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Financial Literacy and Borrowing Behaviour: Evidence on Gender Differences

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Abstract: ***Financial literacy is recognized as a key determinant of economic behaviour, specifically in developing economies like India, where access to formal finance is expanding rapidly. Using data from the Global Findex Database (2021) published by the World Bank, this study examines the impact of financial literacy on individuals' likelihood of borrowing and explores the role of gender in this assessing such relationship. A composite Financial Literacy Index is constructed through max–min normalization of behavioural and awareness indicators, and borrowing behaviour is analyzed using a binary logistic regression framework with robust standard errors. The results suggest that higher levels of financial literacy are associated with increased probability of borrowing, indicating that financially literate individuals have better financial exposure to engage with formal credit markets in an informed manner. However, gender differences continue to remain with women exhibiting a lower propensity to borrow as compared to men, after accounting for education levels and other socio-economic characteristics. The interaction term between financial literacy and gender is statistically insignificant, suggesting that the positive effect of financial literacy on borrowing operates similarly across genders. Other factors such as education, employment status, income levels and urban-rural residence also significantly influence borrowing behaviour.***

Keywords: Financial literacy; Borrowing behaviour; Gender differences; Financial inclusion; Developing economies

1. Introduction

The expansion of financial markets, alongside advances in financial technology (fintech) has led to the emergence of newer and complex financial products. Decisions relating to investments, mutual funds, student loans, mortgages, annuities, and digital payments are becoming increasingly difficult [1]. In addition to this, financial crises, increased cost of living owing to high inflation and rising interest rates, and the growing number of financial frauds and scams have made the management of finances at the individual level a necessary life skill [2]. The Organisation for Economic Cooperation and Development (OECD) defines financial literacy as "a combination of financial awareness, knowledge, skills, attitudes, and behaviours necessary to make sound financial decisions and ultimately achieve individual financial well-being" [3]. However, the data suggest that financial literacy remains a severe challenge in most of the countries in South Asia [4]. India fares poorly at the global level with the percentage of financially literate adults being at 24 per cent. On the other hand, around 55 per cent of the population in advanced economies are financially literate [4].

Financial Literacy works in line with financial inclusion to promote financial stability which provides quality, affordable and accessible financial products to all the sections of the economy [5]. Financial Literacy is composed of three elements, financial knowledge, financial behaviour and financial attitude [3]. Prior empirical studies suggest that financial literacy aids in promoting positive financial behaviour and improved financial decision making [6, 7]. Studies from the past also suggest that financial literacy has a positive influence on the use of financial services [8]. Financially educated individuals have better ability to make informed financial decisions, thereby resulting in broader financial inclusion. On the other hand, the reverse also holds true. Adults participating in formal financial systems such as holding of bank accounts and ownership of debit and credit cards tend to demonstrate greater financial knowledge and competence, regardless of other influences. Therefore, while financial literacy enhances financial inclusion, engaging with financial services like bank accounts or credit systems also improves individuals' financial competitiveness[4]. Financially literate individuals are more likely to have access to credit, own a bank account and use banking and financial services [9].

Financial behaviour is a central dimension of financial literacy, which encompasses economic actions that assess the financial well-being of individuals. It involves tracking money flows, making financial decisions related to saving and investment, and making informed choices about financial products and services [2]. The study examines the financial behaviour dimension of financial literacy.

This study examines the impact of financial literacy on individuals' borrowing behaviour in India using the data from the Global Findex Database 2021. A financial literacy index is constructed using indicators reflective of financial behaviour to examine its impact on the borrowing behaviour indicator. First, the study investigates how the sociodemographic factors such as age, education, gender, employment status, income quintiles, and regional location influence financial literacy levels using Ordinary Least Squares (OLS) regression. It then assesses how these factors influence the likelihood of borrowing, followed by an analysis of the impact of financial literacy on individuals' borrowing behaviour using logistic regression.

Previous studies suggest that financial literacy positively influences credit choices and borrowing behaviour [10]. It further enhances the individual's ability to assess the costs of borrowing and make informed decisions related to loans and borrowing [11]. This study examines how financial literacy influences individuals' borrowing behaviour, underscoring the role of financial knowledge and access in prudent financial decision-making. This study pays special attention to the highly prevalent gender gap that exists in the financial

literacy levels of men and women around the world. Existing studies indicate that women generally display lower levels of financial literacy and financial confidence as compared to men[12]. Financial fragility is also evident in terms of gender with women being more financially vulnerable than men. The borrowing behaviour significantly varies as women tend to use lesser formal sources of borrowing depicting their lack of access to formal financial sources. However, financial literacy has a pivotal role to play in mitigating such problems as financially literate women tend to take sound financial decisions [13]. Therefore, understanding the influence of financial literacy on borrowings is therefore vital for policymakers aiming to foster sustainable economic development.

