



Research Article

Determinants of Financial Inclusion in South Asia: Evidence from the Global Findex 2021

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Abstract

This study investigates the determinants of financial inclusion in South Asia using micro-level data from the Global Findex 2021, covering 8,009 individuals across six countries (excluding Bhutan and Maldives). It examines how socioeconomic, demographic, and individual characteristics influence three dimensions of financial inclusion: account ownership, formal savings, and formal borrowing. Logistic regression results show that age, education, and digital access significantly increase the likelihood of owning a bank account and holding formal savings. However, women, non-working individuals, and middle- to upper-income rural residents are less likely to be financially included. While formal savings are positively associated with education, formal borrowing appears more need-driven, showing limited association with education or resilience. Gender disparities persist across all dimensions, with women consistently less likely to engage with formal financial systems. The findings call for targeted financial inclusion strategies that address gender, employment status, and digital access gaps, particularly in rural areas.

Keywords: Financial inclusion, Formal saving, Formal borrowing, Unbanked individuals, South Asia

Introduction

Financial inclusion is subject to equal access to financial services for every individual by mitigating barriers that impede individuals' participation in financial services. Financial inclusion circle around the domain of accessibility, availability, and utilization of formal-type financial products by the whole members of the given economy (Shair et al., 2024a). Financial inclusion covers access to financial products like banking services, insurance, equity options and loans from a formal banking institution. Valuing the level of financial services contingent upon the three main dimensions namely access, usage, and quality. Access to financial services is related to the ease and cost of financial services. While usage is related to how often and in how many ways these services are utilized by the individuals. On the other hand, quality as a dimension of financial inclusion covers the suitability, reliability, safety, and convenience of financial products and services. The subject of financial inclusion is crucial as it is directly related to the achievement of some targets of United Nations' Sustainable Development Goals (SDGs) (Odugbesan et al., 2020).

Understanding the significance of financial literacy is essential when considering the role it plays in promoting financial inclusion. Research has shown a clear connection between financial literacy and the spread of financial inclusion (Atkinson & Messy, 2013). Understanding the significance of financial inclusion, it becomes clear that it is crucial in achieving a range of social and economic goals. These goals encompass a range of important objectives, such as alleviating poverty, advancing income equality, creating employment prospects,

empowering women, and promoting sustainable development (Bekele, 2023). Many countries have adopted national financial inclusion strategies and policies to promote and regulate financial inclusion in particular situations. From 1990, attention to this topic rapidly increased and the field known as financial technology or fintech started to develop quite rapidly. The introduction and the application of technology in finance are transforming the financial services market, bringing in new players and services designed to improve the ease of use. The services of Fintech are seen as a highway to enormous potential in the financial sector as it has the power to change how financial services are offered and consumed (Arner et al., 2020).

Financial inclusion relates strongly to the economy in terms of growth, development and the elimination of poverty and inequality while enhancing human and social development (Sarma & Pais, 2011). It promotes good savings, efficient capital ownership, trade, creativity, and investment, thus reducing the prices of capital (Qamruzzaman, 2023). Access to basic financial services such as credit, savings, insurance and payments makes it easier for low income families to contribute both human and physical capital which translates into the advancement of the underprivileged group of people and a fair distribution of economic resources. It also enhances health, education and gender equity which boosts social trust and unity (Ozili, 2020). One of the core variable in relation to inclusive finance is the ownership of a bank account which has proven to affect among other variables, credit, consumption and the accumulation of wealth. This allows the pursuit of formal debt, enabling households to smooth income over times of investment and significant assets, enhancing the economic status of the family (Taylor, 2012). The banking system is structured in such a way that the possession of a bank account allows its owners to incur savings, purchasers of financial and non-financial assets, thereby reducing the cost of transactions and enhancing access to finance (Prina, 2015).

According to Global Findex Report 2021 released by the World Bank in 2021 on financial inclusion. The account ownership has seen a 50 per cent increase over the past decade, since 2011 to date. The developing countries are lag behind because the proportion of adults with bank accounts has grown from 63 percent to 71 percent. Despite this progress, nearly 1.4 billion adults globally still lack access to bank accounts. The number of unbanked individuals decreased from 2.5 billion in 2011 to 1.7bn in 2017, with Pakistan accounting for 115 million adults without bank accounts. Financial inclusion facilitates opportunities for saving within formal sectors globally, with 49% of adults having saved money in the past year and 31% doing so through formal channels like banks or mobile money accounts (Demirgüç-Kunt et al., 2021). Motivations for saving include preparing for future expenses, investing, retirement planning, and emergency preparedness. Regular savings enhance budget management and reduce dependence on debt. Formal savings accounts offer benefits such as financial security, better income management, risk reduction, financial literacy, access to credit, empowerment, capital formation, and economic growth, ultimately promoting financial stability and market efficiency.

Financial inclusion promotes formal sector borrowing, including loans from financial institutions, credit cards, and mobile money accounts. In 2021, 53% of the global population reported borrowing from both formal and informal sources like family or savings groups (Demirgüç-Kunt et al., 2021). Formal borrowing offers significant advantages such as access to larger sums, lower interest rates, flexible repayment options, legal protection, and the opportunity to build a credit history. These features not only lower the cost of borrowing but also help in budgeting, ensure fairness, and prevent financial strain. Furthermore, formal borrowing supports social cohesion, entrepreneurial growth, and broader economic activities. A growing body of literature has identified demographic and socioeconomic traits as key determinants of financial inclusion. Zins and Weill (2016), using Global Findex data across 37 African countries, found that being male, older, more educated, and having higher income positively influenced account ownership and mobile banking usage. Similar insights emerged in Pakistan, where Zulfiqar et al. (2016) reported that financial inclusion is constrained by income disparities, gender inequality, and educational gaps. Studies by Asuming et al. (2019) and Badar et al. (2020) reinforced these findings, showing that age, gender, education, and income remain significant predictors across sub-Saharan Africa and South Asia, while macroeconomic factors like GDP growth influence the overall pace of inclusion.

In addition to individual-level characteristics, institutional and structural factors have also been explored. Dar and Ahmad (2020) highlighted the relevance of education and gender in influencing both formal and informal

financial practices in India. Similarly, Ahmad and Rooh (2022) underscored that the lack of documentation and limited access to resources are critical barriers to inclusion in Pakistan, despite increased credit card use. Studies by Omar and Inaba (2020) and Bekele (2023) extended the scope to macroeconomic and policy-level factors, linking financial inclusion with poverty reduction and economic liberalization. Together, these studies underscore the multifaceted nature of financial inclusion, emphasizing the interplay of micro and macro variables across regions. While prior studies have examined financial inclusion in South Asian countries such as Pakistan and India (e.g., Ahmad & Rooh, 2022; Dar & Ahmad, 2020; Shair et al., 2024a; 2024b), they largely rely on earlier rounds of the Global Findex database. These country-specific analyses often suffer from limited response rates, particularly for key indicators like formal savings, borrowing, and financial barriers. This study addresses this gap by utilizing the most recent Global Findex 2021 data and adopting a regional focus on South Asia, which enables a more comprehensive and statistically robust analysis of financial inclusion patterns across the region.

This study aims to examine the influence of socioeconomic, demographic, and individual characteristics—including age, gender, income, education, and employment status—on financial inclusion in South Asia, measured through three key dimensions: account ownership, formal savings, and formal borrowing. Beyond the aggregate analysis, the study further explores heterogeneity by disaggregating the data across gender (male and female) and geographical location (urban and rural). This stratified approach provides deeper insights into the varying determinants of financial inclusion and uncovers contextual nuances that may inform more targeted financial policies and interventions in the region.

