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Factors that Influence Usage of Financial Services in South Africa

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Abstract

Purpose - The differential factors that influence access to and usage of financial services in rural and urban South Africa were examined in this study, highlighting the distinct challenges faced by each population.

Method - Drawing on data from FinScope surveys conducted across nine South African provinces from 2012 to 2017, binomial logistic regression was used to investigate how various factors affect financial inclusion.

Result - The findings indicate marked differences between rural and urban areas. Rural residents are more likely to encounter barriers associated with geographic isolation, larger household sizes, lower levels of educational attainment and greater distance from financial institutions. By contrast, urban residents benefit from closer proximity to services, yet disparities in the usage of financial services persist, particularly in relation to gender, employment status and perceptions of banking costs.

Implication - The results underscore that financial inclusion strategies cannot be applied uniformly across rural and urban areas. Targeted interventions are required to address the specific barriers faced by each group.

Originality - The originality of this study lies in its integrated framework, which simultaneously analyses traditional factors and emerging factor. This comprehensive approach moves beyond fragmented analyses found in prior research by offering a holistic understanding of financial service usage in South Africa.

Keywords: Financial inclusion, Financial literacy, Access, Usage

Introduction

The role of financial inclusion in economic growth and development is widely acknowledged and well documented in the literature (Stjernberg & Pettersson, 2022). Considerable progress has been made in many countries in their quests to increase financial inclusion in line with the global agenda of universal access to financial services (Principal Financial Group, 2025). According to Demirgüç-Kunt et al. (2021), the 2021 survey showed that 76% of adults worldwide had a bank account and account ownership for adults in developing countries grew from 63% to 71 % between 2017 and 202171% of adults in developing countries had access to a bank account. The figures are substantially lower for sub-Saharan Africa (SSA), where only 55% of adults had access to an account, of whom 33% held a mobile money account.

Consequently, financial digitalisation, broadly defined as the integration of digital technologies such as mobile platforms, internet banking, and fintech innovations into financial service delivery, has emerged as a key driver of financial inclusion. In sub-Saharan Africa, mobile money has played a transformative role by enabling low-cost financial transactions without the need for traditional banking infrastructure. However, despite this potential, several countries including South Africa have not fully capitalised on mobile money adoption. This is due to a combination of factors, including the dominance of established banking systems, regulatory constraints, high transaction costs, and limited interoperability among service providers (Pazarbasioglu et al., 2020; Simatele & Mbedzi, 2021). Although South Africa is often regarded as having a relatively advanced financial system, mobile money adoption remains comparatively low. While mobile money accounts exceed traditional bank accounts in several sub-Saharan African countries, South Africa reports significantly lower levels of usage, with mobile money ownership estimated at approximately 19% (Demirgüç-Kunt et al., 2021; Gyamerah & Tetteh, 2024). Furthermore, while mobile banking usage is increasing particularly in urban areas rural uptake remains constrained by structural and socioeconomic challenges. These trends highlight an important gap between access to digital financial services and their actual usage,

reinforcing the need to understand the underlying barriers limiting adoption in South Africa.

Both access to and usage of financial services are markedly lower in rural areas (Keshari & Tiwari, 2026). For example, 62% of unbanked adults in SSA reside in rural areas. In countries such as Uganda and Zambia, the proportions are even higher, at 70% and 67%, respectively (Demirgüç-Kunt et al., 2021). Advances in digital finance present opportunities to include excluded populations' access to and usage of financial services. However, evidence indicates that many sub-Saharan countries have not taken full advantage of these opportunities (He & Li, 2020; Simatele & Maciko, 2022). Limited uptake of digital finance is attributed to constrained capabilities and inadequate supporting infrastructure (Simatele & Mbedzi, 2021). While access to financial services is essential, the associated wealth-building benefits can only be realized through appropriate and consistent usage (World Economic Forum,2018).

Financial inclusion is often measured by account ownership (Nielsen & Storchi, 2025). Nevertheless, access to financial services independent of account ownership, such as insurance and payment services, remains important. An efficient payment system serves as a critical gateway to inclusion in other financial services. Furthermore, increasing digitalisation in consumer markets has heightened the need for efficient non-cash payment systems. For example, access to government-to-person electronic payments can significantly improve the welfare of rural populations who would otherwise travel long distances to collect government grants (Klapper & Singer, 2017).