2. Literature Survey

The discussion surrounding financial literacy has persisted for decades, initially focusing on money management, personal financial planning, and budget management. However, its recognition as a distinct concept gained traction only after the 1990s, primarily driven by advanced economies. In the last two decades, developing economies have increasingly acknowledged the critical need for financial literacy [14]. Financial literacy is defined as the ability to make informed financial decisions that contribute to financial well-being. It is not only limited to individual well-being but also contributes significantly to household well-being. Evidence suggests that households with lower levels of financial literacy are more susceptible to insufficient retirement planning and over-indebtedness [15].

Financial literacy varies significantly across different age groups, genders, income levels, educational backgrounds, marital statuses, household positions, and employment statuses. Multiple studies in the literature confirm that gender plays a major role in influencing financial literacy, with men exhibiting higher financial literacy levels than women [12, 16, 17]. Research also concludes that individuals with higher income levels, higher educational attainment, younger age, and employment status tend to possess greater financial knowledge [16].

These differences in financial literacy levels highlight the significance of financial literacy in shaping prudent financial behaviour. Higher financial literacy results in improved financial decision-making [18]. The concept of financial literacy emerged in response to the growing need for individuals to prepare for retirement and cope with future financial risks. Evidence suggest that financially savvy individuals are more likely to participate in the pension plans and have better retirement preparedness [19]. In the case of underdeveloped countries where there is lack of public pension schemes and weak social security systems, financial literacy equips an individual in personal retirement planning [20].

The literature which initially focused on how financial literacy influences retirement savings has now expanded to examine its effects on saving and borrowing decisions [14]. Financial literacy positively impacts savings behaviour by encouraging both formal and informal saving decisions [21]. Moreover, money management skills have a positive impact on the consumer debt choices and household net worth [22]. Students with higher levels of financial literacy are better equipped to manage their student debt and make sound financing and education related decisions [23]. Financial literacy plays a key role in helping individuals address uncertainty and financial risks during crises. The Covid-19 pandemic was one such catastrophe which stressed on the importance of improving financial and debt literacy as financially literate individuals are better prepared to manage their credit liabilities [24].

Gender differences are evident in borrowing behaviour, with female-headed households exhibiting a lower propensity to borrow relative to male-headed households [25]. Such outcomes may reflect disparities in financial awareness, financial literacy, business experience, and confidence between men and women. This study investigates the influence of financial literacy on borrowing behaviour among individuals in India, with particular emphasis on the role of gender in shaping this relationship.

3. Methods and Approach

The study utilizes the Global Findex Database, released by the World Bank in 2021, which contains information on 125,000 individuals from over 123 economies regarding the use of formal and informal financial services and digital payments [26]. The database encompasses a wide range of topics, including the ownership of financial products and services, usage of mobile and digital money tools, savings patterns, borrowing behaviour, financial resilience, payment preferences, and financial concerns.

Table 1: Descriptive Statistics of Socio-Demographic Variables

Variable	Categories	Frequency	Percentage (%)
Gender	Male	1,618	53.93
	Female	1,382	46.07
Education Level	Primary	1,619	53.97
	Secondary	1,063	35.43
	Tertiary	307	10.23
Income Quintile	Poorest 20%	554	18.47
	Second 20%	556	18.53
	Middle 20%	597	19.9
	Fourth 20%	636	21.2
	Richest 20%	657	21.9
Employment Status	In the workforce	1669	55.63
	Out of the workforce	1331	44.37
Regional Location	Rural	1,750	58.33
	Urban	1,250	41.67

Source: Authors' computation using Global Findex Database (2021)

The analysis is based on a sample of approximately 3,000 individuals from across India, excluding the Northeast states, remote island territories, and Jammu and Kashmir. The dataset consists of unit-level data collected through structured questionnaires via face-to-face interviews. The sample comprises 3,000 respondents with an average age of about 36 years, spanning an age range from 15 to 90 years. Table 1 presents the descriptive statistics of the socio-demographic variables. The gender distribution is relatively balanced, with 46.07 per cent female respondents and 53.93 per cent male

respondents. Educational attainment among the respondents varies, with 53.97 per cent having completed primary education or less, 35.43 per cent having completed secondary education, and 10.23 per cent having completed tertiary education or higher. The income level of the respondents is skewed with about 19 per cent respondents falling in lower income quintiles and about 21 per cent respondents falling in the higher income quintiles. Around 55 per cent of the respondents are employed whereas approximately 44 per cent of the respondents are out of the workforce. In terms of regional distribution, 58.33 per cent of respondents reside in urban areas, while 41.67 per cent live in rural areas (Table 1). The sampling methodology is designed to ensure that the sample is representative of the population.