The significance of this study lies in its contribution to understanding the multifaceted drivers of financial inclusion in South Asia—a region marked by persistent disparities in access to formal financial services. By analyzing key socioeconomic and demographic factors, the study provides evidence-based insights into who remains excluded and why. Its focus on heterogeneity across gender and rural-urban divides further enriches the analysis, highlighting structural and contextual barriers. The findings can inform policymakers, financial institutions, and development agencies in designing more inclusive financial strategies and targeted interventions to promote equitable access to financial resources, ultimately supporting broader goals of economic development and social empowerment in the region.

Theoretical Framework

Financial inclusion is bringing financial services that are affordable and accessible to the underprivileged economically so that they can participate actively in the economy. Such economic growth will enormously reduce poverty and inequality, financially reduce risks, and enhance stability in the financial sector as well (Kim et al., 2018; Neaime & Gaysset, 2018). Studies have reported direct effects of formal financial services, such as borrowing, on health, education, and wellbeing (Duvendack et al., 2011). Factors that contribute to the differences in various countries' financial inclusion include digital finance, financial literacy, and regulatory frameworks, among others (Grohmann et al., 2018). Social exclusion and inclusion is derived from economic discourses of poverty and inequality (Sen, 2000; Shair et al., 2024c). The denial of resources, rights, and services necessary to all people's welfare is what it refers to, while social inclusion means the extension of opportunities and resources so that vulnerable groups are involved in economic, social, and cultural life. Ozili (2020) identified twelve theories in financial inclusion/exclusion such as public good theory, where access to universal financial services needs to be marked and understood, and the vulnerable group theory, pointing out inability amongst specific marginalized groups to effectively take part in financial services.

The three main dimensions of financial inclusion include access, usage, and quality of infrastructure, respectively (Sarkar et al., 2023). Digital payments, savings, and borrowing can enable economic empowerment of women through access to a financial account along with social autonomy towards accessing finance. Better the quality of infrastructure, and in turn, will be the quality of financial inclusion if the infrastructure avails higher financial resilience to help individuals cope with short-term shocks and financial stress. A formal financial account is accessed through various means, such as increased wealth, education,

urban residency, employment, and marital status (Zins & Weill, 2016). Adequate political stability, strong institutions, and an enhanced legal framework support the development of financial inclusion (Allen et al., 2016). The existing gender inequality is still a significant issue because women are restricted in such activities due to inadequate financial literacy, poor documentation, and limited assets to base their activities on, especially in developing countries (Ghosh & Vinod, 2017). Financial well-being is the management of finances and planning for the future and relates to financial literacy, capability, and accessible savings (Xiao & O'Neill, 2018). Determinants of financial well-being include age, education, income, and family structure which are thought to influence individuals' perceptions of financial well-being (Shim et al., 2009). Understanding how such determinants work can assist in making it easier to improve financial security and overall well-being.

The theoretical framework (Figure 1) conceptualizes financial inclusion as a multidimensional construct, operationalized through three key indicators: account ownership, formal saving, and formal borrowing. These indicators are influenced by a common set of determinants categorized into socio-economic (e.g., income, employment), demographic (e.g., age, gender), and personal traits (e.g., education, digital access). This framework provides a structured lens to examine how individual-level characteristics shape engagement with formal financial services. By disaggregating financial inclusion into distinct but related dimensions, the model enables a nuanced analysis of inclusion patterns and supports the identification of barriers and facilitators specific to each financial behavior. It also guides the empirical strategy by aligning each dependent variable with a consistent set of explanatory factors.

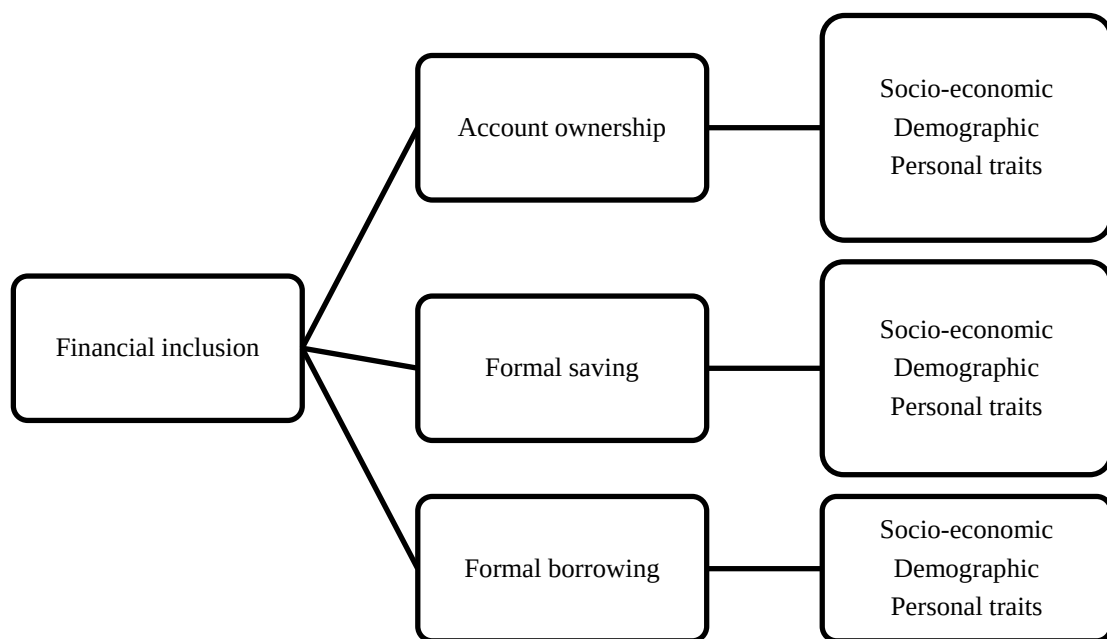


Figure 1. Theoretical framework on financial inclusion.

Methodology

In this study, we explore the factors influencing financial inclusion using a logistic regression model, as the dependent variable is a binary dummy. Economic literature often recommends the Logit model to estimate the likelihood that certain covariates will occur (Greene, 2003; Gujarati, 2009). The logistic regression formula is given by:

$$P_i = E\left(y_i = \frac{1}{x_i}\right) = \Lambda(Z) = \frac{e^Z}{1+e^Z} \quad (1)$$

$$Z_i = X\beta \quad (2)$$

Here, P_i represents the probability of achieving financial inclusion, with Y_i as the binary dependent dummy variable that indicates 1 for the presence of financial inclusion, 0 otherwise. The term $Z = \beta X$, where X denotes

the vector of independent variables comprising socioeconomic, demographic, regional, and personal characteristics.

Table 1. Definition of variable.

Variable	Description
Financial inclusion (dependent variable)	It consists of three variables: Y_1 is a binary variable, coded 1 if the individual has access to bank account, zero otherwise. Y_2 is a binary variable, coded 1 if individual saved in a bank, zero otherwise. Y_3 is a binary variable, coded 1 if individual borrowed money from bank account, zero otherwise.
Gender	Coded 1, if respondent is male, zero otherwise
Age	Age in years old.
Income	Ordinal categorical variable takes a value ranges from quantile 1 to quantile 5.
Education	Ordinal categorical variable, coded 1 for primary or no education, 2 for secondary, 3 for tertiary education.
Employed	Dummy variable coded 1 if individual is employed, zero otherwise
Area	Dummy variable coded 1, if a person is from urban area, zero otherwise
Digital resources	Multinomial categorical variable, coded 1 if individual own mobile, 2 if mobile and internet, 3 for no mobile.
Resilience	Dummy variable coded 1 if individual responded to arrange emergency funds in a week, zero otherwise

Data and Descriptive Analysis

Data source

The current study is based on the Global Findex 2021 database. The data set is available at the website of the World Bank and can be accessed by making an online request. The current round of the survey covers around 128,000 persons from 123 nations in 2021. The available sample covers 8,009 individuals from the six countries of South Asia, excluding Bhutan and the Maldives.

