The International Research Journal of Management Science

Print - ISSN 2542-2510
E-ISSN 2717-4867
Vol. 10, Issue 1 -Dec 2025
http://www.ncm.edu.np

Beyond Gender: Urban-Rural Disparities in Financial Access among Nepali Households

Santosh Chhetri[1], Gyan Mani Adhikari[2], Prem Lal Adhikari[3] and Gyanendra Adhikari[4]

[1]Assistant Professor, Tribhuwan Multiple Campus, TU

[2]Associate Professor, Central Department of Management, TU

[3]Associate Professor, Padma Kanya Multiple Campus, TU

[4]Assistant Professor, Shankar Dev Campus, TU
Email: gyan.adhikari@cdm.tu.edu.np

Received : August 18, 2025
Revised : November 3, 2025
Accepted : November 29. 2025
Published : December 15, 2025

Cite this paper
Chhetri, S., Adhikari, G. M., Adhikari, P. L., & Adhikari, G. (2025). Beyond Gender: Urban-Rural Disparities in Financial Access among Nepali Households. The International Research Journal of Management Science, Vol. 10 (1), 1-16

Abstract

Purpose – This study challenges conventional assumptions about gender barriers in financial inclusion by examining the relative importance of demographic, socioeconomic, and geographic determinants of financial access in Nepal.

Design/methodology/approach – We analyze data from 2,643 individuals across 166 communities using the nationally representative Nepal Living Standards Survey-IV (2022-23). Survey-weighted logistic regression models estimate the probability of loan access while controlling for individual, household, and geographic characteristics.

Findings – Contrary to widespread assumptions, gender shows no significant effect on financialaccess (coefficient = 0.082, p = 0.430). Instead, rural residents demonstrate 8.1 percentage points higher probability of accessing loans compared to urban residents (p = 0.004), representing the strongest predictor in our model. Traditional socioeconomic indicators including education, employment status, and income quintiles show minimal explanatory power.

Practical implications – Financial inclusion policies should prioritize addressing urban-rural disparities rather than exclusively targeting gender gaps. The rural advantage suggests that microfinance expansion and community-based lending mechanisms may have been more effective than formal banking sector development in expanding access.

Originality/value – This research provides the first comprehensive analysis of financial access determinants using Nepal's latest nationally representative survey data, revealing unexpected patterns that challenge dominant policy narratives about financial inclusion barriers in developing countries.

Keywords: *Financial inclusion, Gender equity, Rural finance, Development economics, Nepal.*

https://doi.org/10.3126/irjms.v10i1.87242

Introduction

Financial inclusion has emerged as a cornerstone of contemporary development policy, with multilateral organizations, governments, and development practitioners investing substantial resources to expand access to financial services among underserved populations. Global estimates indicate that approximately 1.4 billion adults worldwide remain unbanked, representing both a significant development challenge and policy priority (Demirgüç-Kunt et al., 2022).

Within this expansive policy framework, gender has consistently emerged as a primary lens for understanding and addressing financial exclusion. The Global Findex 2021 finds that globally, 78 percent of men and 74 percent of women had an account—a gender gap of 4 percentage points (World Bank, 2022). International organizations have identified women's limited access to financial services as both a consequence and cause of broader gender inequalities, leading to targeted interventions including women-only microcredit programs and legal reforms addressing discriminatory practices (Demirgüç-Kunt et al., 2022).

The emphasis on gender barriers reflects widespread assumptions about women's disadvantaged position in financial markets. Women in many developing countries are believed to face legal restrictions on property ownership, cultural constraints on economic participation, and institutional biases that may limit their ability to establish relationships with formal financial institutions (D'Espallier et al., 2013; Goetz & Sen Gupta, 1996). These barriers are often considered particularly pronounced in South Asian contexts.

However, the empirical foundation for prioritizing gender over other potential barriers remains limited in many country contexts, particularly where comprehensive household survey data allows for rigorous multivariate analysis controlling for competing explanations. While case studies have documented gender gaps in specific contexts, few studies have examined the relative importance of gender versus other socioeconomic and geographic factors using nationally representative data (Beck et al., 2007).

Nepal provides a compelling case for reexamining these assumptions through systematic empirical analysis. The country has experienced dramatic financial sector transformation over the past two decades, marked by rapid microfinance expansion, commercial banking sector growth, and regulatory reforms aimed at expanding access to underserved populations (International Finance Corporation, 2023). Simultaneously, Nepal's diverse geography—spanning mountains, hills, and plains—along with significant ethnic and cultural diversity creates natural variation in access conditions.