Financial literacy comprises three key dimensions: financial knowledge, financial behaviour, and financial attitudes. This study focuses specifically on the financial behaviour dimension, as behavioural components provide important insights into an individual's overall level of financial literacy. Financial literacy can be measured using three major components of financial behaviour; ownership of a deposit account, debit and credit card ownership, and the use of an e-wallet [27]. Financial literacy is measured using a composite Financial Literacy Index (FLI), which is developed from selected financial indicators such as ownership of a bank account at a financial institution, ownership of a mobile money account, digital payment usage, debit and credit card ownership and usage, and deposit-making behaviour. These variables are categorical, coded as 1 for "Yes" and 0 for "No". A financial score (Equation (1)) is computed for each individual by summing the values of these variables, resulting in a range from 0 (least financially savvy) to 8 (most financially savvy). The financial score is defined as:.

$$financial\_score = \sum_{i=1}^{8} V_i \quad (1)$$

Where:
$financial\_score$ = Financial Score of each individual
V_1 = Has an account at a financial institution (1 = Yes, 0 = No)
V_2 = Has a mobile money account (1 = Yes, 0 = No)
V_3 = Made or received a digital payment (1 = Yes, 0 = No)
V_4 = Has a debit card (1 = Yes, 0 = No)
V_5 = Used a debit card (1 = Yes, 0 = No)
V_6 = Has a credit card (1 = Yes, 0 = No)
V_7 = Used a credit card (1 = Yes, 0 = No)
V_8 = Made a deposit into the account (1 = Yes, 0 = No)

Using the financial score, a financial literacy index (FLI) (Equation (2)) is constructed using the max-min approach with the following formula:

$$financial\_literacy\_index = \frac{financial\_score - \min(financial\_score)}{\max(financial\_score) - \min(financial\_score)} \quad (2)$$

The financial literacy score ranges from a minimum of 0 to a maximum of 8, so the simplified formula looks (Equation (3)) like:

$$financial\_literacy\_index = \frac{financial\_score}{8} \quad (3)$$

The max-min normalization method is used because the available data is categorical in nature. The calculated Financial Literacy Index (FLI) has values ranging between 0 and 1. The Financial Literacy Index developed in this study demonstrates internal consistency, as reflected by a Cronbach's alpha value of 0.7602, indicating strong reliability. This approach has been widely employed in the construction of composite indices, including the Human Development Index (HDI) and the Financial Inclusion Index.

Furthermore, Ordinary Least Squares (OLS) regression is employed to assess the influence of socio-demographic characteristics such as age, education, income, gender, employment status, and region (rural or urban) on financial literacy levels in India (Equation (4)). The regression model is explained below.

$$\begin{aligned} financial\_literacy\_index_i = {} & \beta_0 + \beta_1 female_i + \beta_2 age_i \\ & + \beta_3 educ\_secondary_i \\ & + \beta_4 educ\_tertiary_i + \beta_5 inc\_q2_i \\ & + \beta_6 inc\_q3_i + \beta_7 inc\_q4_i \\ & + \beta_8 inc\_q5_i \\ & + \beta_9 employment\_status_i \\ & + \beta_{10} urban_i + \varepsilon_i \end{aligned} \quad (4)$$

Where $financial\_literacy\_index_i$= Financial Literacy Index for individual i
β_0 = Intercept (constant term)
β_1 = Coefficient for female dummy, a binary variable (1 = Female, 0 = Male), indicating gender's impact on financial literacy
β_2 = Coefficient for Age, capturing how age influences financial literacy
β_3, β_4 = Coefficients for education, representing the effect of education level on financial literacy
$\beta_5, \beta_6, \beta_7, \beta_8$ = Coefficients for inc_q, an income quintile variable affecting financial literacy
β_9 = Coefficient for emp_in, a variable representing the status of employment on financial literacy
β_{10}= Coefficient for urbanicity_f2f, a variable distinguishing between urban and rural regions, affecting financial literacy
ϵ_i = Error term, capturing unobserved factors affecting financial literacy