Descriptive statistics

We presented the distribution of the indicators of financial inclusion in Figure 2. We presented holding a financial account, saving money at a formal institution, and borrowing from the formal sector among the individuals of South Asia. The descriptive statistics reveal that 57% individuals have a financial bank account. The current level is less than the global average, which stands at 76%. On the other hand, the participation in formal savings and borrowing activities depicts a different picture. In the sample, 14.3% of the individuals from South Asia reported engagement in saving money at formal institutions. Likewise, 10.6% of the individuals from South Asia reported borrowing money from formal institutions. These relatively low percentages reflect several underlying factors affecting financial behavior in South Asia.

We presented the descriptive analysis of the variables used in the study, including the dependent and independent variables in Table 2. Among 8,009 observations, approximately 57% of the individuals have a financial account. This high average, with a standard deviation of 0.495, indicates a nearly even split within the population between those who have and do not have bank accounts. The binary nature of this data (0 for no account, 1 for having an account) highlights a significant level of penetration of financial services but also suggests room for growth in financial inclusion efforts. The engagement in formal financial saving (14.3%) and borrowing (10.6%) behaviors among the respondents, based on 7,973 and 7,981 observations, respectively.

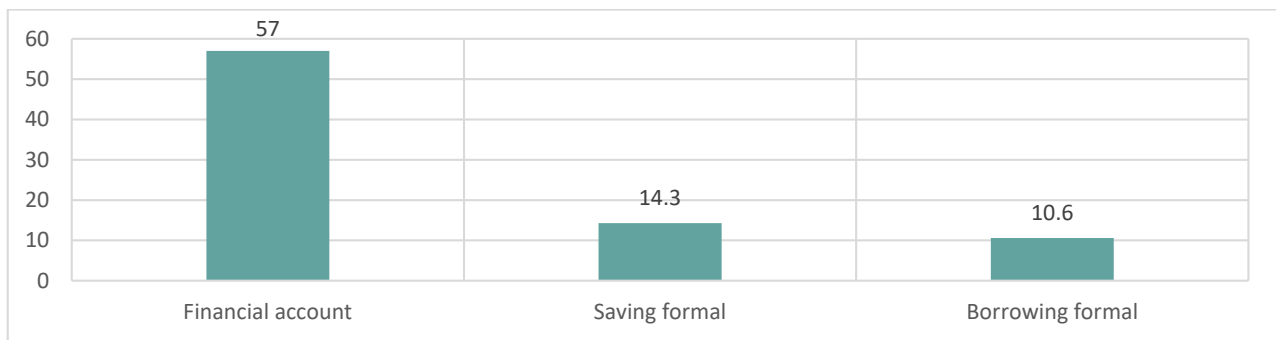


Figure 2. Proportion of individuals with access to bank accounts and financial services.

In the sample, age is segmented into four age groups. The majority of the population falls within the 21-40 age group, constituting 56.6% of the sample, which reflects a youthful demographic. The 41-60 age group represents 26.2%, while those above 60 make up only 5.8%, indicating a smaller elderly population. Those below 21 account for 11.4% of the sample. The gender distribution is evenly split with 50% females and 50% males, suggesting that the sample is well-balanced in terms of gender representation. Education levels are categorized into three groups. A slight majority (50.4%) has primary or less education, 42.9% have secondary education, and a small fraction (6.8%) possesses tertiary education. This distribution may point to limited access to higher education or reflect the regional educational norms.

The income distribution reveals a gradation from lower to upper income brackets. The lower and lower middle-income groups each make up approximately 17%, middle-income individuals represent 19.4%, upper middle 21.2%, and upper income, the largest segment at 25%. This suggests a somewhat skewed income distribution favoring higher income levels. About 55.5% are within the workforce, while 44.5% are out, which may reflect regional economic conditions, cultural factors influencing work participation, or age distribution impacts (such as a significant number of young individuals or retirees). The population is nearly evenly split between rural (53.4%) and urban (46.6%) residences, indicating a balanced mix of urbanization, which may influence accessibility to services, employment opportunities, and lifestyle choices. Access to technology is segmented into three categories: no mobile and internet (23.5%), mobile only (41.2%), and both mobile and internet (35.3%). This highlights significant digital connectivity, with over three-quarters of the population having some form of mobile connectivity, reflecting the penetration of mobile technology even in less urbanized areas. Resilience, likely measured by the ability to access emergency cash in a week, shows that 72.6% of respondents do not consider themselves resilient, while 27.4% do. This could indicate vulnerabilities within the population to economic fluctuations or crises.

Table 2. Descriptive statistics of the whole sample.

Variable	Obs	Mean	Std. dev.	Min	Max
Financial account	8,009	0.57	0.495	0	1
Saving formal	7,973	0.143	0.35	0	1
Borrowing formal	7,981	0.106	0.308	0	1
Age below 21 (base)	8,009	0.114	0.317	0	1
Age 21-40	8,009	0.566	0.496	0	1
Age 41-60	8,009	0.262	0.44	0	1
Age above 60	8,009	0.058	0.233	0	1
Female	8,009	0.5	0.5	0	1
Male	8,009	0.5	0.5	0	1
Primary or less education	7,995	0.504	0.5	0	1

(base)					
Secondary education	7,995	0.429	0.495	0	1
Tertiary education	7,995	0.068	0.251	0	1
Lower income (base)	8,009	0.171	0.377	0	1
Lower middle	8,009	0.173	0.379	0	1
Middle	8,009	0.194	0.395	0	1
Upper middle	8,009	0.212	0.409	0	1
Upper	8,009	0.25	0.433	0	1
Employment status:					
In the workforce	8,009	0.555	0.497	0	1
Out of the workforce	8,009	0.445	0.497	0	1
Rural	7,004	0.534	0.499	0	1
Urban	7,004	0.466	0.499	0	1
No mobile and internet	7,960	0.235	0.424	0	1
Mobile only	7,960	0.412	0.492	0	1
Both mobile & internet	7,960	0.353	0.478	0	1
Resilience					
No	6,805	0.726	0.446	0	1
Yes	6,805	0.274	0.446	0	1

Cross-tabulation

We presented cross-tab in Table 3 and also in Figure 3, which represents the variables examined are whether individuals have a financial account, engage in formal savings, and engage in formal borrowing, with percentages indicating participation within each category. The age below 21 years are least likely to have a financial account, with only 8.9% indicating they do, compared to 14.6% who do not. For formal saving and borrowing, the engagement is also low (9.2% and 5.1%, respectively), further underscoring financial inactivity or barriers such as insufficient funds or financial literacy. Age 21-40 years is the most engaged, with over half (56.3%) having a financial account. They also show the highest percentages for both saving (55.7%) and borrowing formally (57.9%). Age 41-60 years' engagement remains high but less than the previous group, with 28.1% having accounts and 29.2% saving formally. They have the highest engagement in borrowing (32.8%), possibly due to mid-life financial obligations such as children's education or health expenses. Age above 60 years shows the lowest engagement, with only 6.7% having financial accounts, suggesting retirement and reduced financial activity as major factors. Both saving and borrowing rates are correspondingly low (6% and 4.2%). Female representation is lower in all financial behaviors compared to males, with 46.3% having accounts versus 55.1% who do not, indicating significant gender disparity in financial access or participation. For saving and borrowing, the rates are 44.5% and 49.4%, respectively. Males (53.7%) have financial accounts, and they engage more in formal savings (55.5%) and borrowing (50.6%).