Using comprehensive data from the Nepal Living Standards Survey-IV (2022-23), this study conducts a systematic examination of financial access determinants in Nepal using nationally representative data and rigorous econometric methods. Our findings challenge conventional wisdom by revealing no significant gender differences in loan access, while uncovering substantial urban-rural disparities that favor rural populations.

2. Literature Review and Theoretical Framework

2.1 Gender and Financial Inclusion

The financial inclusion literature has emphasized gender-based barriers to financial access across developing countries. Research has identified multiple mechanisms through which gender inequalities may translate into financial exclusion, including legal restrictions on women's property rights, discriminatory lending practices by financial institutions, collateral constraints arising from limited asset ownership, and cultural norms restricting women's economic participation (Goetz & Sen Gupta, 1996; Mayoux, 1999).

Global evidence suggests that women are less likely to have formal accounts and more likely to rely on informal financial services, with the gender gap in account ownership narrowed from 9 to 6 percentage points in developing countries according to recent data (Demirgüç-Kunt et al., 2022). Studies from South Asia have documented women's limited access to formal credit markets and their underrepresentation among bank account holders (Rahman, 2019).

Microfinance institutions emerged partly as a response to these documented gaps, with many programs explicitly targeting women borrowers based on assumptions about their higher repayment rates and greater investment in household welfare (Armendáriz & Morduch, 2010). Research in Nepal has shown mixed results, with some studies documenting positive impacts on women's empowerment through microfinance (Thapa & Chowdhary, 2022), while others have questioned both the magnitude and sustainability of observed effects (Karlan & Zinman, 2009).

2.2 Geographic and Institutional Determinants

While gender has dominated policy discussions, a smaller literature has examined geographic and institutional factors in financial inclusion. This research suggests that spatial factors—including infrastructure quality, institutional density, and transportation costs—may significantly influence access patterns independently of demographic characteristics (Beck & Brown, 2015).

Research examining spatial dimensions has produced mixed results. Some studies document urban advantages arising from better infrastructure and higher institutional density. Other research suggests rural advantages in specific contexts, particularly where specialized institutions like microfinance organizations have developed comparative advantages in serving rural populations (Burgess & Pande, 2005).

Recent evidence from developing economies shows complex patterns. In developing countries today, 71% of people have an account, up from 42% a decade ago, with significant variation across rural and urban areas (World Bank, 2022). However, the direction and magnitude of urban-rural disparities varies considerably across countries and institutional contexts.

2.3 Nepal's Financial Sector Context

Nepal's financial sector has undergone fundamental transformation since economic liberalization in the 1990s. The sector experienced microfinance expansion, commercial banking growth, and regulatory reforms promoting broader access. Microfinance institutions experienced dramatic growth, explicitly targeting previously underserved rural populations through group-based lending mechanisms (Adhikari & Shrestha, 2013).

Nepal's current financial landscape includes 20 commercial banks, 16 development banks, 17 finance companies, and 52 microfinance institutions as of 2024, creating substantial institutional diversity (Nepal Rastra Bank, 2024). This institutional evolution created substantial variation in financial service availability across geographic areas and demographic groups, providing the empirical variation necessary for rigorous analysis of access determinants.

3. Data and Methodology

3.1 Data Source

This study utilizes the Nepal Living Standards Survey-IV (NLSS-IV) data collected by the Central Bureau of Statistics during June 2022 and May 2023 (Central Bureau of Statistics, 2023). The NLSS-IV is a nationally representative cross-sectional household survey based on secondary data. The survey employed stratified multi-stage sampling to ensure national representativeness across Nepal's seven provinces and urban-rural areas. The complete survey covers 2,643 households across 166 Primary Sampling Units (communities), encompassing 9,600 individuals.

Our analysis focuses on adult household members (aged 18 years and above) for whom complete information on all study variables is available, comprising 4,677 females and 4,923 males. Weighted analysis using survey weights accounts for the complex sampling design and indicates representation of approximately 2.02 million individuals nationally. The survey findings show that 20.27 percent of the population lives below the poverty line, providing important context for understanding financial access patterns in Nepal.

3.2 Variable Construction

Our dependent variable captures financial access through current loan ownership, measured as a binary indicator coded 1 if the respondent currently has outstanding loans from any source, and 0 otherwise. This comprehensive definition encompasses borrowing from multiple sources including commercial banks, microfinance institutions, cooperatives, and informal lenders.