Additionally, a borrowing behaviour indicator is constructed using the Global Findex Database. Borrowing behaviour is recorded if an individual borrowed for any reason in the past year (Equation (5)). The variable is binary in nature, with "Yes" coded as 1 and "No" coded as 0. The borrowing behaviour indicator takes a value of 1 if the variable equals 1, and it is 0 if the variable is 0 for each individual.

$$Borrowing\_var = \begin{cases} 1\ if\ the\ respondent\ borrowed\ in\ the\ last\ 12\ months \\ 0\ if\ the\ respondent\ did\ not\ borrow\ in\ the\ last\ 12\ months \end{cases} \quad (5)$$

To assess the effect of financial literacy on borrowing behaviour, while controlling for age, gender, education, income, employment status, and region, the study estimates the following logistic regression model (Equation (6)). Logistic regression is suitable because the dependent variable, borrowing behaviour, is binary in nature.

$$\begin{aligned} \text{logit}(\Pr(borrowing\_var_i = 1)) &= \beta_0 \\ &+ \beta_1\, financial\_literacy\_index_i \\ &+ \beta_2\, male_i + \beta_3\, age_i \\ &+ \beta_4\, educ\_secondary\_i \\ &+ \beta_5\, educ\_tertiary_i \\ &+ \beta_6\, inc\_q2_i + \beta_7\, inc\_q3_i \\ &+ \beta_8\, inc\_q4_i + \beta_9\, inc\_q5_i \\ &+ \beta_{10}\, employment\_status\_i \\ &+ \beta_{11}\, urban_i + \varepsilon_i \end{aligned} \quad (6)$$

where
$borrowing\_var_i$ = A binary dependent variable that takes the value 1 if the individual exhibits borrowing behaviour and 0 otherwise.
$financial\_literacy\_index_i$ = A continuous independent variable measuring an individual's financial literacy, ranging from 0 to 1.
$male_i$=1 if individual i is male (reference: female)
age_i = age of individual i (in years)
$educ\_secondary_i$ =1 if individual i has completed secondary education (reference: primary education)
$educ\_tertiary_i$=1 if individual i has completed tertiary education (reference: primary education)
inc_q2_i = 1 if household belongs to the second income quintile (reference: bottom 20%)
inc_q3_i = 1 if household belongs to the third income quintile (reference: bottom 20%)
inc_q4_i = 1 if household belongs to the fourth income quintile (reference: bottom 20%)
inc_q5_i = 1 if household belongs to the fifth income quintile (reference: bottom 20%)
$employment\_status_i$=1 if individual i is not employed (reference: employed)
$urban_i$=1 if individual i resides in an urban area (reference: rural)
β_0 = The intercept term
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}$: Regression coefficients measuring the impact of each independent variable on the log-odds of saving behaviour.
ε_i = error term for individual i

The next step is to re-run the above logistic model with an interaction term of financial literacy and gender to ascertain whether the effect of financial literacy differs by gender while borrowing for an individual (Equation (7)).

$$\begin{aligned} \text{logit}(\Pr(borrowing\_var_i = 1)) &= \beta_0 + \beta_1 Financial\_Literacy\_Index_i \\ &+ \beta_2 Female_i \\ &+ \beta_3 (Financial\_Literacy\_Index_i \times Female_i) \\ &+ \beta_4 Age_i + \beta_5 Educ\_Secondary_i \\ &+ \beta_6 Educ\_Tertiary_i + \beta_7 IncQ2_i + \beta_8 IncQ3_i \\ &+ \beta_9 IncQ4_i + \beta_{10} IncQ5_i \\ &+ \beta_{11} Employment\_Status_i + \beta_{12} Urban_i + \varepsilon_i \end{aligned} \quad (7)$$

where
$financial\_literacy\_index_i$ = A continuous independent variable measuring an individual's financial literacy, ranging from 0 to 1.
$Financial\_Literacy\_Index_i \times Female_i$ = captures the interaction effect between gender and financial literacy.
$male_i$=1 if individual i is male (reference: female)
age_i = age of individual i (in years)
$educ\_secondary_i$ =1 if individual i has completed secondary education (reference: primary education)
$educ\_tertiary_i$=1 if individual i has completed tertiary education (reference: primary education)
inc_q2_i = 1 if household belongs to the second income quintile (reference: bottom 20%)
inc_q3_i = 1 if household belongs to the third income quintile (reference: bottom 20%)
inc_q4_i = 1 if household belongs to the fourth income quintile (reference: bottom 20%)
inc_q5_i = 1 if household belongs to the fifth income quintile (reference: bottom 20%)
$employment\_status_i$=1 if individual i is not employed (reference: employed)
$urban_i$=1 if individual i resides in an urban area (reference: rural)
β_0 = The intercept term
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$: Regression coefficients measuring the impact of each independent variable on the log-odds of saving behaviour.
ε_i = error term for individual i

