



Role of Education on Financial Literacy of Rural India

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Abstract

One of the significant competencies required in contemporary scenario is an awareness or knowledge on varied financial affairs and the dexterity to handle the matters apropos of (digital) finance. Dearth of financial literacy precludes rural people from the formal financial situations of the country. An effective incorporation of financial literacy in formal education will lead to greater access to financial services. This paper tries to examine the differences in financial literacy among rural households based on the level of their education. A comprehensive approach for measuring financial literacy is developed by constructing the Financial Literacy Index (FLI) which comprises the indicators namely financial knowledge, financial behaviour and financial attitude. The study is based on the primary data with five hundred samples collected from the rural areas of Aligarh district. The results conclude that there exists a positively correlated relationship between the level of education and financial literacy. The results expose the need for a persistent and prolonged



intervention from all the stakeholders, including policymakers, to enhance and sustain the level of financial literacy to accomplish a bright financial decision making by the rural people.

Keywords: Financial Literacy Index, Financial Knowledge, Financial Behaviour, Financial Attitude.

1. Introduction

Financial literacy has gained great relevance in the recent educational policy due to their vitality in everyday life of the 21st century. One of the major abilities required in the present scenario is to have basic knowledge related to financial literacy and basic competencies to handle the problems and improvements related to finance and digital finance. Lack of knowledge is debarring rural people from the formal financial situations of the country. “Financial literacy refers to the knowledge and understanding of concepts and risks related to financial matters and the skills, and the level of confidence to put in such knowledge and understanding in order to make effective financial decisions across a range, to enhance the financial well-being of individuals and community, and to enable participation in economic life (OECD, 2019)”. “It is the ability to learn, monitor, and effectively use financial resources to improve the well-being and economic security of an individual. Financial literacy is a mixture of awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and ultimately attain individual financial well-being (Atkinson & Messy, 2012a)(OECD/INFE, 2016)”. “This definition is now globally acknowledged and was also endorsed by G20 leaders in 2012, (OECD, 2018)”.

This paper tries to assess education-wise financial literacy among rural households of Aligarh district. A comprehensive approach for measuring financial literacy is developed by constructing the Financial Literacy Index (FLI) comprising the indicators like financial knowledge, financial behaviour and financial attitude. The study is based on the primary data having five hundred samples collected from the rural areas of Aligarh district. The null hypothesis established here is there is no significant difference in financial literacy among respondents categorised into various groups based on their level of education.

2. Literature Review

An effective combination of education and financial literacy will lead to successful access to financial services is revealed through many studies. Studies suggest that individuals with a higher education level have a greater knowledge of financial services and products. Incorporating such indication, Lusardi & Mitchell (2011b) reported that "individuals with a low level of education have less chance to answer the questions correctly regarding financial literacy and more likely to say they do not know the answer, especially women". "The educational qualification and discipline of study are directly related to one's financial literacy level. Students from business/economics and finance honours were found more financially literate as compared to others" (Ibrahim et al., 2009). The cash inflows and outflows are found to be more effectively handled by college students with technical education. “The financial literacy level of the male is higher than that of the female; the level of financial literacy increases with the increase in educational qualification” (Bhushan & Medury, 2013). “There exists an association between the educational qualification and financial



literacy, i.e., Respondents having higher educational qualification, tend to have higher financial literacy” (Agarwalla et al., 2013).

Prasad & Meghwal (2017) found that “the education level is an important determinant for awareness about the digital platform and its use”. The study suggests that banks and other institutions should have a core focus on awareness programmes, campaigns and user friendly (even to illiterate persons) applications for the financial literacy of the school educated respondents is very low. Chen & Volpe (1998) “while evaluating students' knowledge on personal finance, it is found that students, in spite of their educational level, had an insufficient level of information, particularly about investments”. Johnson and Nino- Zarazua (2011) “studied the direct effects of education on the usage of financial services and products in Kenya”. This is in accordance with the outcomes of (Cole, Sampson, & Zia, 2011) that “an education program intended at educating financially illiterate individuals stimulates the demand for financial services”.