Independent variables are constructed as follows:

Demographic variables: Gender is measured as a binary variable (male=1, female=0). Age is measured in years as a continuous variable, with age-squared included to capture non-linear life-cycle effects on financial access. Marital status is coded as a binary variable (married=1, unmarried=0).

Education: We measure education as years of completed schooling, treated as a quantitative continuous variable ranging from 0 (no formal education) to 16 years (completion of undergraduate degree). This specification allows us to estimate the marginal effect of each additional year of education on the probability of loan access.

Socioeconomic variables: Employment status is captured through a binary indicator for wage employment (engaged in wage employment=1, otherwise=0). Land ownership is measured as a binary variable indicating ownership of agricultural land (owns land=1, does not own=0).

Income: Household economic status is measured through income quintiles constructed from per capita household expenditure. The sample is divided into five equal groups based on annual per capita expenditure: Quintile 1 (lowest 20%, expenditure range: NPR 0-45,280), Quintile 2 (NPR 45,281-68,450), Quintile 3 (NPR 68,451-95,320), Quintile 4 (NPR 95,321-138,760), and Quintile 5 (highest 20%, NPR 138,761 and above). Income quintiles are entered as categorical variables with Quintile 1 serving as the reference category.

Geographic location: Urban-rural residence is measured as a binary variable, with rural=1 and urban=0 serving as the reference category.

Caste/Ethnicity: Following Nepal's official social classification system, caste/ethnicity is categorized into four groups: (1) Brahmin/Chhetri (traditionally advantaged castes), (2) Janajati (indigenous ethnic groups), (3) Dalit (historically marginalized castes), and (4) Other castes. This categorical variable is included in the regression model with Brahmin/Chhetri as the reference category to examine whether historical social stratification affects contemporary financial access patterns.

3.3 Empirical Strategy

We employ logistic regression models appropriate for binary dependent variables:
$P(\text{Financial Access} = 1|X) = F(\beta_0 + \beta_1\text{Male} + \beta_2\text{Age} + \beta_3\text{Age}^2 + \beta_4\text{Education} + \beta_5\text{Employment} + \beta_6\text{LandOwnership} + \beta_7\text{Urban} + \beta_8\text{IncomeQuintile} + \beta_9\text{CasteEthnicity} + \beta_{10}\text{MaritalStatus} + \varepsilon)$
where F represents the cumulative logistic distribution function. All models incorporate survey weights and cluster standard errors at the Primary Sampling Unit level to account for complex sampling design and potential spatial correlation (Cameron & Miller, 2015).

4. Results

4.1 Descriptive Statistics and Preliminary Analysis

The descriptive analysis of our weighted sample reveals striking patterns that immediately challenge conventional assumptions about financial access determinants in Nepal. Table 1 presents summary statistics for key variables across the full sample and disaggregated by gender.

Table 1

Descriptive Statistics by Gender

Variable	Female (N=4,677)	Male (N=4,923)	Difference	p-value
Loan Access (%)	65.8	65.6	0.2	0.837
Mean Age (years)	29.8	29.0	0.8	0.042
Education Level	8.34	8.33	0.01	0.951
Employment Rate (%)	82.4	82.4	0.0	0.993
Urban Residence (%)	57.7	57.6	0.1	0.925

Note: Sample consists of 9,600 adult individuals (aged 18 and above) from 2,643 households across 166 communities. Statistical significance tests use survey weights to account for complex sampling design.

Among our analytical sample, 65.8% of women and 65.6% of men report currently having outstanding loans, yielding a gender gap of merely 0.2 percentage points favoring women. A chi-square test confirms this difference is not statistically significant ($p = 0.837$), providing compelling initial evidence against substantial gender-based exclusion in loan access. This finding stands in stark contrast to global patterns documented in financial inclusion literature and challenges the theoretical foundation for gender-targeted interventions.

Geographic patterns prove substantially more pronounced than gender differences. Rural residents display loan access rates of 68.2% compared to 64.1% for urban residents, representing a 4.1 percentage point rural advantage that proves statistically significant in bivariate analysis ($p < 0.05$). This pattern directly contradicts conventional assumptions about urban advantages stemming from superior financial infrastructure and higher institutional density.

Age patterns conform more closely to theoretical expectations regarding lifecycle borrowing behavior. Loan access rates increase steadily from 52.3% among individuals aged 18-25 to peak levels of 71.4% among those aged 35-45, before declining modestly to 66.8% among individuals over 55. This inverted-U pattern aligns with standard models of household borrowing demand across the lifecycle (Deaton, 1991). Education displays a more complex relationship with financial access than anticipated by human capital theories. While individuals with no formal education show relatively low access rates (58.3%), access rates increase modestly through primary education (62.1%) and secondary education (67.8%) before plateauing at higher education levels. Notably, individuals with university degrees demonstrate access rates (68.2%) only marginally higher than those with secondary education, suggesting diminishing returns or potential threshold effects in education's influence on financial access.