The regression results are presented and discussed in the following section, offering insights into the relationship between financial literacy and borrowing behaviour while controlling for key demographic factors. All analyses are conducted using standard statistical software, ensuring robustness and reliability in estimation.

4. Results and Discussion

The financial literacy index, constructed using the max-min normalization method, yields varying results across different demographic groups in the dataset. Table 2 presents descriptive statistics that highlight notable variations in financial literacy levels. The results reveal notable gender disparities, as males record a higher mean Financial Literacy Index value (0.29) than females (0.19), suggesting potential disparities in financial education or access to financial information. These findings align with multiple studies that

indicate men tend to demonstrate higher financial literacy levels than their female counterparts [12, 16, 17].

Table 2 reveals a significant positive association between educational attainment and financial literacy. A rural-urban divide is also observed, with urban respondents displaying a higher average financial literacy index value (0.28) compared to rural respondents (0.23). Financial literacy scores appear to peak in the 25–44 age group (0.27) before gradually declining in older age cohorts. Employment status plays a significant role in shaping financial literacy, with employed individuals exhibiting higher levels of financial literacy than those who are unemployed. Additionally, respondents belonging to higher income quintiles depicted higher financial literacy levels with the richest income quintile having the index value 0.38. This trend is consistent with existing literature, which suggests that individuals with higher income levels, greater educational attainment, younger age, and employment status tend to possess higher financial knowledge [16].

Table 2: Descriptive Statistics of Financial Literacy Index by Demographic Characteristics

Demographic Group	Observations	Mean	Standard Deviation
Gender			
Male	1,514	0.2919	0.2581
Female	1,317	0.1976	0.1842
Educational Attainment			
Primary Education	1,540	0.187	0.1726
Secondary Education	992	0.2854	0.2507
Tertiary Education	288	0.4501	0.2904
Regional Location			
Rural	1,658	0.2268	0.2105
Urban	1,173	0.278	0.2554
Age Group			
15–24 years	725	0.2257	0.2412
25–34 years	694	0.2716	0.2465
35–44 years	570	0.2671	0.2386
45–54 years	452	0.2519	0.2209
55–64 years	263	0.2172	0.1803
65+ years	127	0.2106	0.158
Employment Status			
In the workforce	1,545	0.2881	0.2489
Out of the workforce	1,286	0.1998	0.1984
Income Quintiles			
Poorest 20%	528	0.183	0.166
Second 20%	524	0.1939	0.1604
Middle 20%	562	0.2008	0.1926
Fourth 20%	601	0.2696	0.2433
Richest 20%	616	0.3718	0.2926

Source: Authors' computation using Global Findex Database (2021)

The OLS regression (Table 3) results confirm the significant influence of demographic factors on financial literacy. A positive association is observed between age and financial literacy, indicating that financial knowledge improves with age. Gender disparities remain pronounced, with females exhibiting significantly lower financial literacy levels than males. Education emerges as the strongest predictor of financial literacy. Compared to individuals with only primary education, those with secondary education) and tertiary education demonstrate significantly higher financial literacy levels. Urban residency positively influences financial literacy (significant at $p< 0.1$) supporting the idea that urban environments provide greater access to financial resources, formal education, and exposure to financial products. Income exhibits a positive association with financial literacy only at higher income levels. The richest income groups depict higher financial literacy due to their availability of funds and the need to channelise those funds. Unemployed individuals lack financial literacy because of their inability to access financial resources.