The purpose of this study is to examine the factors that affect access to and usage of financial services in South Africa and to assess whether these factors exert similar influences in rural and urban areas. Identifying the factors that influence the usage of financial services is essential for a comprehensive understanding of how governments can design interventions that effectively realise the benefits of financial inclusion. This issue is particularly pertinent in the South African context since evidence indicates that financial inclusion is

relatively high – approximately 84% of adults hold bank accounts – but usage of these accounts remains limited. Many accounts are used primarily as 'mailbox' accounts for the receipt of payments. In 2020, 75% of adults reported withdrawing money from a bank account, but only 46% did so more than once, while only 38% reported making deposits (Demirgüç-Kunt et al., 2021). Consequently, the tangible benefits associated with account ownership are constrained. Notably, these patterns are shaped by a range of local contextual factors, particularly in rural areas, where limited financial infrastructure, long distances to service points, and inadequate digital connectivity restrict consistent engagement with formal financial services. Technological barriers, including low levels of digital literacy and limited access to internet-enabled devices, further hinder the uptake of digital financial services, which are increasingly central to financial inclusion. In addition, policy and regulatory challenges, such as fragmented financial oversight and compliance requirements, may constrain the expansion of accessible and affordable financial products. These dynamics are closely linked to socioeconomic conditions, including high unemployment, income instability, and inequality, which reduce individuals' ability to actively use financial services beyond basic transactions. While government initiatives such as social grant payments and financial inclusion strategies have successfully increased account ownership, their role in promoting sustained usage remains limited. Strengthening the government's role in supporting financial digitalisation, through investments in digital infrastructure, policy coordination, and financial literacy programmes, is therefore critical. Thus, patterns of withdrawing funds immediately after receipt are expected to be more prevalent in rural areas, where these structural and socioeconomic constraints are more pronounced. This underscores the importance of comparing rural and urban contexts to better understand how these factors differentially influence financial service usage.

The contribution of the study is twofold. First, it offers a comparative analysis of the factors that influence both access to and use of financial services. Prior studies (Setiawan et al., 2025;Suganya & Yogalakshmi, 2026; Gokula

Priya & Shalini, 2025) compare the usage of financial services between urban and rural populations and confirm that rural communities face more severe constraints, including infrastructure limitations, lower literacy levels and trust deficits, which heighten barriers to usage. The comparatively low rates of return associated with financial investment among rural populations act as a disincentive for financial institutions to extend services (Mia et al., 2022). A comparative discussion is therefore essential for expanding the usage of financial services in rural areas.

Second, Mohammed and Yakubu (2025) argue that mobile money has become a pivotal instrument in advancing financial inclusion in sub-Saharan African countries owing to its capacity to reach populations constrained by geographical, infrastructural and institutional barriers. Digital finance therefore holds potential to narrow disparities in access and usage between rural and urban areas. Of the 55% of adults with a financial account in 2020, 33% held only a mobile money account (Demirgüç-Kunt et al., 2021). Moreover, Gyamerah,& Tetteh, Report that mobile money account ownership exceeded bank account ownership in 11 sub-Saharan African countries; however, in South Africa the figure was only 19%. Therefore, in this study, mobile money is explored as a possible solution to the rural–urban divide. To this end, the factors that influence the use of digital financial services in South Africa are examined.

Literature Review

Research on financial inclusion highlights that access and usage are influenced by a range of socio-economic, demographic, and geographic factors (Arnold & Gammage, 2019; Delechat et al., 2018; Lusardi & Messy, 2023; Reddy & Venugopal, 2024). Key determinants include gender, age, education, income, and location. Gender disparities remain particularly pronounced in developing regions, where women are often excluded from financial systems due to cultural norms and institutional constraints (Oyaro, 2019; Zins & Weill, 2016). Similarly, marital status may limit women's financial autonomy, particularly in traditional societies (Mhlanga et al., 2021).

