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Understanding Rural Household Borrowing Behaviour in India: Insights from Socio-Economic Variables, Financial Literacy, and Psychological Traits

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# Understanding Rural Household Borrowing Behaviour in India: Insights from Socio-Economic Variables, Financial Literacy, and Psychological Traits

#### Abstract

Non-socioeconomic and demographic factors have received attention from many scholars to highlight their impact on borrowing behavior, financial behavior, and access to credit from financial institutions. In relation to borrowing behaviour, individual borrowers intend to access and avail of loans for actual consumption purposes or excessive consumption. Though the research in this area is growing, it is still an under-researched area, especially in developing economies like India. In this context, this research attempts to answer which are the significant determinants of the borrowing behaviour of Indian rural households among socio-economic variables, financial literacy, and personality traits. The first finding of the research highlights that the borrowing behaviour of rural people is significantly influenced by the higher educational qualification and size of the family, and other socioeconomic and demographic variables do not explain the variations in the probability of household borrowing behaviour. Secondly, among the behavioural constructs, only the saving behaviour of the year of the household predicts a lower probability of borrowing than financial literacy and personality traits.

Keywords: Borrowing behavour; Financial Literacy; Personality traits; Socio-economic variables; Savings; logit regression

#### Introduction

The schemes and programs of the Government of India and the Reserve Bank of India for MSMEs as well as individual households and disrupted financial innovative products and services enabled the needy to have easy access and avail of borrowings from banking and non-banking financial institutions. Further, the financial inclusion initiatives have gained positive momentum and brought many rural and neglected sections of society to access financial products and services along with availing credit facilities to the hitherto neglected Indian society and ensuring the Indians with socio-economic well-being.

Non-socioeconomic and demographic factors have received attention from many scholars to highlight their impact on borrowing behavior, financial behavior, and access to credit from financial institutions. The Government of India through the Reserve Bank of India formed guidelines and implemented various strategies to bring the poor into the mainstream of financial resources access through financial inclusion. The financial inclusion paid dividends and improved the saving and borrowing behaviour of households, especially women (Sarkar et al 2023). It is viewed that true financial inclusion is achieved when saving and borrowing habits happen through formal financial institutions (Agarwalla et al 2016) and positively contribute economic growth of any economy (Le Quoc, 2024). The financial and economic risk could be mitigated through effective interaction with the financial service providers with the improvement in financial literacy (Murendo and Mutsonziwa, 2017). The financial training provides many opportunities for savings and in turn, gives confidence in borrowing from banking and non-banking institutions (Bostedt et al 2021). The personality traits of an individual contribute positively to saving and debt behaviour (Nyhus and Webly, 2001). Further, authors like Fernandez-Lopez et al (2022) describe social interaction as directly related to household borrowing behaviour. The financial risk attitude and financial expectations (Han et al 2019; Branten 2022), financial literacy (Bialowolski et al 2022), self-control (Grohmann and Hamdan 2024), optimism, and financial self-efficacy (Steinert et al 2020) were studied as other influencing factors on household borrowing behaviour. Suls and Wheeler (2002) described individuals evaluate themselves in terms of objective or physical standards. In relation to borrowing behaviour, individual borrowers intend to access and avail of loans for actual consumption purposes or excessive consumption. Though the research in this area is growing, it is still an under-researched area, especially in the context of developing economies like India. In this context, this research attempts to answer which are the significant determinants of the borrowing behaviour of Indian rural households among socio-economic variables, financial literacy, and personality traits.

## Earlier Studies on socioeconomic variables, financial literacy, and personality traits

With probit regression analysis, Davutyan and Ozturkkal (2016) found that income, self-employed, and married individuals are the important determinants of an individual's borrowing habits. Hindun and Reza (2016) noted that factors like age, religion, and number of members act as insignificant factors in people's borrowing habits, however, the amount of debt, assets, income, and location are the significant predictors. The current saving behaviour is a critical success factor for accessing credit (Chukwudum 2024) and savings influence the demand

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for loans (Lee et al 2021). Authors like Lubis (2022) highlight that borrowing behaviour is an indicator of negative savings. The current and future consumer confidence index is measured in terms of household financial condition, domestic economy, and conditions like savings, unemployment, etc., for making important purchase decisions that positively impact saving and borrowing habits (Klopocka 2017). Risk perception and emotion are the strong predictors of household indebtedness, whereas financial literacy failed to predict indebtedness (Rahman et al 2020). Financial literacy and financial product awareness have a high impact on financial inclusion (Dash and Mohanta 2024)