Table 3: Results of the OLS Regression

Variable	Coefficient	Robust Std. Error	t-Statistic
Gender			
Female (1 = Female)	−0.034 ***	0.008	−4.26
Age	0.001 ***	0	5.44
Education			
Completed secondary school	0.080 ***	0.009	8.85
Completed tertiary education or more	0.215 ***	0.018	12.12
Income Quintile (ref: Poorest 20%)			
Second 20%	0.006	0.01	0.66
Middle 20%	0.002	0.011	0.17
Fourth 20%	0.053 ***	0.012	4.34
Richest 20%	0.112 ***	0.014	7.95
Employment Status			
Out of the workforce	−0.060 ***	0.008	−7.55
Location			
Urban (1 = Urban)	0.015 *	0.008	1.81
Constant	0.132 ***	0.018	7.35
Observations	2,831		
R-squared	0.206		
Root MSE	0.207		

Source: Authors' computation using Global Findex Database (2021)
Notes: Dependent variable = *Financial Literacy Index* (0–1).
Robust standard errors are reported.
Reference categories: Male, Completed primary education, Poorest 20% (income quintile), In the workforce, *and* Rural

residents.
Significance levels: *** p < 0.01, ** p < 0.05, * p < 0.10.

The study then examines individual borrowing patterns in India. The data shows that only 42 per cent of respondents reported borrowing for any reason, indicating limited engagement with borrowing among the sample. To assess whether financial literacy influences borrowing behaviour, a logistic regression model is estimated, controlling for relevant sociodemographic factors. The results, reported in Table 4, suggest a strong and statistically significant association between financial literacy and borrowing. The positive coefficient (β = 2.205, p < 0.01) implies that higher financial literacy is associated with a greater likelihood of borrowing. The marginal effect (dy/dx = 0.501) indicates that a one-unit increase in the Financial Literacy Index is associated with an increase of nearly 50 percentage points in the probability of borrowing, holding other factors constant.

The results reveal significant gender differences in borrowing behaviour. Women exhibit a lower likelihood of borrowing than men, with the marginal effect (−0.094) suggesting a reduction of about 9 percentage points in the probability of borrowing, conditional on financial literacy and other socio-demographic controls.

Among the control variables, education and income emerge as significant predictors of borrowing. Individuals with secondary and tertiary education are less likely to borrow compared to those with primary education, possibly reflecting lower credit demand among higher-educated or financially secure individuals. Similarly, respondents in higher income quintiles particularly the fourth and richest 20% display significantly lower odds of borrowing, consistent with the idea that wealthier individuals may rely less on credit for consumption smoothing.

Employment status also plays a key role: individuals out of the workforce are significantly less likely to borrow (β = −0.502, p < 0.01), suggesting that stable income sources facilitate access to credit. Urban residents, too, exhibit slightly lower borrowing likelihood than rural respondents, indicating that credit participation may be more prevalent in rural areas where informal or small-scale lending is common.

Overall, these results highlight that financial literacy substantially enhances borrowing participation, but socio-demographic characteristics such as gender, education, employment and income continue to shape individuals' access to and use of credit. The negative and significant gender coefficient underscores a persistent gender gap in financial inclusion, suggesting the need for gender-sensitive financial literacy and credit access programs.

Table 4: Results of the Logistic Regression

Variable	Coefficient	Robust Std. Error	z	Marginal Effect (dy/dx)
Financial Literacy Index	2.205***	0.194	11.38	0.501***
Female (1 = female)	−0.418***	0.086	−4.86	−0.094***
Age (years)	−0.0019	0.0029	−0.66	−0.0004
Education				
Completed secondary school	−0.168*	0.095	−1.76	−0.038*
Completed tertiary education or more	−0.573***	0.163	−3.51	−0.125***
Household Income Quintile				
Second 20%	−0.276**	0.129	−2.13	−0.063**
Middle 20%	−0.052	0.127	−0.41	−0.012
Fourth 20%	−0.271**	0.13	−2.08	−0.062**
Richest 20%	−0.331**	0.139	−2.37	−0.075**
Employment Status				
Out of the workforce	−0.502***	0.084	−5.98	−0.115***
Urbanicity				
Urban resident	−0.190**	0.084	−2.26	−0.043**
Constant	0.028	0.16	0.18	—
Observations	2,820			
Wald χ^2 (11)	191.36			
Prob > χ^2	0			
Pseudo R^2	0.0525			

Source: Authors' computation using Global Findex Database (2021)
* p < 0.10, p < 0.05, *p < 0.01.
Marginal effects represent the discrete change in the probability of borrowing.

To examine whether the influence of financial literacy on borrowing behaviour varies by gender, an interaction term between the Financial Literacy Index and gender is included in the model. The results indicate that the coefficient on the interaction term is positive but statistically insignificant (β = 0.118, p = 0.750), suggesting that the effect of financial literacy on borrowing does not differ significantly between men and women (Table 5). This implies that financial literacy is associated with increased borrowing for both genders, with broadly similar magnitudes. However, the coefficient on the female dummy remains negative and statistically significant (β = −0.445, p < 0.01), indicating that women are generally less likely to borrow than men, even after accounting for differences in financial literacy.