Age also plays an important role in financial service access and usage. As individuals grow older, they tend to accumulate financial literacy and experience and, consequently, are more likely to have greater access to and make increased use of financial services. However, usage may decline in the later stages of life (Sanderson et al., 2018). Education emerges as another key determinant of financial service adoption. Higher levels of education equip individuals with the knowledge and skills required to navigate financial products and to engage more effectively with formal financial systems (Mhlanga et al., 2021; Sanderson et al., 2018;Asuming et al., 2019). Accordingly, the literature indicates a positive correlation between educational attainment and the use of financial services.

Socioeconomic factors also significantly influence financial service usage. Income instability, unemployment, and inequality reduce individuals' capacity to engage with formal financial systems (Wentzel et al., 2016). While government initiatives, such as social grant distribution systems, have improved access to financial accounts, sustained usage remains limited (Demirgüç-Kunt et al., 2021). Strengthening government support for digital financial inclusion through infrastructure investment, fintech development, and policy coordination is therefore essential.

Income is also a crucial factor that influences financial service utilisation. Higher income levels are positively correlated with increased access to banking services. Individuals with stable, salary-based accounts are more readily accepted by financial institutions (Wentzel et al., 2016). In contrast, individuals with unstable or irregular income sources, such as those residing in rural areas or working in sectors such as agriculture, experience greater difficulty in accessing financial services (Simatele & Maciko, 2022).

Cultural and social factors are increasingly recognised as critical determinants of financial behaviour. In many rural communities, deeply embedded social norms and traditions influence financial decision-making. Informal financial mechanisms such as stokvels and rotating savings groups often substitute for formal financial systems due to higher levels of trust and social cohesion (Munacinga & Maciko, 2022). Additionally, mistrust of financial

institutions, perceived high costs, and limited financial literacy further discourage formal financial service usage (Abel et al., 2018; Nanziri et al., 2018).

The literature further underscores the relationship between the availability of access points for financial services and the utilisation of these services in both urban and rural settings. Geographical location emerges as a critical determinant of financial service usage, with clear disparities between rural and urban populations (Simatele & Maciko, 2022;Wokabi & Fatoki, 2019). In rural areas, long distances to financial access points, high transaction costs and stringent documentation requirements pose significant challenges, particularly for low-income earners (Pazarbasioglu et al., 2020; & Abel et al., 2018). Caps in financial infrastructure exacerbate these disparities since providers may regard rural markets as less profitable due to the high costs associated with brick-and-mortar investments and limited electronic connectivity (Shipalana, 2019). Although mobile money platforms offer potential to overcome geographical barriers, especially in regions with high levels of mobile phone ownership, infrastructural limitations continue to constrain widespread adoption (Pierre et al., 2018).

A critical limitation in the adoption of digital financial services relates to the quality and availability of digital infrastructure. In rural South Africa, limited broadband penetration, slower internet speeds, and unreliable cellular network coverage significantly restrict access to mobile money and internet banking services (Shipalana, 2019; He & Li, 2020). These infrastructural challenges reduce the reliability and efficiency of digital platforms, discouraging consistent usage. In many rural areas, network instability and high data costs further limit individuals' ability to engage with mobile-based financial services. Even where mobile phones are widely available, the lack of stable connectivity constrains the functionality of digital financial applications.

These findings suggest that improving digital infrastructure quality, including expanding high-speed internet access and strengthening cellular networks, is essential for enabling widespread adoption of digital financial services. Without addressing these foundational constraints, the benefits of

financial digitalisation are unlikely to be fully realised, particularly in underserved rural communities.

The role of digital literacy and environmental factors is also significant. Limited exposure to digital technologies reduces individuals' ability to adopt mobile and internet banking services, particularly in rural areas (Boateng, 2025). Geographic isolation and poor infrastructure further exacerbate exclusion. These findings highlight the need for a holistic approach that integrates financial education, digital skills development, and infrastructure improvements.Evidence from Tanzania demonstrates their positive impact on financial service usage (Chinoda & Kwenda, 2019;D.-W. Kim et al., 2020). Furthermore, over 20 fragile states now provide mobile money services supported by extensive agent networks that complement traditional banking services (Espinosa-Vega et al., 2020). As such, digital financial services play a pivotal role in increasing financial service usage and facilitating access to a broader range of financial offerings, including savings, insurance and credit (Koomson et al., 2020; Oyaro, 2019). Nevertheless, widespread financial illiteracy remains a significant barrier to adoption, emphasising the need for improved education and awareness initiatives (Nanziri et al., 2018). Financial literacy is central to fostering trust and confidence in formal financial systems, thereby promoting the utilisation of financial services (Abel et al., 2018). These findings highlight the importance of enhancing financial education and awareness as an effective strategy for increasing the adoption of financial services among underserved populations.