On repayment behaviour, Qureshi et al (2020) demonstrated that demographic variables – income, education, and family size along with personality traits, significantly influence repayment behaviour. With income level, social interaction plays a vital role in borrowing behaviour (Fernandez-Lopez et al 2022). Financial literacy through education, income level, age, and gender significantly enables the household to borrow (Lotto 2019). Excessive borrowing is a threat to the economic and social well-being of households in any economy. By examining the association between financial literacy and excessive borrowing, Sevium et al (2012) noted household excessive borrowing would be prevented by enhancing financial literacy. A well-designed financial literacy training results in a positive effect on Rwandan financial behaviour (Sayinzoga et al 2016). The financial inclusion index and financial literacy contribute positively to Indian's credit behaviour (Joseph et al 2017). Mahdzan et al (2023) describe that a low level of education with a low-income level, households tend to borrow more compared to their counterparts. The author concludes that financial literacy is a strong predictor of lower borrowing. Nautiyal and Ismail (2023) compared the borrowing behaviour and its determinants of two Indian cities' respondents (namely Dehradun and Uttarkashi) and noted that gender, distance to bank and family members have acted as strong predictors of the individual's borrowing behaviour.

Fan and Chatterjee (2019) revealed that internal sources, namely financial literacy, perceived financial knowledge, and higher educational attainment are strongly associated with borrowing decisions. In a developing country DRC context, Safari et al (2021), the regression coefficient of financial knowledge is positively associated with an individual's retirement planning. The study results by Nina (2009) highlighted that housing expenditure, level of household assets, and consumption needs determine borrowings. Expectations by the individual strongly affect household borrowing (Branten 2022), whereas past savings negatively affect households' borrowing behaviour, that is, availing of loans (Pastrapa and Apostolopoulos 2015). The subjective financial literacy is positively influenced by financial self-efficacy compared to objective financial literacy (Siswant et al 2024).

## Methodology

The descriptive research approach is applied in this study to identify the potential determinants of the borrowing behaviours of the respondents who are predominantly from the rural areas of southern districts of Tamil Nadu, India. The males or females who borrow from any formal sources or informal sources are the sample units of the study. The borrowing or loan taken from bank and/or registered non-banking financial intermediaries as well as friends, relatives, and family members are considered as borrowing habits of the respondents. There is no formal source available on the borrowers' population through formal and informal sources to apply random sampling methods and it was decided to apply the purposive sampling method under the non-probability sampling technique. With the purposive sampling technique, 205 borrowers were surveyed, however, after the data cleaning stage only 166 sample respondents were used for the purpose of analysis. The interview schedule is prepared with the main constructs namely financial literacy, personality traits, and further socio-economic and demographic variables and borrowing purposes were collected. The borrowing behaviour of the respondents was collected by asking dichotomous responses namely yes or no. The measurement for the constructs namely personality traits and financial literacy were adopted from the previous studies. The binominal logit regression analysis was employed to predict the borrowing behaviour of the respondents.

## **Data Analysis and Results**

Out of 166 respondents, 89.8% are male and 10.2% are female. 48.8% of the respondents belong to less than or equal to 45 years of age and 51.2% of them are in the age group of 46 years and above (Table 1). The 90.4% of the respondents are married 90.4% compared to the least percentage of unmarried (9.6%). On education background, the majority of the participants are with school education only. For employment, 53.6% of the respondents are the employees in government or private sector, while with their business, 46.4% of them have their businesses. With the family income level, the income bracket of less than or equal to Rs.25,000 is 51.8% compared to that of 48.2% of the respondents in the family income range of Rs.26,000. 72.7% of the respondents have informed that the size of the family is less than or equal to four. When the joint family prevails in the rural or semi-urban areas, 27.3% have revealed that their family size is more than five. On the savings and borrowing

behaviour of the respondents noted that 68.1% of the respondents stated that they have saved a few amounts of money during the last year and only 31.9% have not saved. Out of 166 respondents, 56.6% of the respondents informed that they had borrowed money during the last year whereas 43.4% stated that they did not borrow during the last fiscal year and it does not mean that they are not the borrowers.

