareness towards (7) use of internet banking, (8) mobile banking and about (9) life insurance and (10) health insurance. The parameters were tested on three-point scale (i) fully aware, (ii) somewhat aware and (iii) not aware. A score of zero '0' for no awareness, one '1' for somewhat aware and two '2' for fully aware was given to each participant as per their response regarding each demarcated criterion for measuring financial literacy. As the population was not normally distributed so non-parametric tests were utilized for an analysis.

3. Results and Discussions

The demographic profile of the households indicates the inclusion of the households representing different socio-economic categories of the population.

Table 1: Demographic profile of the hill rural households.

Demographic profile	Variable	Frequency (Households)	Percent	Frequency (Individuals)	Percent
Caste	Gen	479	61.4	1241	59.9
	OBC	17	2.2	46	2.2
	SC	252	32.3	710	34.2
	ST	32	4.1	76	3.7
Gender	Male	--	--	998	48.1
	Female	--	--	1075	51.9
Income Status	Antodaya	20	2.6	44	2.1
	BPL	407	52.2	1158	55.9
	APL	353	45.3	871	42.0
Age Groups	15-24	--	--	390	18.8
	25-34	--	--	383	18.5
	35-44	--	--	363	17.5
	45-54	--	--	399	19.2
	55 and above	--	--	538	26.0

Source: ICSSR-IMPRESS-R.P., Primary Survey 2019-20

Association level of financial literacy with socio-economic variables

The variation in levels of financial literacy as per four different socio-economic parameters was studied. The results of which are as follows:

Income Status and financial literacy

The study examined the association between income status and financial literacy in the hill rural regions of Uttarakhand state. The result of the study shows that distribution of financial literacy is not same across different income categories households. The study further showed that the mean rank of financial literacy is higher among the APL and BPL households than the households belonging to an Antodaya households. This indicates that the financial literacy level is relatively lower among the households who have lower income/economic status in these regions.

Gender and financial literacy:

The study further analyzed the difference in the financial literacy among the male and female population in these regions. The study shows that there is an association between financial literacy and Gender. The study further show that mean ranks are higher among the males than females in these hill rural regions of the state which indicates towards relatively higher financial literacy levels among the male population than the female counterparts.

Table 2: Association between financial literacy and Gender

Test Statistics[a]	
	Financial Literacy
Mann-Whitney U	282631.000
Wilcoxon W	860981.000
Z	-18.700
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Gender	

Caste status and financial literacy

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Financial_Literacy is the same across categories of Caste.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The study examined the difference in financial literacy among the different caste groups in these regions. The difference in the financial literacy among these caste groups is tested through Kruskal-Wallis test, the results of which are as follows:

The result of the study shows that the mean rank of literacy is higher among the General caste category and ST category households while it is relatively lower among OBC and SC category households. This indicates the lower financial literacy among the SC and OBC category households in comparison to that of General and ST caste groups.

Age and financial literacy

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Financial_Literacy is the same across categories of Age_group_2.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The relationship between age groups and financial literacy is tested through the Kruskal-Wallis test, the results of which are as follows:

The test result shows that the mean rank of financial literacy is lower among the two extreme age categories, i.e. of 15 years to 24 years and also in case of the age group of 55 years and above. The financial literacy is relatively higher in case of individuals belonging to the age group between these two extreme age groups while it is relatively lower among the population falling between these age groups, i.e. above 24 years to 55 years.

Differentiation in financial inclusion on the basis of Level of Financial Literacy:

The present section examines the association of various indicators of financial inclusion with financial literacy status of an individual in these hill rural regions of Uttarakhand state. This study also gives an indication of the impact of financial literacy on financial inclusion among different socio-economic groups. The results of the study are as follow:

Financial literacy Status and bank account holders

The following table examines the association of education status and ownership of the bank account among the hill rural regions of Uttarakahnd. The results of the study are as follows:

Table 3: Mean Rank between Financial literacy and Bank account

Mean Ranks				
	Bank account	N	Mean Rank	Sum of Ranks
Financial Literacy	NO	99	618.17	61199.00
	Yes	1974	1058.01	2088502.00
	Total	2073		

Table 4: Association between Financial literacy and Bank account

Test Statistics[a]	
	Financial Literacy
Mann-Whitney U	56249.000
Wilcoxon W	61199.000
Z	-7.158
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Bank account	

A comparison of the mean of the distribution of variable financial literacy was desired for bank account categories 'Yes' and 'No'. Yes-signifies holding of the bank account and No-indicates not having bank account. Due to the non-normality of the data a Mann Whitney test was carried out. Having a bank account (N= 1974) has a larger mean rank (1058.01) than not having the bank account category (N= 99) with the mean rank (618.17) and thus tends to take larger values (see table 3). A statistically significant difference was found significant (U= 56249.00, $p < .005$) (see table 4). Thus the results of the tests indicate that individuals in hill rural regions having the bank account have higher levels of financial literacy than the individuals not having bank account.