Beyond these traditional determinants, local contextual factors play a critical role in shaping financial inclusion outcomes. In rural South Africa, infrastructural challenges such as unreliable electricity supply, weak internet connectivity, and limited mobile network coverage constrain access to digital financial services (Simatele & Mbedzi, 2021; He & Li, 2020). These barriers are further compounded by policy and regulatory constraints, including fragmented regulatory frameworks and compliance burdens faced by fintech providers (Lubinga, 2021). Regulatory complexity may limit innovation and slow the expansion of inclusive financial products. Thus, a fragmented legal

and regulatory framework presents additional challenges to financial service access and usage. In South Africa, the fintech regulatory environment is characterised by multiple regulatory bodies, including the South African Reserve Bank, the Financial Sector Conduct Authority, and the National Credit Regulator, which can create fragmentation and complexity (Lubinga, 2021). While this multi-regulatory structure ensures oversight and consumer protection, it may also slow the pace of innovation by increasing compliance costs and creating uncertainty for fintech firms. A closer examination of fintech regulation reveals both enabling and constraining effects. On the one hand, initiatives such as regulatory sandboxes and innovation hubs have been introduced to support fintech development and encourage experimentation. On the other hand, stringent licensing requirements, Know-Your-Customer (KYC) regulations, and data protection laws may limit access for low-income individuals who lack formal identification documents.

To accelerate innovation while maintaining financial stability, regulators could adopt a more proportionate and flexible regulatory approach, including simplified compliance requirements for low-risk products, enhanced regulatory coordination across agencies, and expanded support for digital identity systems. Lessons from countries such as Kenya demonstrate that enabling regulatory frameworks combined with investments in infrastructure can significantly accelerate mobile money adoption and financial inclusion (Pazarbasioglu et al., 2020). These findings underscore the importance of aligning regulatory frameworks with the goals of financial inclusion and technological innovation.

Furthermore, to streamline regulations and improving coordination among regulators have been proposed as strategies to mitigate these challenges (Barr & Miller, 2019); (Loxton, 2019). Furthermore, stringent selection criteria imposed by financial service providers, combined with legal constraints on women's financial autonomy, create additional barriers to access, particularly for marginalised populations (Women's Financial Inclusion and The Law, 2018). Simplified documentation requirements and regulatory reforms that promote digital financial services are suggested as

measures to enhance financial service access and usage while mitigating regulatory hindrances (Pazarbasioglu et al., 2020).

While the literature identifies a range of factors that influence financial service access, limited research examines whether these factors manifest differently in rural and urban areas. Anecdotal evidence relating to the above-mentioned factors suggests that owing to limitations in income flows, the prevalence of marginalisation and restricted access to education, financial services function differently in rural areas. The present study mainly contributes to this strand of literature.

Methods

To examine the determinants of financial service usage, a binomial logistic regression model is employed. In addition to the baseline model, this study acknowledges the importance of interaction effects between key variables. For example, the interaction between education and geographic location provides insights into whether the impact of education differs between rural and urban populations (Lotto, 2020). A combination of datasets derived from nationally representative household surveys conducted by FinScope across all nine South African provinces from 2012 to 2017 forms the basis of analysis. The surveys were administered in five waves: Wave 1 (2013) included 5 000 respondents; Wave 2 (2014) included 3 900 respondents; Wave 3 (2015) comprised 3 900 respondents; Wave 4 (2016) included 4 992 respondents; and Wave 5 (2017) comprised 4 949 respondents. After excluding observations with missing values across all waves, the final longitudinal sample consisted of 22 741 respondents aged 18 years and above.