These findings align with previous studies that emphasize that gender differences in financial behaviour are not solely driven by differences in knowledge, but also by broader social and economic constraints [12, 28]. The results emphasise the need for gender-sensitive financial literacy policies that address informational and structural barriers to credit access.

Table 5: Results of the Logistic Regression Model with the interaction model

Variable	Coefficient	Robust Std. Error	z	Marginal Effect (dy/dx)
Financial Literacy Index	2.124***	0.319	6.67	0.496***
Female (1 = female)	−0.445***	0.124	−3.60	−0.094***
Financial Literacy × Female	0.118	0.371	0.32	—
Age (years)	−0.0019	0.0029	−0.65	−0.0004
Education				
Completed secondary school	−0.167*	0.095	−1.75	−0.038*
Completed tertiary education or more	−0.572***	0.163	−3.51	−0.125***
Household Income Quintile				
Second 20%	−0.275**	0.13	−2.12	−0.063**
Middle 20%	−0.051	0.127	−0.40	−0.012
Fourth 20%	−0.269**	0.13	−2.06	−0.061**
Richest 20%	−0.330**	0.139	−2.37	−0.075**
Employment Status				
Out of the workforce	−0.502***	0.084	−5.99	−0.115***
Urbanicity				
Urban resident	−0.190**	0.084	−2.25	−0.043**
Constant	0.042	0.166	0.26	—
Observations	2,820			
Wald χ^2 (12)	191.23			
Prob > χ^2	0			
Pseudo R^2	0.0525			

Source: Authors' computation using Global Findex Database (2021)
* p < 0.10, p < 0.05, *p < 0.01

Robust standard errors in parentheses. Average marginal effects (dy/dx) represent the discrete change in the predicted probability of borrowing, holding other variables constant.

5. Conclusion

This study investigates the relationship between financial literacy and borrowing behaviour in India analyzing data from the Global Findex Database (2017). The findings demonstrate that financial literacy plays a significant role in encouraging credit participation, with individuals exhibiting higher levels of financial literacy being substantially more likely to borrow. The estimated marginal effects suggest that a one-unit increase in the Financial Literacy Index is associated with an increase of nearly 50 percentage points in the probability of borrowing, highlighting the importance of financial knowledge in facilitating informed financial engagement. Furthermore, the analysis also reveals enduring socio-demographic inequalities, particularly by gender, education, and employment status, which continue to shape borrowing behaviour. Women, even after accounting for financial literacy, are significantly less likely to borrow than men, pointing to persistent gender-related constraints in access to credit.

6. Future Scope

This study primarily relies on secondary data to assess financial literacy levels in India. While the use of existing datasets allows for broad coverage and comparability, future research could extend this analysis by employing primary data collection. Primary surveys would enable a more comprehensive measurement of financial literacy by explicitly capturing financial knowledge, financial behaviour, and financial attitudes, thereby providing a richer understanding of individual financial capability in the Indian context.

Additionally, borrowing behaviour in this study is measured using a binary indicator, which does not fully capture the complexity of borrowing decisions. Future research may benefit from distinguishing between formal and informal borrowing sources, as well as considering the purpose, amount, and terms of borrowing, to gain deeper insights into borrowing behaviour.

Overall, the findings highlight the need for integrated policy approaches that combine financial education with structural interventions. Improving credit accessibility for women, implementing gender-targeted financial programmes, and promoting broader social and economic empowerment initiatives are essential for addressing persistent gender disparities in borrowing behaviour and enhancing inclusive financial participation.

References

[1] Lusardi A. Financial literacy and the need for financial education: evidence and implications. *Swiss J Econ Stat* 2019; 155: 1.
[2] OECD. *OECD/INFE 2023 International Survey of Adult Financial Literacy*. 2023. Epub ahead of print 2023. DOI: https://doi.org/10.1787/bf84ff64-en.
[3] OECD. OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion 2022, https://www.oecd.org/financial/education/2022-INFE-Toolkit-Measuring-Finlit-Financial-Inclusion.pdf (2022, accessed 24 February 2024).