Financial literacy Status and frequency of using bank account

The study further examined the association between the financial literacy of individuals and the frequency with which they use their bank account. The test result shows that the difference between the financial literacy across the individuals using bank account at different frequency level is significant. The modal summary shows that the mean rank of financial literacy is higher in case of individuals which have the higher frequency rate of using bank account. This suggests that higher usage of the bank account is associated with higher financial literacy levels.

Financial literacy Status and Mobile banking users

To test the association between financial literacy of an individual and number of mobile banking users,Mann Whitney test was utilized, the results of which are as follows:

Table 5: Rank mean between Financial Literacy and Mobile Banking

Ranks			
	Mobile Banking	N	Mean Rank
Financial Literacy	NO	1872	965.03
	Yes	201	1707.27
	Total	2073	

Table 6: Association between Financial Literacy and Mobile Banking

Test Statistics[a]	
	Financial Literacy
Mann-Whitney U	53412.000
Wilcoxon W	1806540.000
Z	-16.762
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Mobile Banking	

The test result shows that there is significant difference in financial literacy of mobile banking users and non-users of mobile banking in these regions of the state which indicates that financial literacy and usage of mobile banking are associated. The modal summary further indicates that the mean rank of financial literacy is higher among the users of mobile banking than among the non-users of mobile banking. This indicates that higher financial literacy leads to more mobile banking users in these regions.

Financial literacy Statusand Insurance holders

The study utilized Mann Whitney test to examine the association between the financial literacy of individuals having or not having insurance. The results of the test are as follows:

Table 6: Rank mean between Financial Literacy and Insurance

Ranks			
	Insurance	N	Mean Rank
Financial Literacy	NO	1813	955.18
	Yes	260	1607.52
	Total	2073	

Table 7: Rank mean between Financial Literacy and Insurance

Test Statistics[a]	
	Financial Literacy
Mann-Whitney U	87355.000
Wilcoxon W	1731746.000
Z	-16.489
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Insurance	

The test results show that there is a significant difference in the financial literacy of individuals having insurance and those not having insurance. The modal summary further shows that the mean rank of financial literacy is higher among the insurance holders which indicates that the higher financial literacy leads to availing of insurance facility in these regions (see table 7). The results thus indicate towards the significance of financial literacy in enhancing the level of financial inclusion in these hill rural regions of the state.

Financial literacy Status and Credit usage (Institutional)

The study analyzed the association between financial literacy of individuals and institutional credit beneficiaries in these regions of the state. The results of the Mann-Whitney test are as follows:

Table 8: Rank mean between Financial literacy and Received loan

Ranks			
	Received loan	N	Mean Rank
Financial Literacy	Yes	126	1382.77
	No	1947	1014.62
	Total	2073	

Table 9: Rank mean between Financial literacy and Received loan

Test Statistics[a]	
	Financial Literacy
Mann-Whitney U	79094.500
Wilcoxon W	1975472.500
Z	-6.713
Asymp. Sig. (2-tailed)	.000
a. Grouping Variable: Received_loan	

The difference between the mean ranks suggests that financial literacy levels are relatively higher among the individuals who have availed the institutional credit facility. The test further shows that this difference in rank is significant.

(U= 79094.500, $p < .005$) (see table 9). Thus the results of the tests indicate that individuals in hill rural regions of the state having availed credit facility have higher financial literacy than the individuals who have not availed the credit facility from institutional sources of finance.

CONCLUSION

Financial literacy plays an important role in enhancing the level of financial inclusion in these regions. The examination of association of financial literacy with indicators of financial inclusion reveals that individuals with higher levels of financial literacy are more likely to have the bank account, higher users of mobile banking, have relatively larger number of insurance holders, have more number of credit beneficiaries who have availed credit from institutional sources. Keeping this aspect in consideration, the focus of government policies should be towards targeting the vulnerable section of population (as identified in case of having low financial inclusion) and secondly prioritizing the enhancement of financial literacy in these regions of the state. The priority target group for enhancing financial literacy includes the women population, Antodaya and BPL families, OBC and SC caste individuals and younger and older age group individuals. Government should take the support of banking institutions, NGO's, Business correspondents and Village representatives to target such groups. The bank thus should aim to enhance the financial literacy among all the villagers so that the demand side aspect of the usage of banking services is made functional and effective, leading to enhance financial inclusion.

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