Primary or less education shows significant exclusion, with 40.8% having financial accounts and only 24% engaging in formal saving. This segment, with 63% not having financial accounts, points to the critical impact of education on financial inclusion. Secondary education depicting a noticeable improvement in engagement, with 49.5% having accounts and 62.5% saving formally, indicating that education enhances financial literacy and access. Tertiary education, despite being a smaller group, they show the highest engagement in formal savings (13.4%) but a moderate 9.6% having financial accounts, suggesting that higher education potentially offers better opportunities for economic advancement and financial understanding.

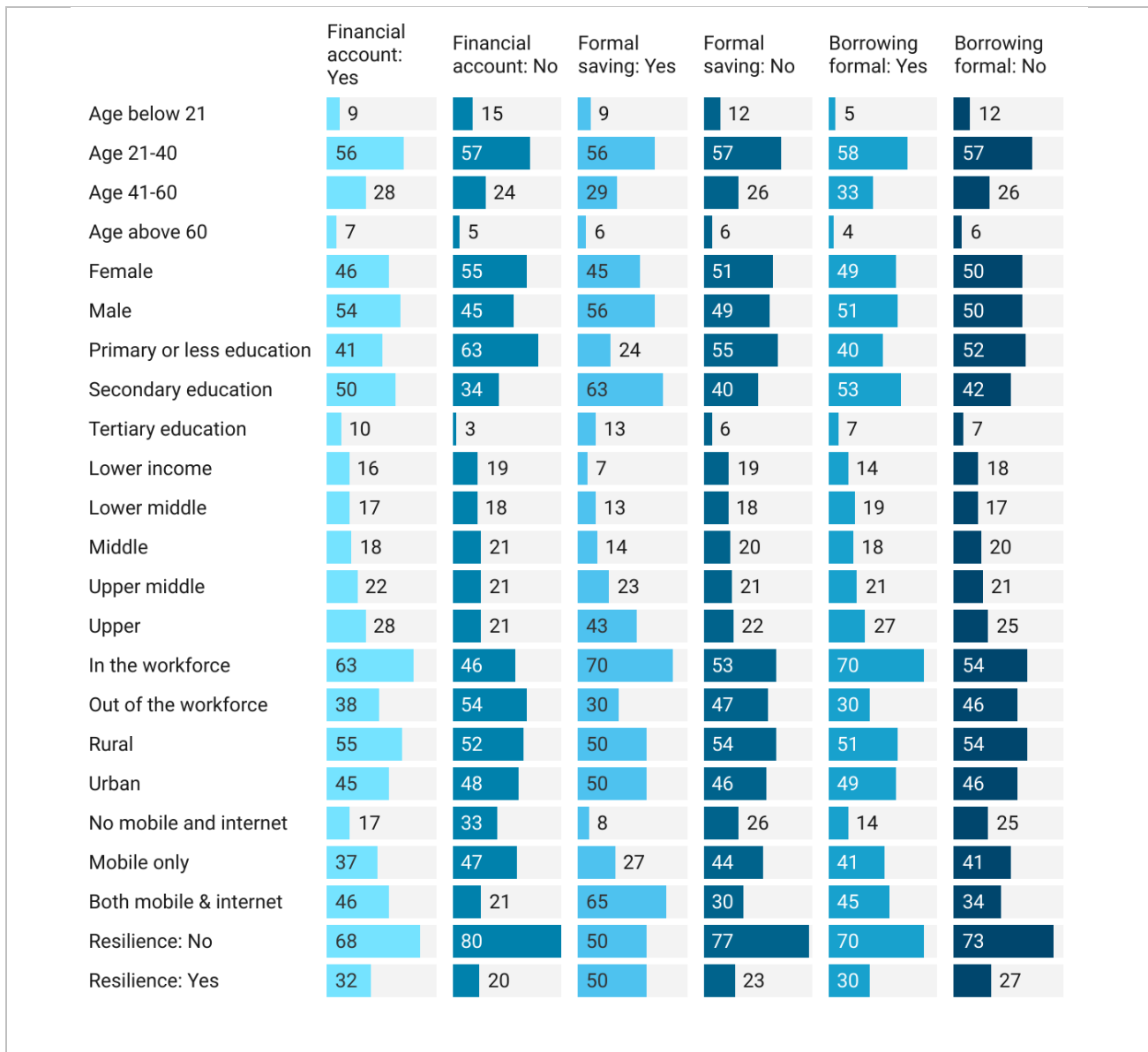


Figure 3. Cross-tabulation representation of indicators of financial inclusion.

The “Upper” income bracket shows the highest engagement in all categories (28% have accounts, 43.1% save formally), underscoring the link between income and financial activity. Conversely, the “Lower” income bracket’s low engagement (15.6% have accounts, 7% save formally) highlights the barriers faced by lower-income individuals in accessing financial services, likely due to affordability or perceived relevance.

The person who are in the workforce shows significantly higher financial activity. About 62.5% have financial accounts, 69.6% engage in formal savings, and 70% in borrowing. These higher percentages are likely due to regular income and economic stability, which provide both the means and the necessity to engage with financial services. However, out-of-the-workforce people have lower engagement in all financial activities reflects this group’s potentially lower or inconsistent income. Only 37.5% have financial accounts, 30.4% save formally, and 30% borrow formally, which could reflect retirees, homemakers, or the unemployed, who may have less need or ability to utilize financial services actively.

Residents in rural areas have a moderate level of engagement with financial institutions. About 54.7% have financial accounts, slightly less than half save formally (49.9%), and 51.1% engage in borrowing. These figures could reflect limited access to financial institutions or services typical of rural settings. On the contrary, urban residents are slightly less engaged in financial activities compared to rural residents, potentially due to differences in the availability of informal financial services or different socio-economic dynamics in urban settings. Around 45.3% have financial accounts, and 50.1% engage in formal savings, with 48.9% borrowing.

A person with no mobile and internet access, indicating lower financial participation, with only 16.5% having financial accounts, suggests that lack of connectivity greatly limits access to financial information and online financial services. A person with mobile only shows higher engagement than those without any digital access: 37.1% have financial accounts, and 40.6% engage in borrowing, likely leveraging mobile banking services. A person having access to both mobile and internet is the highest engagement in financial behaviors: 46.4% have financial accounts, 65.3% are saving formally, and 45.3% are borrowing formally. This suggests that full digital connectivity provides enhanced access to financial services and information, facilitating higher financial activity. The person who is not resilient, perhaps reflecting a vulnerability to financial shocks, shows significant financial engagement, possibly as a coping mechanism or due to necessity: 67.7% have financial accounts, and 69.8% borrow formally. Individuals who perceive themselves as resilient show less engagement in borrowing (30.2%) and slightly more in savings (50.4%). This could indicate better financial health or less need to rely on borrowing due to better preparation for financial downturns.

Table 3. Cross-tabulation representation of indicators of financial inclusion.