Data were collected through the finscope survey (FinMark Trust, 2015). The longitudinal nature of the dataset enables a comprehensive examination of the factors that influence access to and usage of financial services in South Africa. By incorporating both urban and rural respondents, the analysis captures geographical disparities in financial service engagement, thereby enhancing the representativeness of the findings at a national level.

Model Specification

The dependent variables used to measure financial inclusion across the various services are specified as binary variables, taking the value of 1 if an individual uses a particular service and 0 otherwise. To examine the determinants of financial service usage, a binomial logistic regression model is employed. In addition to the baseline model, this study acknowledges the importance of interaction effects between key variables. For example, the interaction between education and geographic location provides insights into whether the impact of education differs between rural and urban populations (Lotto, 2020), which indicate that the use of financial services tends to be censored at the lower limit of zero (Gujarati, 2007). Furthermore, the analysis is strengthened by incorporating technology-related variables, such as mobile phone ownership, internet access, and digital literacy levels. These variables are particularly relevant in the context of digital financial services, which are increasingly central to financial inclusion (Pazarbasioglu et al., 2020).

A generalised linear logistic model is estimated as follows:

This is example 1 of an equation:

$$P(Y\_ij) = \log p/(1-p) = X\,\hat{}\,' \beta + \varepsilon \quad (1)$$

where $p = P(Yij = 1)$ denotes the probability that an individual *i* uses a financial service *j*, and Y_ij represents the corresponding measure of financial inclusion. The set of alternative dependent variables (*j*) is as follows:

$$j = \text{bank account ownership} + \text{insurance} + \text{remittances} + \text{credit} + \text{internet banking} + \text{mobile banking} + \text{savings} \quad (2)$$

X = Income+ gender+ education+ geographical location + attitude + distance

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The error term is represented by ε. The key explanatory variables include income, gender, education, geographical location, household size, age and banking behaviour. Geographical location is captured by a binary variable indicating urban (1) or rural (0) residence, while banking behaviour is proxied by whether the individual withdraws all their money at once after it has been deposited. Employment status serves as a proxy for income. Table 1 presents the measurement of each variable.

The regression model is presented as follows:

$$Fininc = a + \beta_1 household\ size_i + \beta_2\ education_i + \beta_3\ age_i + \beta_4\ gender_i + \beta_5 geographic\ area + \beta_6 Bankfee_i + \beta_7 Distance + \beta_8 bankbehaviour + + \beta_9 fanancialcapability + ei \quad (3)$$

where Fininc represents financial inclusion, as measured by the respective dependent variables.

Explanatory Variables

Table 1. Variables and proxies

Variable	Proxies	Source
Gender	Binary variable (1 for men, 0 for women). Research suggests that women are generally less likely to use financial services than men.	(Izquierdo & Tuesta, 2015)
Age	Continuous variable. Age is expected to have a positive relationship with the use of financial services up to a certain point, after which the likelihood that a person will use such services may decline.	(Pena et al., 2014)

Education	Categorical variable with four levels: no education; primary school and high school; matric; and tertiary education. Education serves as a proxy for financial literacy, which influences the likelihood that a person will use financial services.	(Wang & Guan, 2017)
Geographical location	Binary variable indicating whether a respondent is from an urban area (1) or a rural area (0).	
Banking behaviour	Binary variable indicating whether a respondent withdraws all their money at once after it has been deposited (1 for yes, 0 for no). This behaviour is linked to lower financial service usage since it reflects a lack of long-term financial engagement.	
Distance to financial institutions	Binary variable (1 for yes, 0 for no). The farther away a person lives from financial service providers, the higher the associated travel and time costs, reducing the likelihood that they will use formal financial services.	(Demirgüç-Kunt et al., 2018)
Household size	Categorical variable with three categories: 1–4, 5–9 and 10–24 members. Larger households are expected to use financial services less owing to greater financial pressures.	

Model Robustness

Several diagnostic tests were performed before the regression models were run to ensure the robustness of the analysis. First, multicollinearity among the explanatory variables was assessed using the variance inflation factor (VIF) test (Table A1). The VIF test was applied to all variables, including categorical ones, to confirm that the explanatory variables were not

excessively correlated, which could otherwise have distorted the regression results. Heteroscedasticity was also examined using the Breusch–Pagan test, which checked for unequal variance in the error terms. Robust standard errors were applied in estimating the logit models, ensuring that any potential heteroscedasticity was accommodated. This approach provided valid inference by correcting heteroscedasticity and preventing inefficient estimates or biased standard errors.