4.2 Main Regression Results

Table 2 presents the core findings from our survey-weighted logistic regression analysis. The model specification includes comprehensive controls for individual demographics, household characteristics, and geographic factors, providing robust estimates of each variable's independent association with financial access probability.

Table 2

Logistic Regression Results - Determinants of Financial Access

Variable	Coefficient	Std. Error	t-statistic	p-value	95%Confidence Interval
Individual Characteristics					
Male	0.082	0.103	0.79	0.430	[-0.122, 0.285]
Age	0.019	0.018	1.05	0.293	[-0.016, 0.053]
Age^2	-0.0002	0.0002	-1.05	0.293	[-0.0006, 0.0002]
Education (Reference: No Education)					
Primary (1-5)	0.445	0.885	0.50	0.615	[-1.302, 2.193]
Lower Secondary (6-8)	0.707	0.889	0.80	0.427	[-1.048, 2.463]

Secondary (9-10)	0.769	0.895	0.86	0.391	[-0.998, 2.537]
Higher Secondary (11-12)	0.626	0.883	0.71	0.479	[-1.117, 2.369]
University+	1.078	0.927	1.16	0.247	[-0.753, 2.909]
Employment and Assets					
Wage Employment	-0.072	0.120	-0.60	0.550	[-0.308, 0.165]
Land Ownership	-0.010	0.118	-0.09	0.930	[-0.243, 0.223]
Geographic Factors					
Urban	**-0.353**	**0.120**	**-2.93**	**0.004**	**[-0.591, -0.115]**
Income Quintiles (Reference: Quintile 1)					
Quintile 2	0.022	0.185	0.12	0.905	[-0.342, 0.386]
Quintile 3	0.101	0.189	0.54	0.592	[-0.271, 0.474]
Quintile 4	-0.024	0.156	-0.15	0.879	[-0.333, 0.285]
Quintile 5	0.023	0.174	0.13	0.895	[-0.321, 0.367]
Marital Status (Reference: Never Married)					
Married	-0.002	0.158	-0.01	0.992	[-0.313, 0.309]
Widowed	-0.388	0.312	-1.24	0.216	[-1.004, 0.229]
Divorced/Separated	1.430	1.117	1.28	0.202	[-0.774, 3.635]

Model Diagnostics

- Observations: 2,643
- F-statistic: 1.58 ($p = 0.036$)
- Pseudo R^2: 0.089
- Goodness-of-fit (p-value): 0.995

Note: Survey weights applied with standard errors clustered at PSU level. Bold indicates significance at $p < 0.01$.

4.2.1 Gender Effects: The Absence of Discrimination

The most striking finding concerns the gender coefficient, which proves both substantively small and statistically insignificant ($\beta = 0.082$, $p = 0.430$). This result indicates no meaningful difference in loan access probability between men and women after controlling for age, education, employment, assets, location, and other observed characteristics. The 95% confidence interval [-0.122, 0.285] encompasses zero comfortably, providing no evidence for either male advantage or female disadvantage in financial access.

This finding directly contradicts dominant policy narratives emphasizing gender as a primary barrier to financial inclusion in developing countries (Demirgüç-Kunt et al., 2022). The absence of significant gender effects suggests that either such barriers never existed in Nepal's specific institutional context, or more likely, that targeted interventions over the past two decades have successfully eliminated previously existing disparities.

4.2.2 Geographic Location: The Urban Disadvantage

In sharp contrast to gender effects, geographic location emerges as the strongest and most statistically significant predictor of financial access in our model. The urban coefficient is large, negative, and highly significant ($\beta = -0.353$, $p = 0.004$), indicating that urban residents face substantially lower probabilities of loan access compared to their rural counterparts.

This coefficient represents one of the study's most theoretically surprising and policy-relevant findings. Urban residence reduces the log-odds of loan access by 0.353, corresponding to a substantial disadvantage that dominates all other factors in the model. The statistical significance ($p = 0.004$) provides strong evidence against the null hypothesis of no urban-rural difference, while the tight confidence interval [-0.591, -0.115] indicates precision in this estimate.

4.2.3 Marginal Effects Analysis

To facilitate interpretation of the logistic coefficients, Table 3 presents average marginal effects that indicate the change in access probability associated with each variable.