Variable	Financial account		Formal saving		Borrowing formal	
	Yes	No	Yes	No	Yes	No
Age below 21 (base)	0.089	0.146	0.092	0.117	0.051	0.121
Age 21-40	0.563	0.571	0.557	0.568	0.579	0.565
Age 41-60	0.281	0.238	0.292	0.257	0.328	0.255
Age above 60	0.067	0.046	0.06	0.057	0.042	0.059
Female	0.463	0.551	0.445	0.51	0.494	0.501
Male	0.537	0.449	0.555	0.49	0.506	0.499
Primary or less education (base)	0.408	0.63	0.24	0.548	0.403	0.515
Secondary education	0.495	0.34	0.625	0.396	0.532	0.417
Tertiary education	0.096	0.03	0.134	0.056	0.065	0.068
Lower income (base)	0.156	0.191	0.07	0.188	0.144	0.175
Lower middle	0.168	0.18	0.131	0.181	0.19	0.171
Middle	0.179	0.213	0.142	0.202	0.182	0.195
Upper middle	0.217	0.205	0.226	0.21	0.213	0.212
Upper	0.28	0.21	0.431	0.22	0.271	0.247
Employment status:						
In the workforce	0.625	0.463	0.696	0.532	0.7	0.539
Out of the workforce	0.375	0.537	0.304	0.468	0.3	0.461
Rural	0.547	0.521	0.499	0.538	0.511	0.536
Urban	0.453	0.479	0.501	0.462	0.489	0.464
No mobile and internet	0.165	0.327	0.08	0.26	0.141	0.246
Mobile only	0.371	0.467	0.267	0.437	0.406	0.413
Both mobile & internet	0.464	0.206	0.653	0.303	0.453	0.341
Resilience:						
No	0.677	0.797	0.496	0.77	0.698	0.73
Yes	0.323	0.203	0.504	0.23	0.302	0.27

Results and Discussion

Logistic regression model of Account ownership

In the context of this study, the dependent variable is a binary indicator coded as 1 if an individual owns a bank account and 0 otherwise. The estimated odds ratios from the logistic regression model, reported in Table 4, quantify the likelihood of account ownership across different age groups, using individuals below the age of 21 as the reference category.

The results reveal a consistent and statistically significant positive association between age and the likelihood of owning a bank account across all subsamples, except for the urban population in the 21–40 age group. For the full sample (Column 1), individuals aged 21–40 are 1.55 times more likely to own a bank account compared to those under 21, holding other factors constant. This likelihood increases with age: individuals aged 41–60

have 2.44 times higher odds of account ownership, while those above 60 have 4.09 times the odds compared to the base group. When disaggregated by gender, the pattern remains robust. Among females (Column 2), the odds of account ownership increase progressively with age: 1.48 (ages 21–40), 2.33 (ages 41–60), and 2.97 (above 60), each significant at the 1% level. Males (Column 3) exhibit even stronger associations, with odds ratios of 1.69, 2.63, and 4.84 for the respective age groups. The age gradient is particularly pronounced in rural areas (Column 4), where individuals aged 21–40 are nearly twice as likely to own an account ($OR = 1.91$), while those aged 41–60 and above 60 are 3.76 and 6.14 times more likely, respectively. This suggests that age is a stronger determinant of financial inclusion in rural settings. In contrast, for urban individuals (Column 5), only the older age brackets show a significant effect: those aged 41–60 and above 60 have odds ratios of 1.48 and 2.55, respectively, while the 21–40 age group does not differ significantly from the reference group.

Overall, these findings underscore that older individuals are significantly more likely to own bank accounts, with the relationship being stronger among men and rural residents. This age-related disparity may reflect greater financial need, income stability, or awareness among older populations and highlights the necessity for targeted interventions to promote account ownership among the youth, particularly in urban settings.

The odds ratio for the variable Female in the whole sample is 0.921, suggesting that women are about 8% less likely than men to own a bank account. However, this estimate is not statistically significant, indicating that gender alone does not substantially explain differences in account ownership across the entire population. When the analysis is disaggregated by location, a more nuanced pattern emerges. In the rural sample, the odds ratio for being female is 0.859, which is statistically significant at the 10% level. This implies that rural women are approximately 14% less likely to own a bank account compared to their male counterparts, highlighting a gender-based disparity in financial access in rural areas. In contrast, for the urban sample, the odds ratio is 1.002, indicating virtually no difference in account ownership between urban men and women. These findings align with existing literature suggesting that rural women face greater social, economic, and institutional barriers to financial access than urban women, who may benefit from better infrastructure, education, and proximity to formal banking services.

Individuals with secondary education are significantly more likely to own a bank account across all subsamples. In the full sample, the odds ratio is 1.369, indicating that individuals with secondary education are approximately 37% more likely to own an account than those with only primary education. This effect holds for both genders—1.285 for females and 1.469 for males—and across rural (1.454) and urban (1.301) areas, underscoring the consistent value of secondary education in promoting account ownership. The impact of tertiary education is even more pronounced. Compared to the base group, individuals with tertiary education are nearly three times more likely to own a bank account in the full sample ($OR = 2.911$). The effect is strongest among males ($OR = 3.504$) and rural residents ($OR = 3.246$), while still highly significant among females ($OR = 2.114$) and urban individuals ($OR = 2.572$). These results suggest a steep gradient in financial inclusion with rising education levels. Higher education likely enhances financial literacy, employment prospects, and awareness of formal financial services, thereby increasing the likelihood of bank account ownership. These findings reinforce the critical role of education in reducing access barriers and promoting inclusive financial participation across diverse population groups.

In the full sample, individuals in the lower middle-income group do not significantly differ from the reference group ($OR = 1.039$), suggesting that modest upward movement in income alone does not translate into a higher likelihood of account ownership. Interestingly, those in the middle-income group are 23% less likely to own a bank account ($OR = 0.774$, $p < 0.01$) compared to the lowest-income group, with this pattern also significant among females ($OR = 0.779$) and particularly strong in rural areas ($OR = 0.714$). Similarly, individuals in the upper middle-income group show no significant difference from the base in most samples, except in rural areas, where they are 23% less likely to own an account ($OR = 0.771$, $p < 0.05$). The effect is most pronounced in the upper-income category. Across the full sample, individuals in the highest income group are 21% less likely to own a bank account than those in the lowest group ($OR = 0.789$, $p < 0.05$). This finding is statistically significant among females ($OR = 0.671$, $p < 0.01$) and in rural settings ($OR = 0.581$, $p < 0.01$), while the effect is

mutated and statistically insignificant among males and in urban areas. These results may reflect informal financial behavior among middle- and upper-income groups, especially in rural areas, where higher earners may rely on non-bank alternatives or lack trust in formal institutions. This underscores the importance of financial education and institutional trust-building alongside income-based strategies.

Using employed individuals as the reference group (not shown), the odds ratio for being out of the workforce is 0.632 in the full sample, indicating that individuals who are not economically active (e.g., students, homemakers, elderly) are approximately 37% less likely to own a bank account. This effect is both statistically significant and robust across subsamples. The impact is particularly stark among females, where the odds ratio is 0.471, suggesting that women outside the labor force are 53% less likely to have a bank account than working women. In rural areas, the odds ratio is 0.714, while in urban areas, it is even lower at 0.562, both highly significant. Among males, however, the relationship is weaker and statistically insignificant ($OR = 0.876$), indicating that employment status has a stronger bearing on financial inclusion for women than for men. Individuals out of the workforce, especially women, may lack independent income, face social or mobility constraints, or perceive less need for formal financial services, reducing the likelihood of bank account ownership. These findings highlight the intersection of economic participation and financial inclusion, particularly among marginalized groups.

In the whole sample, the odds ratio is 0.914, indicating that urban residents are approximately 9% less likely to own a bank account than rural residents; however, this difference is not statistically significant. When disaggregated by gender, the relationship becomes more pronounced among females, where the odds ratio is 0.856 and statistically significant at the 10% level. This suggests that urban women are 14% less likely to own a bank account compared to rural women, holding other factors constant. Among males, the effect is negligible and statistically insignificant ($OR = 0.972$), implying no meaningful difference between urban and rural areas for men. The lower likelihood of account ownership among urban women may reflect greater reliance on male-controlled household finances or informal mechanisms, despite physical proximity to banking services. In contrast, rural outreach programs and social transfers may have increased rural women's formal financial engagement, narrowing or even reversing the expected urban advantage.