On the other hand, “it is ambiguous whether the level of education and the level of financial literacy decide access to financial products and services” (Xu & Bilal, 2012). Wachira & Kihui, (2012) reported that “education to be a weak factor in determining the use of financial services in Kenya”. Cole, Sampson, & Zia (2011) examined “a lack of effect of financial literacy programs on the likelihood of using bank accounts”. Amadeu, (2009) identified that "more connections throughout undergraduate or specialized courses, with subjects like finance and economics, indeed and directly affect the regular financial decision". Students who opted subjects like 'Economics', 'Administration', and 'Accounting' as their mains have high financial literacy than their counterparts in other subjects.

3. Sources of Data and Methodology

Focusing on the educational wise differences in the financial literacy of rural people of Aligarh district, this study measures the levels of financial literacy in terms of financial literacy index comprising financial knowledge, behaviour and attitudes. For this study, primary data were gathered for the purpose of analyzing digital and financial literacy among rural households in Aligarh district. The primary data were collected through survey schedules, telephone interviews of experts and other participatory approaches among various stakeholders. Before finalizing the interview schedule, a pre-testing was conducted. The tool was developed after several rounds of interaction with a few informants, banking officials and other experts. Before administering the interview schedule to the sample population, a pre-test was done and checked the reliability. The targeted population of this study is rural people of Aligarh district of Uttar Pradesh, which included all men and women aged 15 years or above.

A comprehensive approach to measuring financial literacy will be employed by comprising financial knowledge, behaviour, and attitude for this study, which is used by OECD (2011). The overall financial literacy score is measured through a sum of the three components of financial literacy divided by three. A well-structured questionnaire has been designed to capture information about financial behaviour, attitudes, and knowledge to assess levels of basic financial literacy. The overall financial literacy index is measured by taking the three components of financial literacy. After defining the minimum and maximum values, the dimension-specific indices are calculated as follows:



$$\text{Dimension Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

After calculating the indices for the three dimensions, namely Financial Knowledge Index (FKI), Financial Behaviour Index (FBI) and Financial Attitude Index (FAI), the scores are aggregated into a composite index using the arithmetic mean, which is the average of the three dimensions indices.

$$\text{Financial Literacy Index (FLI)} = \frac{\text{FKI} + \text{FBI} + \text{FAI}}{3}$$

In tune with research objectives, the samples were drawn from the rural households of Aligarh district. A multi-stage sampling technique has been used for choosing the respondents for the study. An appropriate sampling method was followed at each stage to select respondents from rural areas. The district has been divided into five administrative tehsils, namely, Atrauli, Gabhana, Khair, Koil and Iglas. For the study all the five tehsils were selected at the first stage. These five tehsils are further subdivided into 12 development blocks. At the second stage two blocks were selected from each tehsil based on the general literacy rate as per Census 2011 (One highest literate block and one lowest literate block). Thus, a total of 10 blocks out of 12 was selected. In the third stage, two villages were selected from each selected development block of Aligarh district based on general literacy rate as per Census 2011 (One highest literate village and one lowest literate village). Thus, the total of 20 villages was selected accordingly. From each selected village, 25 respondents were chosen through a convenience sampling technique in the final stage. Thus, for this study, a total of 1000 samples were taken accordingly.

4. Findings of the Study

4.1 Level Education and Financial Knowledge

The knowledge of financial concepts, the ability to apply numeracy skills in financial matters, people's ability to act and manage the financial crisis, and their reaction to news and events etc. may have the highest implications for the financial well-being of poor rural households. The core questionnaire contains sufficient questions to test financial knowledge. It provides a good overview of a person's basic knowledge, their general willingness to absorb financial information, and the ability to apply that knowledge to particular problems. The financial knowledge focused on responses to ten questions framed to test different aspects of knowledge that are widely considered and accepted to be useful to individuals when making financial decisions. The knowledge score is estimated as the number of correct responses to the ten financial knowledge questions, and it ranges between 0 and 10. Thus, awareness of digital technologies is the key to the success of digital financial inclusion. The Financial Knowledge Index (FKI) has been calculated by using a minimum value of zero and a maximum value of 10 points. The normalized index value of the indicator ranges from zero to one where zero represents lack of financial knowledge, and 'one' shows full knowledge of the same. The tehsil wise financial knowledge index of respondents belonging to different levels of education is given in Table.1.