**Table 1: Sample Profile of the Respondents** 

Variables	Number of Respondent	Percentage	
Gender	·	·	
Female	17	10.2	
Male	149	89.8	
Age			
Less than or equal to 45	81	48.8	
Above 46	85	51.2	
Marital Status	,	1	
Married	150	90.4	
Unmarried	16	9.6	
Education	,	1	
Post Graduate	33	19.3	
School Education	113	68.1	
Diploma and Undergraduate	20	12.0	
Employment			
Working as an Employee	89	53.6	
Own Business	77	46.4	
Family Income			
Less than or equal to Rs.25000	86	51.8	
Greater than or equal to Rs.26000	80	48.2	
Size of Family			
Four and less than 4	121	72.9	
Five and Above 5	45	27.1	
Saving Behaviour (Last Fiscal Year)			
No	53	31.9	
Yes	113	68.1	
<b>Borrowing Behaviour (Last Fiscal Year)</b>			
No	72	43.4	
Yes	94	56.6	

The Hosmer and Lemeshow test (HM test) value (chi-square=17.620,  $\rho$ =0.024) indicates the best fit ( $\rho$  value is greater than 0.05 significance level) of the model between borrowing behaviour and its independent variables (Table 2). The contingency table for the HM Test also supports the test value by exhibiting a difference between observed and expected values related to individuals with a borrowing habit and those without.

The percentage of accuracy of classification related to the model of prediction accuracy test – PAC that is, the classification table reveals that 65.1 percent of cases are appropriately classified after the introduction of predictor variables (Table 3). It is also noted that 50 percent are correctly classified in terms of the respondents who are classified as not having a borrowing habit. On the contrary, 76.6 percent of the respondents accurately classified them as having a borrowing habit. Further, it is evident that the 36 households are not having borrowing behaviour at present, however, 36 households who have classified as not having borrowing behaviour will not borrow. The result also highlight that 22 households who presently with borrowing behaviour will be predicted not will to borrow, while 72 household were predicted as with borrowing behaviour.

Table 2: Hosmer and Lemeshow Test and its Contingency Table

Hosmer and Lemeshow Test							
Chi-square		df		Sig.			
1	17.620 8						
Contingency Table for Hosmer and Lemeshow Test							
	BORONEYR = 0		BORONEYR = 1			Total	
	Observed	Expected	Obs	served	Expected		
1	12	13.165		5	3.835	17	
2	12	10.821		5	6.179	17	
3	10	9.648		7	7.352	17	
4	5	8.444		12	8.556	17	
5	10	7.374		7	9.626	17	
6	10	6.166		7	10.834	17	
7	2	5.308		15	11.692	17	
8	4	4.782		13	12.218	17	
9	7	4.079		10	12.921	17	
10	0	2.213		13	10.787	13	

**Table 3: Classification Table** 

Observed			Predicted					
		Borrow	ing Behaviour	Percentage Correct				
		No	Yes					
Borrowing	No	36	36	50.0				
Behaviour	Yes	22	72	76.6				
Overall Percentag	е			65.1				

a. The cut value is .500

The binominal logit regression analysis (Table 4) results show that the education background namely, undergraduate qualification (EDUQUAL 2) has -0.77 times the odd of lessening the borrowing behaviour compared to the other two educational background groups namely school education and graduate (master degree) level education. The coefficient ( $\beta$ =-1.47,  $\rho$ =0.040) of the undergraduate-qualified respondents is also statistically significant. The coefficient of the size of the family ( $\beta$ =1.12,  $\rho$ =0.007) is statistically significant, and the odd ratio is 3.040. The odd ratio 2.040 (3.040-1) indicates the odd borrowing behaviour of the respondents with the size of the family equal to or less than four is 2.040 less than their counterparts who have greater than or equal to five members in their family. This value is a 95 percent confidence level of the odds ratio between the lower limit of 1.364 and 6.777 as the upper limit. The regression coefficient of the respondent who had saving habits during the last fiscal year ( $\beta$ =-0.875,  $\rho$ =0.038) is statistically significant with an odd ratio of 0.456. The odd ratio -0.544 (0.456-1) of the respondents who had saving habits during the last fiscal year do have less borrowing habits compared to the respondents who do not have saving habits. The behavioural constructs namely financial literacy and personality traits are with a positive sign, however, they are not statistically significant. The Negelkerke R<sup>2</sup> signifies that a 17.5 percent variation in borrowing behaviour is explained by the independent variables in the model.

## Discussion

This study aimed at understanding the effect of socio-economic and demographic variables along with two behavioural constructs namely financial literacy and personality traits on rural household borrowing behaviour. The binominal logit regression predicted borrowing behaviour is strongly influenced by the educational qualification, size of the family members, and savings of the household during the last fiscal year. The head of the household's borrowing is normally determined by educational attainment, especially after-school education in India. The respondents were able to understand and visualize the risks associated with excessive borrowing and its effect on day-to-day life and future financial burdens. Higher educational qualifications facilitate household heads to make prudent financial borrowing decisions (Malik et al 2021). The positive and significant odd ratio of family size indicates that the demand for borrowing from the household is strongly associated with the number of family members. The major reason for the high level of borrowing is the incremental consumption expenditure of the household members. The finding of the study is in line with Worthington (2006). In line with the findings of Pastrapa and Apostolopoulos (2015), the borrowing behaviour is negatively influenced by the respondents previous savings. This highlights in rural contexts especially in India, the rural people either husband or wife do

save their money in various forms, and when there is need the liquidate the forms of savings rather going for borrowings.