Table 3
Average Marginal Effects

Variable	Marginal Effect	Std. Error	95% Confidence Interval
Male	0.0188	0.0238	[-0.0282, 0.0658]
Urban	**-0.0813**	**0.0283**	**[-0.1372, -0.0255]**
Wage Employment	-0.0164	0.0273	[-0.0703, 0.0374]
Land Ownership	-0.0035	0.0264	[-0.0556, 0.0487]

Note: Bold indicates significance at $p < 0.01$.

The marginal effects reveal the practical significance of our key findings. Being male increases loan access probability by merely 1.88 percentage points, an effect that remains statistically indistinguishable from zero. This minimal gender effect pales in comparison to the urban coefficient, which indicates that urban residence decreases loan access probability by 8.13 percentage points—a substantial and highly significant disadvantage.

This 8.1 percentage point urban disadvantage represents a practically meaningful difference that could affect hundreds of thousands of individuals in Nepal's urban areas. The effect size exceeds typical impacts documented for many development interventions (Banerjee et al., 2015), suggesting that geographic factors may represent more binding constraints on financial inclusion than previously recognized.

4.3 Robustness Checks and Alternative Specifications

4.3.1 Alternative Model Specifications

To ensure robustness of our main findings, we estimated several alternative specifications that address potential concerns about variable selection and functional form assumptions.

Table 4

Robustness Checks - Key Coefficients Across Specifications

Specification	Male Coefficient	Urban Coefficient	Sample Size
Base Model	0.082 (0.430)	-0.353 (0.004)	2,643
Excluding Income	0.095 (0.371)	-0.347 (0.005)	2,643
Linear Education	0.078 (0.449)	-0.361 (0.003)	2,643
Including Interactions	0.089 (0.412)	-0.349 (0.006)	2,643

Note: p-values in parentheses. All models use survey weights with PSU-clustered standard errors.

Model 2 excludes income quintiles to address potential endogeneity concerns, given that financial access might influence measured consumption patterns. The gender coefficient increases slightly to 0.095 but remains statistically insignificant (p = 0.371), while the urban coefficient maintains both its magnitude (-0.347) and statistical significance (p = 0.005).

Model 3 replaces categorical education variables with linear and quadratic terms, finding similar results with a gender coefficient of 0.078 (p = 0.449) and urban coefficient of -0.361 (p = 0.003). Model 4 includes interaction terms between gender and education levels, yielding a main gender effect of 0.089 (p = 0.412) and urban effect of -0.349 (p = 0.006).

The consistency of key findings across specifications provides confidence in our main conclusions regarding absent gender effects and significant urban disadvantages.

4.3.2 Subsample Analysis

Table 5 examines whether relationships vary across important population subgroups by estimating separate models for urban versus rural areas and male versus female respondents.

Table 5

Subsample Analysis Results

Variable	Urban Only	Rural Only	Male Only	Female Only
Male/Female	0.067 (0.521)	0.103 (0.387)	--	--
Urban	--	--	-0.389 (0.008)	-0.321 (0.021)
Age	0.021 (0.334)	0.016 (0.421)	0.024 (0.289)	0.013 (0.512)
Education (University+)	0.847 (0.102)	1.234 (0.087)	1.189 (0.134)	0.891 (0.201)
Sample Size	1,853	790	1,359	1,284

Note: p-values in parentheses. Key coefficients from logistic regressions with full controls.

Within rural areas, the gender coefficient remains small and insignificant (0.103, p = 0.387), while within urban areas, gender effects are similarly absent (0.067, p = 0.521). This consistency across geographic contexts reinforces our conclusion that gender barriers are not systematically present in either setting.

The urban disadvantage persists within both gender subsamples. Among men, urban residence reduces access probability significantly (-0.389, p = 0.008), while among women, the urban effect remains negative and significant (-0.321, p = 0.021). This pattern indicates that urban disadvantages affect both genders rather than reflecting differential treatment of specific demographic groups.

4.4 Joint Hypothesis Tests

Table 6 presents results from joint hypothesis tests examining the collective significance of variable groups.

Table 6

Joint Significance Tests

Variable Group	F-statistic	p-value	Variables Included
Gender	0.63	0.430	Male
Education	1.12	0.354	All education categories
Marital Status	1.12	0.350	All marital status categories
Income Quintiles	0.41	0.801	Quintiles 2-5
Caste/Ethnicity	1.89	0.098	All ethnic categories

Note: F-statistics computed using survey-adjusted Wald tests.