Table: 1 Education wise Financial Knowledge Index

Row Labels	Atrauli	Gabhana	Iglas	Khair	Koil	Total
Illiterate	0.31	0.34	0.17	0.38	0.46	0.33
LP	0.42	0.47	0.4	0.46	0.46	0.45
UP	0.49	0.46	0.48	0.52	0.48	0.49
HSS	0.5	0.41	0.44	0.43	0.37	0.43
Graduate	0.63	0.62	0.66	0.75	-	0.67
Above Graduate	-	-	0.8	0.82	-	0.82
Grand Total	0.43	0.45	0.44	0.52	0.45	0.46

Source: Author's Calculation from Field Survey

As expected, the survey results also show that the financial knowledge index is found to be higher among the educated people in all the tehsils than illiterate or less educated respondents. The patterns of financial knowledge index in almost all tehsils are the same, and this index is increasing with increasing level of general education. The highest financial knowledge index of above graduate respondent is found in Khair tehsil with .82 points which represents a good financial knowledge followed by Iglas with .80 points. The lowest level of financial knowledge index is found in Iglas Tehsil, which belongs to the illiterate.

4.2 Level of Education and Financial Behaviour

How a person behaves will have a significant impact on their financial well-being. It is, therefore, essential to capture evidence of behaviour within a financial literacy measure. It focuses on a wide range of financial behaviours with an emphasis on those that can enhance or reduce financial well-being. The OECD INFE (2016) core questionnaire does this by asking a variety of questions in different styles to find out about behaviours such as thinking before making a purchase, paying bills on time and budgeting, saving, and borrowing to make ends meet. The positive results from being financially literate are driven by behaviour such as planning expenses and strengthening a financial safety net; conversely, certain practices, such as over-using credit, can reduce financial well-being. The financial behaviour comprises nine questions, which elicit information about how the respondents manage their money, make financial decisions, keep a tab on their expenses, and timeliness in terms of paying bills, etc. They also included questions on whether people set any long-term goals, have a household budget, and are personally or jointly responsible for it, the way they choose their financial products, and if they have borrowed anything to make ends meet. In order to understand the overall status of the respondents with regard to financial behaviour, a combined score of nine questions was calculated. The Financial Behaviour Index (FBI) was calculated using a minimum value of zero and a maximum value of nine points. The normalized index value of the indicator ranges from zero to one where zero represents a lack of positive financial behaviour and one shows positive financial behaviour. The tehsil wise financial behaviour index of respondents belonging to different levels of education is given in Table.2.



Table: 2 Education wise Financial Behaviour Index

Labels	Atrauli	Gabhana	Iglas	Khair	Koil	Total
Illiterate	0.31	0.29	0.16	0.37	0.48	0.32
LP	0.54	0.58	0.43	0.52	0.5	0.52
UP	0.59	0.58	0.65	0.58	0.68	0.63
HSS	0.68	0.64	0.66	0.67	0.68	0.66
Graduate	0.81	0.77	0.76	0.8	-	0.78
Above Graduate	-	-	0.83	0.89	-	0.88
Grand Total	0.52	0.6	0.57	0.64	0.58	0.58

Source: Author's Calculation from Field Survey

Like financial knowledge index, the survey results also show a similar trend that the financial behaviour index is found to be higher among the higher educated people in all the tehsils than illiterate or less educated respondents. The financial behaviour index is found highest in Khair tehsil with 0.89 points, represents a good financial behaviour followed by Iglas with 0.83 scores, all these highest index values are found among the 'above graduate' respondent. The lowest value of financial behaviour index is reported from the illiterates of Iglas Tehsil followed by Gabhana. The overall financial behaviour index of illiterate respondents is only 0.32 as against 0.88 index value of higher educated respondents.

4.3 Level of Education and Financial Attitude

The financial attitude is measured from statements that focused on attitudes for the short term aims while living for the present and spending money for the future. The questions asked households to use a scale to indicate whether they agree or disagree with particular statements. The financial attitudes average score is computed as the sum of the values for the three statements and then divided by three. This score ranges from 1 to 5. The questionnaire adopted for the financial attitude scale is used in the OECD evaluation, which comprised of three attitude related questions with responses captured on a five-point Likert scale. The average score could vary from a minimum of 1 to a maximum of 5. All the individual who scored three or above points were considered as positive financial attitude. The financial attitude indicators are first normalized using a minimum value and maximum value of the score and actual value achieved by the respondents. Financial Attitude Index (FAI) is calculated using a minimum value of one and a maximum value of 15 points. The normalized value of the indicator ranges from zero to one where zero represents the lack of or low financial attitude towards financial products and services, and one shows a perfect positive attitude. The tehsil wise financial attitude index of respondents belonging to different levels of education is given in Table.3.