Table 4: Coefficient Values of Binominal Logit Analysis Regression

	В	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Gender(1)	.663	.665	.994	1	.319	1.941	.527	7.151
Age	013	.027	.223	1	.637	.987	.936	1.042
EDUQUL			5.026	2	.081			
EDUQUL(1)	338	.571	.352	1	.553	.713	.233	2.181
EDUQUL(2)	-1.47	.715	4.227	1	.040	.230	.057	.934
MARITAL(1)	1.090	.830	1.727	1	.189	2.975	.585	15.128
EMP(1)	143	.374	.147	1	.702	.867	.416	1.804
FY(1)	.097	.361	.073	1	.788	1.102	.543	2.235
SOF(1)	1.112	.409	7.388	1	.007	3.040	1.364	6.777
FINLTR	.147	.275	.286	1	.593	1.159	.675	1.988
PF	.212	.293	.525	1	.469	1.236	.697	2.193
SAVONEYR(1)	785	.377	4.326	1	.038	.456	.218	.956
Constant	-1.26	1.714	.542	1	.462	.283		
-2 Log likelihood			204.012ª					
Cox & Snell R Square			0.130					
N	R Square	0.175						

a. Variable(s) entered on step 1: Gender, Age:, Educational Qualification (EDUQUL), Marital Status (MARITAL), Employment (EMP), Family Income (FY), Size of the Family (SOF), Financial Literacy (FINLTR), Personality Traits (PF), and Savings of the year (SAVONEYR).

The construct of financial literacy fails to explain the probability of borrowing behaviour of individual and the findings do not endorse the observations of the earlier studies (Sevim et al 2024; Bansal 2019; Rana et al 2023; Maji and Prasad 2025) who have demonstrated that a higher level of financial knowledge leads to individual's less likeliness to borrow. It is often noted that low financial literacy or illiteracy in financial transactions is highly associated with a high level of borrowing behaviour and/or high indebtedness (Bahovec et al 2015). The likelihood ratio of financial literacy, though insignificant, is positive.

The result related to personality traits is not in line with the earlier studies that personality traits strongly predict the financial well-being or borrowing behaviour of individuals (Yazdanparast and Alhenawib 2017; Lubis et al 2022; Jia et al 2023; Gupta et al 2024). In general, a few specific personality traits, like neuroticism personality people tend to borrow more due to many reasons like impulsive buying, overspending beyond their means of income, etc (Fachrudin et al 2022). Nevertheless, in the context specific, the rural-based or the repaying capacity of the individual supersedes the personality traits in determining the individual borrowing behaviour. It is evident from the effect of savings behaviour on the borrowing behaviour confirm that the personal borrowing is determined by voluntary savings (Bhat et al 2024).

#### Conclusion

The aim of the research includes the effect of socio-economic and demographic variables namely, Gender, Age, Educational Qualification (EDUQUL), Marital Status (MARITAL), Employment (EMP), Family Income (FY), Size of the Family (SOF), with behavioural constructs Financial Literacy (FINLTR), Personality Traits (PF), and Savings of the year (SAVONEYR) on the household borrowing behaviour especially the rural oriented people. The first finding of the research highlights that the borrowing behaviour of the rural people is significantly influenced by the higher educational qualification and size of the family, and other socio-economic and demographic variables do not explain the variations of the probability of household borrowing behaviour. Secondly, among the behavioural constructs, only saving behaviour of the year of the household predicts the low probability of borrowing than financial literacy and personality traits. Financial literacy improves the in-depth analysis on the quality of borrowing, the source of borrowing, the impact on the borrower as well as on the family. Though the result of financial literacy is insignificant, it need not be accounted as an insignificant factor for this study. Nevertheless, more programs to be conducted at the rural level, where informal agencies and/or financial institutions unduly exploit the financial illiteracy or lower literacy of the households. The insignificant effect of

personality traits on the household borrowing behaviour provides an insight that rural people who are not too focused on all the personality traits, namely, agreeableness, openness to experience, extraversion, neuroticism, and consciousness. The possible reason for the insignificant association is due to the aggregations of the personality traits measured in this study. A future research avenue is related to the effect of first-order level constructs of personality traits on the household borrowing behaviour with a large sample.

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