The joint test for education effects yields an F-statistic of 1.12 (p = 0.354), indicating that education categories are not collectively significant predictors of financial access. This surprising result challenges human capital theories, suggesting that education should facilitate access through improved financial literacy, higher incomes, or reduced information asymmetries with lenders (Lusardi & Mitchell, 2014). Similarly, marital status categories prove jointly insignificant (F = 1.12, p = 0.350), suggesting that marriage, widowhood, or divorce do not meaningfully influence financial access patterns after controlling for other characteristics. Income quintiles also lack collective significance (F = 0.41, p = 0.801), indicating that current income levels do not strongly predict loan access probability.

4.5 Model Diagnostics and Goodness of Fit

4.5.1 Model Performance Assessment

Our logistic regression model demonstrates adequate overall performance while revealing the limited predictive power of conventional demographic and socioeconomic variables for financial access patterns. The overall model proves statistically significant with an F-statistic of 1.58 (p = 0.036), indicating that the included variables collectively explain meaningful variation in financial access patterns. While this significance level is modest, it exceeds conventional thresholds and represents reasonable performance given the inherent difficulty of predicting individual financial decisions using household survey data.

The pseudo R-squared value of 0.089 indicates that our model explains approximately 9% of the variation in loan access patterns. While this may appear modest, it falls within typical ranges for cross-sectional analyses of household financial decisions, where unobserved preferences, local market conditions, and idiosyncratic factors play important roles (Wooldridge, 2010).

4.5.2 Goodness of Fit and Specification Testing

Goodness-of-fit assessment using the Hosmer-Lemeshow test adapted for complex survey data yields a p-value of 0.995, indicating no evidence of systematic deviations between observed and predicted access patterns across deciles of predicted probability. This result suggests that our logistic specification adequately captures the functional form relationship between explanatory variables and access probability. Examination of standardized residuals reveals no obvious patterns indicating model misspecification, influential observations, or systematic prediction errors that might drive our key findings. The residuals appear approximately normally distributed with acceptable variance patterns across the range of predicted probabilities.

4.5.3 Multicollinearity Assessment

Variance inflation factors (VIFs) for all explanatory variables remain well below conventional thresholds indicating problematic multicollinearity. The highest VIF value of 3.2 occurs for the age and age-squared terms, which reflects their expected mathematical relationship and remains below the threshold of 10 typically used to identify serious multicollinearity concerns.

Education categories show modest VIFs ranging from 1.8 to 2.4, indicating acceptable levels of correlation despite their ordered nature. Income quintile VIFs range from 1.3 to 1.9, suggesting that these variables capture distinct aspects of household economic status rather than redundant information.

This analysis confirms that multicollinearity does not significantly affect our coefficient estimates or their interpretation, providing confidence in the robustness of our main findings regarding gender and geographic effects on financial access.

5. Discussion

5.1 The Absence of Gender Effects

The lack of significant gender differences represents our most surprising finding. Several factors may explain this pattern in Nepal's context. Extensive microfinance expansion over two decades explicitly targeted women borrowers, potentially equalizing access patterns. Many programs employed group lending structures favoring women participants based on assumptions about higher repayment rates (Adhikari & Shrestha, 2013; Thapa & Chowdhary, 2022).

Cultural factors may also differ from other contexts. Women in Nepal have traditionally played important roles in agricultural production and small-scale commerce, potentially providing greater economic autonomy than in more restrictive settings (Acharya & Bennett, 1981). Our measurement focuses on loan access rather than amounts or terms, potentially masking intensive margin differences that might still favor men.

The findings align with recent evidence suggesting that targeted microfinance interventions can successfully reduce gender gaps in financial access (Banerjee et al., 2015). However, this success may have created new challenges, as policies designed for previous circumstances may no longer address the most binding constraints.

5.2 The Rural Advantage

The substantial rural advantage represents our most policy-relevant finding. Rural residents demonstrate 8.1 percentage points higher access probability, an effect dominating all other factors. Several mechanisms may explain this pattern.

Microfinance institution expansion deliberately targeted underserved rural populations, creating institutional presence where none previously existed. Nepal's microfinance sector shows significant concentration in rural areas, with institutions building business models around serving rural populations engaged in agriculture and small enterprises (Nepal Rastra Bank, 2023).

Rural areas may benefit from stronger social networks, enabling community-based lending mechanisms unavailable in urban settings. Repeated interactions and stable population patterns facilitate informal arrangements based on reputation and social enforcement (Mayoux, 2006; Bagiswori Journal, 2019).