In addition to multicollinearity and heteroscedasticity checks, omitted variable tests were conducted using the linktest (Table A2). These tests verified that all key variables relevant to financial service usage were included, thereby minimising the risk of bias arising from omitted factors.

Model validation was conducted using the Hosmer–Lemeshow test, which compared observed and expected frequencies across levels of the independent variables to assess the goodness-of-fit of the logistic regression model. The results indicated that the model provided a good fit for five of the total models tested. The classification accuracy of the logistic regression models ranged from 72% to 87%, indicating a high level of predictive accuracy.

While the variance inflation factor (VIF), Breusch–Pagan test, and Hosmer–Lemeshow test confirm model validity, further improvements could include cross-validation, sensitivity analysis, and alternative model specifications such as probit or mixed-effects models to account for unobserved heterogeneity (Gujarati, 2007; Surjanovic & Loughin, 2024)..

Table 2. Descriptive statistics

	Urban N=18037	**Rural** N=4695	Chi2 test p-values
Male	8776(48.66)	2324(49.5)	0.303
Age group			
Young adult	9200(51.04)	2772(59.05)	
Middle age	4773(26.48)	1009(21.5)	
Advanced age	2141(11.88)	419(8.93)	
Retirees	1910(10.6)	494(10.52)	

Household size			
1–4	14563(80.74)	3243(69.07)	<0.001***
5–9	3301(18.3)	1345(28.65)	
10–24	173(0.96)	107(2.28)	
Educational attainment			
No education	142(0.79)	155(3.3)	<0.001***
Primary and high school	6829(37.88)	2882(61.44)	
Matric	7495(41.57)	1456(31.04)	
Tertiary education	3564(19.77)	198(4.22)	
Banking fees are too expensive			
Disagree	13692(79.49)	3117(71.87)	<0.001***
Not sure	/	814(17.34)	
Agree	1445(8.39)	406(9.36)	
Distance post office (PO)			
1 minute – 1 hour	6978 (72.43)	937(36.76)	<0.001***
1 hour – 2 hours	1770(18.37)	1265(49.63)	
More than 2 hours	886(9.2)	347(13.61)	
Distance bank branch			
1 minute – 1 hour	7803(82.16)	1676(65.26)	<0.001***
1 hour – 2 hours	1139(11.99)	808(31.46)	
More than 2 hours	555(5.84)	84(3.27)	
Distance ATM			
1 minute – 1 hour	7652(79.03)	1198(49.04)	<0.001***
1 hour – 2 hours	1460(15.08)	1117(45.72)	
More than 2 hours	571(5.9)	128(5.24)	
Distance insurance branch			
1 minute – 1 hour	5355(71.44)	916(51.17)	<0.001***
1 hour – 2 hours	1531(20.42)	770(43.02)	
More than 2 hours	610(8.14)	104(5.81)	
Outcome variables			
Bank account ownership	14607(83.94)	3652(82.07)	<0.001***

Internet banking	15080(83.61)	4542(96.74)	<0.001***
Use insurance	5926(32.85)	1017(21.66)	<0.001***
Use credit	3647(20.22)	449(9.56)	<0.001***
Mobile banking	8204(52.48)	1685(43.77)	<0.001***
Savings	3721(27.23)	1028(27.57)	0.684
Remittance	6449(36.92)	1659(37.82)	0.270

Overall, the diagnostic tests confirmed that the logistic regression model was appropriate for the data and provided reliable estimates of the factors that influence financial service usage in South Africa. For the remittance and mobile banking equations, the Hosmer–Lemeshow goodness-of-fit test suggested some potential issues with model fit. However, given that the other diagnostic tests were satisfactory and that the literature indicates the Hosmer–Lemeshow test can sometimes lose power (see, for example, (Surjanovic & Loughin, 2024), these results are also reported.