For the whole sample, individuals who own a mobile phone without internet are 1.235 times more likely to own a bank account, a relationship that is both positive and statistically significant ($p < 0.01$). The effect is even more pronounced among females ($OR = 1.455$) and in rural ($OR = 1.271$) and urban ($OR = 1.261$) areas, but not significant among males ($OR = 0.952$), suggesting gender-specific dynamics in mobile-driven financial access. More strikingly, individuals with access to both mobile and the internet have dramatically higher odds of owning a bank account across all subsamples. In the whole sample, the odds ratio is 2.679, meaning these individuals are nearly 2.7 times more likely to be financially included. The effect is strongest for females ($OR = 3.305$) and also substantial among males ($OR = 1.989$), rural ($OR = 2.797$), and urban ($OR = 2.703$) populations. These results suggest that digital connectivity is a powerful enabler of formal financial engagement, especially for women. Access to mobile and internet services reduces physical and informational barriers to banking, enabling digital transactions, mobile money, and financial literacy (Shair et al., 2022; 2023). The stronger effect among women reflects how digital tools can bridge gender gaps in access and autonomy, making them key drivers of inclusive financial systems.

The odds ratio for the whole sample is 1.282, indicating that individuals with higher resilience are approximately 28% more likely to own a bank account than those with lower resilience, holding other factors constant. This effect is statistically significant at the 1% level. When disaggregated by subgroup, the relationship remains robust across most samples. Among males, the effect is particularly strong ($OR = 1.423$, $p < 0.01$), suggesting that resilient men are significantly more likely to engage with formal financial systems. Similarly, in rural ($OR = 1.285$) and urban ($OR = 1.281$) populations, resilience is a significant predictor of account ownership. However, among females, the association is positive but not statistically significant ($OR = 1.108$), implying that resilience alone may not be sufficient to overcome financial access barriers faced by women. Resilient individuals may demonstrate greater adaptability, proactive behavior, and planning

capacity—traits that align with engaging in formal financial services. The gender gap suggests structural or cultural barriers may still hinder women, even when they possess personal strengths like resilience.

Table 4. Results of Logit model on determinants of account ownership.

Variables	(1) whole sample	(2) female sample	(3) male sample	(4) rural sample	(5) urban sample
Age below 21 (base)					
Age 21-40	1.550*** (0.142)	1.483*** (0.200)	1.692*** (0.218)	1.908*** (0.237)	1.235 (0.170)
Age 41-60	2.435*** (0.250)	2.329*** (0.356)	2.628*** (0.376)	3.755*** (0.526)	1.475** (0.226)
Age above 60	4.090*** (0.616)	2.970*** (0.714)	4.836*** (0.967)	6.136*** (1.247)	2.554*** (0.591)
Female	0.921 (0.0577)			0.859* (0.0734)	1.002 (0.0940)
Primary or less education (base)					
Secondary education	1.369*** (0.0881)	1.285*** (0.122)	1.469*** (0.130)	1.454*** (0.131)	1.301*** (0.121)
Tertiary education	2.911*** (0.381)	2.114*** (0.443)	3.504*** (0.592)	3.246*** (0.603)	2.572*** (0.477)
Lower income (base)					
Lower middle	1.039 (0.100)	1.123 (0.147)	0.974 (0.142)	1.034 (0.126)	1.124 (0.185)
Middle	0.774*** (0.0725)	0.779* (0.102)	0.809 (0.110)	0.714*** (0.0854)	0.940 (0.146)
Upper middle	0.917 (0.0846)	0.869 (0.112)	0.978 (0.132)	0.771** (0.0930)	1.233 (0.183)
Upper	0.789** (0.0740)	0.671*** (0.0900)	0.922 (0.125)	0.581*** (0.0739)	1.117 (0.163)
Out of workforce	0.632*** (0.0385)	0.471*** (0.0398)	0.876 (0.0797)	0.714*** (0.0593)	0.562*** (0.0510)
Urban	0.914 (0.0521)	0.856* (0.0710)	0.972 (0.0776)		
No mobile (base)					
Mobile	1.235*** (0.0880)	1.455*** (0.133)	0.952 (0.113)	1.271** (0.121)	1.261** (0.140)
Mobile & internet	2.679*** (0.237)	3.305*** (0.427)	1.989*** (0.264)	2.797*** (0.346)	2.703*** (0.348)
Resilience	1.282*** (0.0864)	1.108 (0.113)	1.423*** (0.131)	1.285*** (0.121)	1.281** (0.125)
Constant	0.523*** (0.0652)	0.669** (0.113)	0.443*** (0.0822)	0.422*** (0.0693)	0.520*** (0.105)
Observations	5,881	2,829	3,052	3,165	2,716

Robust seeform in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Logistic regression model of formal savings

Table 5 presents the results of a logistic regression analysis examining the determinants of formal savings, where the dependent variable is binary and coded as 1 if an individual has formal savings and 0 otherwise. The model evaluates how demographic, socioeconomic, and behavioral factors influence the likelihood of formal saving across the whole sample and key subgroups, including by gender and location (rural vs. urban). Odds ratios are reported to interpret the direction and strength of each association.

In this logistic regression model, where the dependent variable is binary and coded as 1 if an individual reports

formal savings and otherwise, age is a strong and statistically significant predictor. Compared to individuals below age 21, those aged 41–60 are nearly twice as likely to report formal savings in the full sample ($OR = 1.979$, $p < 0.01$), with this effect consistent across gender and location subgroups. The odds increase further for individuals above 60, especially among males ($OR = 4.054$) and in rural areas ($OR = 3.083$), suggesting that older age groups are substantially more financially engaged than youth. Older individuals are more likely to save formally due to accumulated income, greater financial responsibility, and long-term planning needs. This age-related trend highlights the importance of designing savings products tailored to younger populations to encourage early financial inclusion.

The odds ratio for females is 0.697 in the full sample, indicating that women are 30% less likely than men to hold formal savings, a difference that is statistically significant. This disparity is more pronounced in rural areas ($OR = 0.635$), while it is slightly smaller yet still significant in urban settings ($OR = 0.776$). These findings highlight persistent gender gaps in financial behavior and access. Women's lower likelihood of formal savings may stem from income inequality, restricted financial autonomy, or sociocultural norms. This emphasizes the importance of gender-responsive financial policies and targeted interventions to promote women's economic participation and savings behavior.

Compared to individuals with primary or less education, those with secondary education are significantly more likely to save formally ($OR = 1.362$, $p < 0.01$ in the full sample), with the effect especially strong among males ($OR = 1.556$) and in rural areas ($OR = 1.419$). The impact intensifies for those with tertiary education, who are more than twice as likely ($OR = 2.099$) to report formal savings in the overall sample, with the strongest effect in urban areas ($OR = 2.806$) and among males ($OR = 2.668$). Higher education likely enhances financial literacy, income potential, and awareness of formal financial tools, increasing the likelihood of saving through institutional channels. The stronger effect among urban and male respondents may reflect greater labor market integration and exposure to financial services.

Household income is found to be a strong and consistent determinant of formal savings behavior. Compared to individuals in the lower income category, those in higher income brackets are significantly more likely to report formal savings. In the full sample, individuals from lower middle, middle, upper middle, and upper income groups are 1.45, 1.51, 1.82, and 2.21 times more likely, respectively, to have formal savings, with all results statistically significant. The effect is particularly strong among females, where the odds more than double across all income tiers, peaking at 2.85 times for women in the upper income group. Among males, the relationship is also positive but slightly more moderate, with significance appearing from the upper middle tier onward. Both rural and urban samples reflect a clear upward trend: individuals in the upper income bracket are nearly twice as likely (rural: $OR = 1.996$; urban: $OR = 2.469$) to save formally compared to their low-income counterparts. Higher-income individuals have more discretionary income and stronger incentives to engage with formal financial systems. This relationship underscores how economic capacity directly influences saving behavior and highlights the need for inclusive financial products that also cater to low-income households.