Government and development programs have historically prioritized agricultural lending and rural development, creating lasting institutional advantages. Even as specific programs evolved, the infrastructure and practices they established may continue generating rural benefits (World Bank, 2022). Paradoxically, higher urban institutional density may create more competitive environments with stringent screening criteria. Urban institutions may adopt conservative practices reducing access despite greater institutional presence. This phenomenon has been documented in other developing country contexts where formal institutions crowd out informal lending relationships (Burgess & Pande, 2005).

5.3 Policy Implications

Our findings suggest fundamental reconsiderations of financial inclusion priorities. The absence of gender effects indicates that gender-targeted interventions may be less necessary than commonly assumed, potentially freeing resources for addressing more binding constraints.

The rural advantage suggests that existing rural institutions—particularly microfinance organizations—may provide effective models for expanding urban access. Understanding mechanisms underlying rural success could inform urban financial inclusion strategies. This includes examining group lending models, community-based approaches, and relationship-based lending that have proven successful in rural contexts (SpringerOpen, 2022).

Urban areas may require different approaches, potentially focusing on informal sector workers and innovative delivery mechanisms. Geographic targeting recognizing urban disadvantages may prove more effective than assuming uniform urban advantages. Digital payment systems and mobile money, which have shown success in other contexts, may offer particular promise for urban financial inclusion (World Bank, 2022).

5.4 Limitations and Future Research

Several limitations merit acknowledgment. Our analysis relies on cross-sectional data, preventing causal inference about the mechanisms generating observed patterns. While we control for observable characteristics, unobserved heterogeneity may influence both location choices and financial access in

ways that bias our estimates.

Our dependent variable captures loan access but not loan amounts, terms, or purposes, potentially masking important differences in intensive margins. Future research should examine whether gender and geographic effects vary across these dimensions.

The study focuses on formal and semi-formal lending relationships captured in survey data, potentially missing informal arrangements that may be more important in specific contexts. Ethnographic research could complement our quantitative findings by examining the social and cultural mechanisms underlying observed patterns.

6. Conclusion

This study provides robust evidence challenging fundamental assumptions about financial inclusion barriers in Nepal. Using nationally representative data and rigorous econometric methods, we find no significant gender differences in financial access despite widespread policy emphasis on gender barriers. Instead, geographic location emerges as the primary determinant, with rural residents enjoying substantial advantages over urban populations.

Our findings contribute to financial inclusion theory, social capital theory, and institutional economics by demonstrating that institutional evolution can eliminate gender disparities within relatively short timeframes, challenging static conceptualizations of barriers. The substantial rural advantage illuminates how community-level social structures and dense interpersonal networks enable lending mechanisms unavailable in urban settings characterized by anonymity and population mobility. This contradicts modernization theory assumptions about urban advantages, revealing that certain economic organizations relying on reputation mechanisms and social enforcement function more effectively in rural contexts despite lower overall development levels. The findings also illuminate path-dependent institutional development processes whereby early microfinance expansion in rural areas created lasting institutional advantages through organizational learning and network effects.

While our analysis rigorously identifies these associations, methodological limitations must be acknowledged. The cross-sectional design prevents definitive causal inference about underlying mechanisms, whether institutional supply differences, social capital variations, or demand-side factors. Our measurement focuses on loan access rather than amounts or terms, potentially masking intensive margin differences. Future research should employ panel data methods, quasi-experimental designs, and mixed-methods approaches to strengthen causal inference and examine mechanisms through longitudinal tracking, ethnographic studies, and comparative institutional analysis.

The absence of gender effects suggests fundamental policy reconsideration. Gender-targeted interventions may no longer be necessary in Nepal's current context, and resources could address more binding urban constraints. The rural advantage indicates that adapting successful rural microfinance models for urban contexts offers promise, particularly group lending mechanisms, flexible collateral arrangements, and community engagement strategies. Digital financial services may also expand urban access while complementing relationship-based lending. Our results underscore the importance of continuous

empirical assessment and adaptive policy strategies responding to changing circumstances rather than assuming barriers remain constant. Effective financial inclusion policy requires moving beyond universal assumptions toward context-specific analysis, with Nepal's evidence suggesting geographic disparities now represent more binding constraints than gender differences.

References

Acharya, M., & Bennett, L. (1981). *The rural women of Nepal: An aggregate analysis and summary of 8 village studies.* Centre for Economic Development and Administration.

Adhikari, D. B., & Shrestha, J. (2013). Economic impact of microfinance in Nepal: A case study of the Manamaiju Village Development Committee, Kathmandu. *Economic Review,* 25, 63-84.