[4] Klapper L, Lusardi A, Peter van Oudheusden. Financial literacy around the world. *World Bank Washington*, https://media.hotnews.ro/media_server1/document-2015-11-19-20605811-0-finlit-paper-16-f2-singles.pdf (2015, accessed 24 February 2024).
[5] RBI Bulletin June. *Reserve Bank of India Bulletin; Financial Literacy in India: Insights from a Field Survey*. June 2023.
[6] Xu S, Yang Z, Ali ST, et al. Does Financial Literacy Affect Household Financial Behavior? The Role of Limited Attention. *Front Psychol*; 13. Epub ahead of print 20 June 2022. DOI: 10.3389/fpsyg.2022.906153.
[7] Andarsari PR, Ningtyas MN. The Role of Financial Literacy on Financial Behavior. *JABE (JOURNAL OF ACCOUNTING AND BUSINESS EDUCATION)* 2019; 4: 24.
[8] Grohmann A, Klühs T, Menkhoff L. Does financial literacy improve financial inclusion? Cross country evidence. *World Dev* 2018; 111: 84–96.
[9] Abdullahi Sakanko M, Umma Yahaya S, Abdullahi S. *Financial Literacy and Financial Inclusion under the Creative Common Attribution Non-Commercial 4.0*, https://journals.airsd.org/index.php/zjss (2023).
[10] Guo Y, Liu C, Liu H, et al. Financial Literacy, Borrowing Behavior and Rural Households' Income: Evidence from the Collective Forest Area, China. *Sustainability* 2023; 15: 1153.
[11] Pak T. Financial literacy and high-cost borrowing: Exploring the mechanism. *Int J Consum Stud* 2018; 42: 283–294.
[12] Hasler A, Lusardi A. *The Gender Gap in Financial Literacy: A Global Perspective | 1 The Gender Gap in Financial Literacy: A Global Perspective*, www.gflec.org (2017).
[13] Hasler A, Lusardi A. *The Gender Gap in Financial Literacy: A Global Perspective | 1 The Gender Gap in Financial Literacy: A Global Perspective*, www.gflec.org (2017).
[14] Grohmann A, Kouwenberg R, Menkhoff L, et al. *Roots of Financial Literacy*. 2014.
[15] Lusardi A. *Financial Literacy: An Essential Tool for Informed Consumer Choice?* Cambridge, MA, June 2008. Epub ahead of print June 2008. DOI: 10.3386/w14084.
[16] Lotto J. Understanding sociodemographic factors influencing households' financial literacy in Tanzania. *Cogent Economics & Finance* 2020; 8: 1792152.
[17] Okamoto S, Komamura K. Age, gender, and financial literacy in Japan. *PLoS One* 2021; 16: e0259393.
[18] Grohmann A. Financial literacy and financial behavior: Evidence from the emerging Asian middle class. *Pacific-Basin Finance Journal* 2018; 48: 129–143.
[19] Clark R, Lusardi A, Mitchell OS. EMPLOYEE FINANCIAL LITERACY AND RETIREMENT PLAN BEHAVIOR: A CASE STUDY. *Econ Inq* 2017; 55: 248–259.
[20] Safari K, Njoka C, Munkwa MG. Financial literacy and personal retirement planning: a socioeconomic approach. *Journal of Business and Socio-economic Development* 2021; 1: 121–134.
[21] Murendo C, Mutsonziwa K. Financial literacy and savings decisions by adult financial consumers in Zimbabwe. *Int J Consum Stud* 2017; 41: 95–103.
[22] French D, McKillop D. Financial literacy and over-indebtedness in low-income households. *International Review of Financial Analysis* 2016; 48: 1–11.
[23] Markle G. Crushing Debt or Savvy Strategy? Financial Literacy and Student Perceptions of their Student Loan Debt. *Journal of Student Financial Aid*; 49. Epub ahead of print 19 December 2019. DOI: 10.55504/0884-9153.1651.
[24] Kurowski Ł. Household's Overindebtedness during the COVID-19 Crisis: The Role of Debt and Financial Literacy. *Risks* 2021; 9: 62.
[25] Lotto J. Access to Credit and Households' Borrowing Behavior in East Africa. *J Econ Bus*; 2. Epub ahead of print 30 June 2019. DOI: 10.31014/aior.1992.02.02.83.
[26] Demirgüç-Kunt A, Klapper L, Singer D, et al. *Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*.
[27] Dash P, Ranjan R. *Financial Literacy across Different States of India: An Empirical Analysis*, www.ris.org.in (2023).
[28] Klapper L, Lusardi A. Financial literacy and financial resilience: Evidence from around the world. *Financ Manage* 2020; 49: 589–61