Table: 3 Education-wise Financial Attitude Index

Labels	Atrauli	Gabhana	Iglas	Khair	Koil	Total
	FAI	FAI	FAI	FAI	FAI	FAI
Illiterate	0.32	0.37	0.31	0.39	0.36	0.34
LP	0.36	0.4	0.38	0.38	0.33	0.37
UP	0.37	0.48	0.41	0.39	0.43	0.41
HSS	0.48	0.46	0.43	0.49	0.41	0.46
Graduate	0.38	0.53	0.51	0.58		0.53
Above Graduate			0.89	0.61		0.66
Grand Total	0.38	0.45	0.41	0.46	0.38	0.42

Source: Author's Calculation from Field Survey

Like financial knowledge index and financial behaviour index, the survey results also show a similar trend that the financial attitude index is found to be higher among the higher educated people in all the tehsils than the illiterate or less educated respondents. The highest level of financial attitude index is found in Iglas tehsil with 0.89 points represents a good financial attitude, followed by Khair with 0.61 score. These results were found among the 'above graduate' respondent. The overall financial attitude index of illiterate respondents is only 0.34 as against 0.66 index value of "above graduate" respondents.

4.4 Level of Education and Financial Literacy Index (FLI)

The concept of financial literacy is considered to be a complex phenomenon comprising financial knowledge, attitudes, and behaviours of rural households. In order to assess the levels of overall financial literacy, a questionnaire has been developed to capture information about financial behavior, attitudes, and knowledge. The questions cover planning and managing finances, choosing and using financial products, financial knowledge, and a range of attitudes and behaviors that impact on financial literacy and financial well-being. The overall financial literacy score is measured through a sum of the three components of financial literacy. The score can take a minimum value of 1 and a maximum value of 24. After calculating the indices for the three dimensions, the scores are aggregated into a composite index using arithmetic mean, which is the average of the three dimensions indices. This is done by normalizing the indicators into indices whose values range from 0 to 1, using the minimum and maximum values. The overall FLI is then calculated by taking the arithmetic mean of normalized indices measuring achievements in each dimension.

Table: 4 Education wise Financial Literacy Index

Labels	Atrauli	Gabhana	Iglas	Khair	Koil	Total
Illiterate	0.31	0.33	0.21	0.38	0.43	0.33
LP	0.44	0.49	0.4	0.45	0.43	0.44
UP	0.48	0.51	0.51	0.49	0.53	0.51
HSS	0.55	0.5	0.51	0.53	0.49	0.52
Graduate	0.61	0.64	0.64	0.71		0.66
Above Graduate			0.84	0.77		0.79
Grand Total	0.44	0.5	0.47	0.54	0.47	0.49

Source: Author's Calculation from Field Survey



The survey schedule gives a detailed explanation of the highest education level achieved by the respondents. There is a positive relationship found between the level of education achieved and financial literacy index. It is found that the higher levels of education of individual lead to greater financial literacy levels and higher access to financial products and services. It is to be noted that some respondents, despite their low education level, had high achievement in financial literacy. This indicates that those who are not having formal education also have a better level of financial literacy. But their level of income is reported to be high. The financial literacy index value of illiterate people is only 0.33, followed by lower primary 0.44, the upper primary is 0.51, higher secondary school is 0.52, graduates having an index value of 0.66, and the highest is above graduate groups with 0.79. On further analysis of the data, it was found that the higher the educational attainment, the higher the level of financial literacy. The three indicators of financial literacy also show a similar trend, which can be perceived from given table 5. The educational attainment is measured to be a crucial demographic variable as it would influence the ability to make a financial decision. Association between the level of education of the respondents and their financial literacy was established through rejection of the null hypotheses, ($F= 88.480$, $P< 0.05$) proving that there exists a statistically significant difference among the various levels of education of respondent and financial literacy. The integrated education-wise financial knowledge, behavior, attitude and literacy indices are shown in radar chart (figure.1) and all these indices are biased in favour of above graduate and graduate categories of education groups.