Being out of the workforce significantly reduces the likelihood of formal savings. In the full sample, the odds ratio is 0.601, indicating that non-working individuals are 40% less likely to have formal savings compared to those who are employed. This effect is strongest among females ($OR = 0.458$), and remains statistically significant in both rural ($OR = 0.617$) and urban ($OR = 0.592$) samples. The effect is not significant for males ($OR = 0.799$), suggesting gendered economic vulnerabilities. Individuals outside the labor force, particularly women, often lack stable income and financial independence, limiting their capacity to save formally. These findings underscore the importance of integrating non-working populations—especially women—into financial inclusion strategies.

The odds ratio for urban residence is 0.999 in the full sample, indicating no statistically significant difference in formal savings behavior between urban and rural individuals. This pattern holds across female ($OR = 0.921$) and male ($OR = 1.084$) subgroups, with all estimates being statistically insignificant. The lack of significant difference suggests that geographic location alone does not determine formal saving behavior, possibly due to increased financial outreach and digital access narrowing the urban-rural divide in access to savings services.

Access to mobile and internet technology shows a significant and positive association with formal saving behavior. Compared to individuals without a mobile phone, those with basic mobile access are 32% more likely to report formal savings in the full sample (OR = 1.323, $p < 0.1$), with the effect notably stronger among females (OR = 1.567) and rural residents (OR = 1.409). However, the effect is statistically insignificant among males and urban individuals, possibly due to already high baseline access. The relationship is even more robust for individuals who own a mobile and have internet access. They are 2.77 times more likely to report formal savings in the overall sample, with strong and statistically significant effects across all subgroups—female, male, rural, and urban—highlighting the transformative role of digital connectivity in promoting formal financial engagement. Mobile and internet access lowers transaction costs, improves financial literacy, and increases exposure to digital financial services, facilitating formal saving. This effect is especially strong among women and rural populations, where digital tools help bridge traditional barriers to financial inclusion.

The variable resilience, which is measured by the ability to mobilize emergency funds within a week, is a strong and statistically significant predictor. In the whole sample, resilient individuals are 2.25 times more likely to report formal savings compared to non-resilient individuals ($p < 0.01$). This relationship holds across all subgroups, with odds ratios ranging from 2.06 in urban areas to 2.42 in rural areas. Both male and female respondents with demonstrated financial resilience are significantly more likely to be engaged with formal savings mechanisms. The ability to quickly access emergency funds reflects stronger financial planning, resourcefulness, and a proactive approach to financial security—all traits aligned with formal saving behavior. These findings suggest that building household resilience may be an effective pathway to deepening financial inclusion.

Table 5. Results of Logit model on determinants of formal savings.

Variables	(1) whole sample	(2) female sample	(3) male sample	(4) rural sample	(5) urban sample
Age below 21 (base)					
Age 21-40	1.193 (0.193)	1.163 (0.277)	1.278 (0.288)	1.345 (0.306)	1.049 (0.244)
Age 41-60	1.979*** (0.349)	2.047*** (0.545)	2.014*** (0.486)	2.274*** (0.567)	1.739** (0.437)
Age above 60	2.985*** (0.721)	1.419 (0.687)	4.054*** (1.221)	3.083*** (1.032)	2.916*** (1.038)
Female	0.697*** (0.0691)			0.635*** (0.0863)	0.776* (0.114)
Primary or less education (base)					
Secondary education	1.362*** (0.146)	1.253 (0.206)	1.556*** (0.230)	1.419** (0.212)	1.329* (0.207)
Tertiary education	2.099*** (0.302)	1.444 (0.368)	2.668*** (0.488)	1.464* (0.317)	2.806*** (0.568)
Lower income (base)					
Lower middle	1.449* (0.285)	2.014** (0.573)	1.082 (0.303)	1.457 (0.349)	1.471 (0.510)
Middle	1.513** (0.283)	1.996** (0.552)	1.243 (0.320)	1.389 (0.328)	1.765* (0.556)
Upper middle	1.821*** (0.322)	2.009** (0.547)	1.688** (0.397)	1.872*** (0.415)	1.842** (0.552)
Upper	2.208*** (0.375)	2.850*** (0.739)	1.830*** (0.414)	1.996*** (0.444)	2.469*** (0.698)
Out of workforce	0.601*** (0.0617)	0.458*** (0.0617)	0.799 (0.113)	0.617*** (0.0901)	0.592*** (0.0858)
Urban	0.999 (0.0893)	0.921 (0.126)	1.084 (0.129)		

No mobile (base)					
Mobile	1.323*	1.567**	0.991	1.409*	1.223
	(0.190)	(0.285)	(0.224)	(0.267)	(0.272)
Mobile & internet	2.773***	3.027***	2.222***	2.986***	2.559***
	(0.415)	(0.616)	(0.497)	(0.607)	(0.569)
Resilience	2.250***	2.085***	2.330***	2.421***	2.064***
	(0.200)	(0.288)	(0.274)	(0.309)	(0.257)
Constant	0.0274***	0.0273***	0.0208***	0.0251***	0.0286***
	(0.00693)	(0.00969)	(0.00770)	(0.00851)	(0.0114)
Observations	5,865	2,824	3,041	3,159	2,706

Robust seeform in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Logistic Regression Model of Formal Borrowings

Table 6 presents the results of a logistic regression analysis examining the determinants of formal borrowings, where the dependent variable is binary and coded as 1 if an individual has borrowed from a bank or financial institution and 0 otherwise. The model estimates odds ratios to assess how demographic, economic, and technological factors influence the likelihood of formal borrowing across the full sample and disaggregated subgroups by gender and location.

Compared to individuals under age 21, those aged 21–40 are significantly more likely to borrow formally, with an odds ratio of 1.821 in the full sample ($p < 0.01$). This likelihood is even higher among females (OR = 2.032) and urban residents (OR = 2.243). Individuals aged 41–60 show an even stronger association, being more than twice as likely to borrow formally in the full sample (OR = 2.165), with significance across all subgroups except those above 60. For individuals above 60, the odds are not significantly different from the base group. Middle-aged adults are more likely to engage in formal borrowing due to higher creditworthiness, income stability, and life-stage financial needs such as housing or education. The weaker borrowing likelihood among the youngest and oldest groups reflects limited financial access and lower perceived need or eligibility.

The odds ratio for females is 0.696 in the full sample, indicating that women are approximately 30% less likely than men to borrow from formal financial institutions. This negative and statistically significant association persists in both rural (OR = 0.748) and urban (OR = 0.637) subsamples, suggesting consistent gender disparities in access to formal credit. Lower formal borrowing among women may reflect barriers such as limited asset ownership, lower financial literacy, or lack of collateral. These structural constraints reduce women's eligibility for formal credit and highlight the need for inclusive lending practices tailored to women's financial realities.

Education level does not show a strong or consistent association with the likelihood of borrowing from formal financial institutions. Compared to individuals with primary or less education, those with secondary education show slightly higher odds of formal borrowing across all subgroups (e.g., OR = 1.087 in the full sample), but these effects are statistically insignificant. Surprisingly, individuals with tertiary education have lower odds of formal borrowing (OR = 0.789 in the full sample), with similar patterns across gender and location, though these findings are also statistically insignificant. The lack of a significant positive effect for higher education may reflect cautious borrowing behavior among the highly educated, greater access to alternative financial sources, or higher income stability that reduces credit dependence. It may also suggest that borrowing decisions are influenced more by financial need or opportunity than by education alone.