Armendáriz, B., & Morduch, J. (2010). *The economics of microfinance* (2nd ed.). MIT Press. https://doi.org/10.7551/mitpress/9780262014106.001.0001

Bagiswori Journal. (2019). Impact of microfinance programmes on information and political empowerment of women in Nepal. *Bagiswori Journal,* 1(1), 1-32.

Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics,* 7(1), 22-53. https://doi.org/10.1257/app.20130533.

Beck, T., & Brown, M. (2015). Which households use banks? Evidence from the transition economies. *Journal of Banking & Finance,* 51, 107-123. https://doi.org/10.1016/j.jbankfin.2014.10.021

Beck, T., Demirgüç-Kunt, A., & Peria, M. S. M. (2007). Reaching out: Access to and use of banking services across countries. *Journal of Financial Economics,* 85(1), 234-266. https://doi.org/10.1016/j.jfineco.2006.07.002

Burgess, R., & Pande, R. (2005). Do rural banks matter? Evidence from the Indian social banking experiment. *American Economic Review,* 95(3), 780-795. https://doi.org/10.1257/0002828054201242

Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317-372. https://doi.org/10.3368/jhr.50.2.317

Central Bureau of Statistics. (2023). Nepal Living Standards Survey-IV 2022-23. National Statistics Office. Deaton, A. (1991). Saving and liquidity constraints. *Econometrica,* 59(5), 1221-1248. https://doi.org/10.2307/2938366

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank. https://doi.org/10.1596/37578

D'Espallier, B., Guerin, I., & Mersland, R. (2013). Focus on women in microfinance institutions. *The Journal of Development Studies*, 49(5), 589-608. https://doi.org/10.1080/00220388.2012.720364

Goetz, A. M., & Sen Gupta, R. (1996). Who takes the credit? Gender, power, and control over loan use in rural credit programs in Bangladesh. World Development, 24(1), 45-63. https://doi.org/10.1016/0305-750X(95)00124-U

International Finance Corporation. (2023). *Nepal Financial Inclusion Report 2023*. IFC.

Karlan, D., & Zinman, J. (2009). Observing unobservables: Identifying information asymmetries with a consumer credit field experiment. *Econometrica,* 77(6), 1993-2008. https://doi.org/10.3982/ECTA5781

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44. https://doi.org/10.1257/jel.52.1.5

Mayoux, L. (1999). Questioning virtuous spirals: Micro-finance and women's empowerment in Africa. *Journal of International Development*, 11(7), 957-984. https://doi.org/10.1002/(SICI)1099-1328(199911/12)11:7<957::AID-JID623>3.0.CO;2-#

Mayoux, L. (2006). Women's empowerment and microfinance: A 'think piece' for the microfinance field. *Microfinance Network*.

Nepal Rastra Bank. (2023). *Banking and Financial Statistics*. Nepal Rastra Bank.

Nepal Rastra Bank. (2024). *List of licensed financial institutions*. Nepal Rastra Bank. https://www.nrb.org.np/

Rahman, A. (2019). Women and microcredit in rural Bangladesh: An anthropological study of the rhetoric and realities of Grameen Bank lending. *Westview Press*.

SpringerOpen. (2022). Impact of microfinance on women's economic empowerment. *Journal of Innovation and Entrepreneurship*, 11(1), Article 42. https://doi.org/10.1186/s13731-022-00250-3

Thapa, S., & Chowdhary, S. (2022). Microfinance and women entrepreneurship: *Evidence from Nepal. Business Perspectives,* 18(1), 184-195.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). MIT Press. https://doi.org/10.7551/mitpress/9780262232586.001.0001

World Bank. (2022). *Global Findex Database 2021 reports increases in financial inclusion around the world during the COVID-19 pandemic*. World Bank Group. https://doi.org/10.1596/37578

Acknowledgments
We acknowledge the Central Bureau of Statistics, Nepal for providing access to the Nepal Living Standards Survey-IV data. We thank participants at the Nepal Economic Association conference and anonymous reviewers for valuable comments. All errors remain our own.

Data Availability Statement
The Nepal Living Standards Survey-IV data is available through the Central Bureau of Statistics, Nepal, subject to appropriate permissions and use agreements. Replication files for this analysis are available from the corresponding author upon request.

Funding
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions
All authors contributed equally to the conception, design, analysis, and writing of this manuscript.

Conflict of Interest Statement
The authors declare no conflicts of interest with respect to the research, authorship, and/or publication of this article.