Table: 5 Education-wise Financial Knowledge, Behavior, Attitude and Literacy Indices

Level of Education	FKI	FBI	FAI	FLI	F	Sig.
Illiterate	0.33	0.32	0.34	0.33	88.480	.000
LP	0.45	0.52	0.37	0.44		
UP	0.49	0.63	0.41	0.51		
HSS	0.43	0.66	0.46	0.52		
Graduate	0.67	0.78	0.53	0.66		
Above Graduate	0.82	0.88	0.66	0.79		
Total	0.46	0.58	0.42	0.49		

Source: Author's Calculation from Field Survey

The major proportions (50.8 per cent) of illiterate respondents are categorized under poor financial literacy, 46.2 per cent of lower primary on satisfactory financial literacy, upper primary higher secondary school, and graduates come under good financial literacy, and above graduates are in excellent financial literacy (Table. 6). Surprisingly, no respondents from illiterate, lower primary, upper primary and higher secondary schools are found in the excellent category of financial literacy. Thus, the level of education acts as a significant contributor to the rise of the level of financial literacy among the respondents.



Figure: 1 Education-wise Financial Knowledge, Behavior, Attitude and Literacy Indices

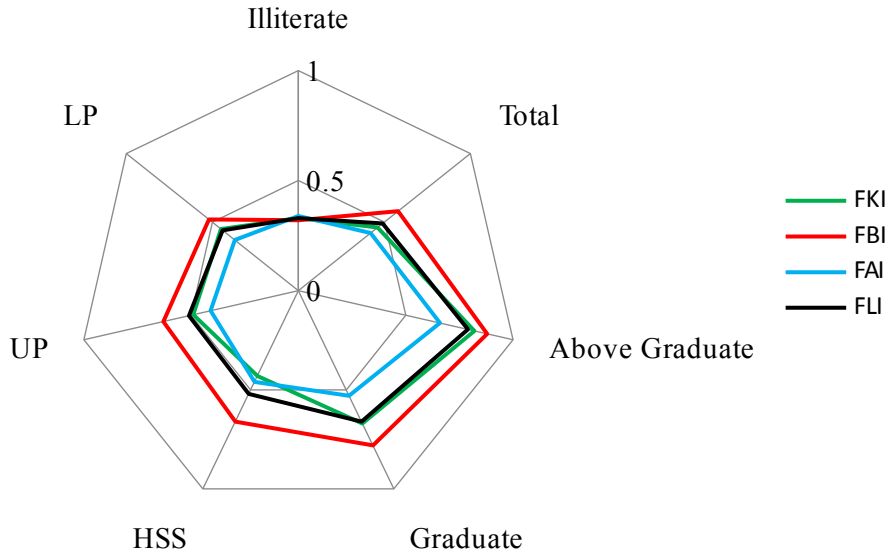


Table: 6 Education-wise Financial Literacy

Level of Education	Poor	Satisfactory	Good	Excellent	Total
Illiterate	50.8	36.9	12.3	0.0	100.0
LP	13.1	46.2	40.8	0.0	100.0
UP	0.0	39.5	60.5	0.0	100.0
HSS	1.4	45.2	53.4	0.0	100.0
Graduate	0.0	10.3	58.6	31.0	100.0
Above Graduate	0.0	0.0	9.1	90.9	100.0
Grand Total	10.4	40.0	45.8	3.8	100.0

Source: Author's Calculation from Field Survey

5. Conclusion

The overall average financial literacy score in the rural area of Aligarh district is found to be satisfactory. The major proportion of illiterate people belongs to the category of poor level of financial literacy. The major proportion of higher educated, i.e., above graduate people belong to the excellent financial literacy level. These results conclude a highly positive correlated relationship between the level of education and financial literacy. These results expose a need for persistent and prolonged intervention from all the stakeholders, including policymakers, to educate and improve basic financial literacy for bright financial decision making in rural areas. For proper sustenance of the people along with acquiring knowledge on how to evaluate products and services available in the financial market, there is a great need to give them adequate and timely knowledge to enlighten them. Financial knowledge is considered to be an essential prerequisite for survival, and lack of this knowledge may lead to harmful consequences to both individuals and communities.



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