Income level shows no clear or consistent relationship with borrowing behavior. Compared to individuals in the lower-income group, those in lower-middle and middle-income brackets do not exhibit significantly different odds of formal borrowing in the full sample. Only lower-middle-income males show a statistically significant and higher likelihood of borrowing (OR = 1.587, $p < 0.05$). For higher income groups (upper-middle and upper), the odds ratios fall below 1 across all subsamples, indicating a slight but insignificant decrease in borrowing likelihood. These results suggest that formal borrowing may be more driven by financial need than income level. Lower-middle-income males may rely on credit to bridge resource gaps, while higher-income individuals might avoid formal borrowing due to greater savings, alternative financing, or risk aversion. This

points to a non-linear and context-dependent relationship between income and borrowing behavior.

Being out of the workforce significantly reduces the likelihood of borrowing from formal financial institutions. In the full sample, the odds ratio is 0.592, indicating that non-working individuals are about 41% less likely to have formal borrowings. This negative relationship is statistically significant across all subgroups, with the strongest effect observed in urban areas (OR = 0.499). Individuals outside the workforce, such as homemakers or the elderly, often lack steady income or collateral, reducing their eligibility for formal credit. These findings highlight the importance of inclusive financial products that accommodate the unique needs of non-working populations.

Individuals residing in urban areas are significantly more likely to report formal borrowings, with an odds ratio of 1.178 in the full sample ($p < 0.1$). This suggests urban residents are approximately 18% more likely to borrow from formal financial institutions than their rural counterparts. Urban residents typically have better access to banks, financial institutions, and credit products, along with greater financial literacy and employment formality. These factors collectively increase their likelihood of engaging in formal borrowing. The finding underscores the importance of expanding credit access and financial infrastructure in rural areas to reduce geographic disparities. Access to mobile technology significantly increases the likelihood of borrowing from formal financial institutions. Compared to those without a mobile phone, individuals with basic mobile access are 34.6% more likely to borrow formally in the full sample (OR = 1.346, $p < 0.05$), with a stronger effect for females (OR = 1.833) and in rural areas (OR = 1.355). The effect is even more pronounced for those with both mobile and internet access, who are 77% more likely (OR = 1.771) to borrow formally, with consistent significance across all subgroups except males. Mobile and internet connectivity enhance access to digital financial services, credit platforms, and financial information, enabling individuals—especially women and rural residents—to engage with formal lenders. These findings support the role of digital infrastructure in expanding financial inclusion and reducing traditional barriers to formal credit access.

In the logistic regression model, resilience—defined as the ability to mobilize emergency funds—shows no statistically significant association with formal borrowings. The odds ratio is 1.024 in the full sample, indicating virtually no difference in borrowing likelihood between resilient and non-resilient individuals. The lack of significant association suggests that while resilience may reflect financial preparedness, it does not necessarily translate into higher use of formal credit. Resilient individuals may rely on savings or informal networks rather than formal borrowing. This highlights the need to distinguish between financial resilience and credit-seeking behavior in policy design.

Table 6. Results of the Logit model on determinants of formal borrowings.

Variables	(1) whole sample	(2) female sample	(3) male sample	(4) rural sample	(5) urban sample
Age below 21 (base)					
Age 21-40	1.821*** (0.328)	2.032*** (0.532)	1.624* (0.406)	1.521* (0.367)	2.243*** (0.609)
Age 41-60	2.165*** (0.415)	2.309*** (0.649)	1.959** (0.515)	2.466*** (0.631)	1.905** (0.554)
Age above 60	1.210 (0.373)	0.622 (0.404)	1.384 (0.519)	1.407 (0.535)	0.923 (0.499)
Female	0.696*** (0.0705)			0.748** (0.105)	0.637*** (0.0942)
Primary or less education (base)					
Secondary education	1.087 (0.113)	1.062 (0.160)	1.110 (0.160)	1.028 (0.156)	1.140 (0.164)
Tertiary education	0.789 (0.150)	0.627 (0.203)	0.920 (0.220)	0.831 (0.229)	0.748 (0.196)
Lower income (base)					

Lower middle	1.217 (0.187)	0.973 (0.205)	1.587** (0.367)	1.275 (0.253)	1.101 (0.267)
Middle	1.007 (0.153)	0.831 (0.177)	1.249 (0.282)	1.148 (0.228)	0.830 (0.196)
Upper middle	0.942 (0.143)	0.979 (0.201)	0.925 (0.214)	1.158 (0.233)	0.723 (0.167)
Upper	0.858 (0.129)	0.824 (0.174)	0.930 (0.206)	0.814 (0.179)	0.811 (0.174)
Out of workforce	0.592*** (0.0614)	0.567*** (0.0746)	0.616*** (0.101)	0.692** (0.101)	0.499*** (0.0729)
Urban	1.178* (0.109)	1.232 (0.166)	1.114 (0.143)		
No mobile (base)					
Mobile	1.346** (0.175)	1.833*** (0.301)	0.764 (0.151)	1.355* (0.237)	1.356 (0.267)
Mobile & internet	1.771*** (0.267)	2.206*** (0.454)	1.134 (0.242)	1.961*** (0.420)	1.629** (0.352)
Resilience	1.024 (0.107)	0.954 (0.153)	1.108 (0.157)	1.109 (0.165)	0.953 (0.141)
Constant	0.0588*** (0.0132)	0.0498*** (0.0152)	0.0606*** (0.0199)	0.0511*** (0.0153)	0.0826*** (0.0289)
Observations	5,868	2,822	3,046	3,158	2,710

Robust see form in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Conclusions

This study set out to examine how socioeconomic, demographic, and individual characteristics influence financial inclusion in South Asia across three key dimensions: account ownership, formal savings, and formal borrowing. The logistic regression analysis of account ownership reveals that age, education, and digital access are consistently strong predictors of financial inclusion, with older, better-educated, and digitally connected individuals significantly more likely to own bank accounts. The effects are particularly pronounced among men and rural residents, reflecting deeper structural disparities in financial access. Conversely, individuals outside the workforce—especially women—and those in middle and upper-income groups demonstrate lower odds of account ownership, highlighting that financial inclusion is not purely income-dependent but shaped by a combination of social, economic, and technological factors. These findings point to the need for targeted strategies that address demographic and geographic gaps to foster equitable access to formal financial services. Similarly, the determinants of formal savings and borrowings exhibit nuanced patterns. While age and digital connectivity strongly promote saving and borrowing, gender remains a critical barrier, with women significantly less likely to engage with formal financial systems. Educational attainment drives formal savings but shows no consistent impact on borrowing, suggesting differing motivations and constraints across financial behaviors. The insignificant role of resilience in formal borrowing further reinforces that preparedness does not always equate to institutional engagement. Overall, the evidence underscores the importance of designing inclusive financial policies that not only expand access but also address the gendered, occupational, and informational divides within formal financial participation.

The study highlights the need for policies that target women, younger individuals, and non-working populations, who show significantly lower odds of financial inclusion. Tailored interventions such as women-focused financial products, youth savings schemes, and simplified onboarding for non-working individuals are essential. Expanding mobile and internet access can particularly enhance account ownership and savings, especially in rural areas. Given the weak link between education and borrowing, financial literacy initiatives should emphasize responsible credit use. Policymakers should also address the unexpected exclusion of middle- and upper-income rural groups through trust-building and improved outreach by formal financial institutions.

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