Results and Discussion

Descriptive Statistics

On table 2, the five waves of data collection yielded a total of 22 741 respondents aged 18 years and above. Gender distributions were similar across rural and urban populations, with males comprising approximately 49% of the sample in both areas. However, notable differences emerged in other demographic characteristics

Rural residents were younger on average, with 59.05% classified as young adults (18–36 years), compared to 51.04% in urban areas. Middle-aged individuals (37–45 years) constituted a larger proportion in urban areas (26.48%) than in rural areas (21.5%).

Household size also differed between regions. Urban households were predominantly smaller, with 80.74% comprising one to four members, whereas rural households were larger on average, with 28.65% consisting of five to nine members. Educational attainment was significantly higher in urban

areas: 41.57% of urban respondents had completed matric and 19.77% held tertiary qualifications, whereas 61.44% of rural respondents had only primary or secondary education, and only 4.22% had tertiary qualifications.

Bank account ownership rates were high in both urban (83.94%) and rural areas (82.07%). However, rural respondents encountered more significant challenges due to the greater distance from financial services. For instance, 50% of rural respondents lived more than an hour from a post office, compared to 18.37% of urban respondents. Similarly, 49.04% of rural respondents were more than an hour from an ATM, whereas only 15.08% of urban respondents faced this challenge.

Mobile banking usage was higher in urban areas (52.48%) than in rural areas (43.77%). Internet banking usage showed a similar pattern, with 83.61% of urban respondents using the service compared to 96.74% of rural respondents. The proportion of individuals who saved was relatively similar in both areas, with 27.23% of urban respondents and 27.57% of rural respondents reporting savings. Remittance usage was also comparable, at 36.92% in urban areas and 37.82% in rural areas. Despite similar usage rates, rural respondents encountered significantly greater geographic barriers to accessing remittance services, with a higher percentage reporting longer distances to service points.

Urban residents were considerably more likely to use insurance services (32.85%) than rural residents (21.66%). Access to credit was also much more common in urban areas (20.22%) than in rural areas (9.56%). These patterns suggest that geographic proximity to financial services, alongside higher education levels in urban areas, play a crucial role in determining access to more complex financial products such as credit and insurance.

Regression Results

This section presents the results of the estimated financial inclusion models. Tables 2 to 8 display the marginal effects of the exploratory variables. Each table provides results for three models: overall, urban and rural

estimates. The fourth column presents *W*ald tests that assess the significance of differences between urban and rural areas. Diagnostic statistics for each model are presented at the bottom of the respective tables.

Bank Accounts

The analysis on table 3 reveals notable differences in the factors that influence bank account ownership between rural and urban populations. In urban areas, larger households (five to nine members) are 3.01% more likely to own a bank account, indicating a positive correlation between household size and bank account ownership. This relationship is not observed in respect of rural households, where household size has no significant impact on bank account ownership.

Table 3. Factors associated with access to a bank account

	-1	-2	-3	-4
VARIABLES	**Overall**	**Urban**	**Rural**	**Chi2**
Male	0.00398	-0.002	-0.003	0.02
	(0.0116)	(0.00972)	(0.0165)	
HH size				
5–9	0.0264*	0.0301**	0.0128	0.00
	(0.0146)	(0.0118)	(0.0171)	
10+	-0.0510	0.0220	-0.0230	0.29
	(0.0733)	(0.0484)	(0.0655)	
Age categories				
Middle age	-0.0138	-0.00511	-0.0110	0.23
	(0.0134)	(0.0114)	(0.0183)	
Advanced age	-0.0188	-0.0122	-0.0356	1.33
	(0.0178)	(0.0151)	(0.0281)	
Retirees	-0.0253	0.00911	-0.0128	0.48
	(0.0197)	(0.0146)	(0.0243)	
Distance to PO				

1 hour – 2 hours	0.0266	0.0174	-0.0710**	10.50***
	(0.0171)	(0.0154)	(0.0277)	
More than 2 hours	-0.0166	-0.0209	-0.124***	10.33***
	(0.0223)	(0.0206)	(0.0433)	
Distance to bank branch				
1 hour – 2 hours	0.0401	0.129***	0.0182	2.87*
	(0.0294)	(0.0103)	(0.0284)	
More than 2 hours	-0.713***	-0.444*	-0.136	00.17
	(0.0403)	(0.252)	(0.152)	
Distance to ATM				
1 hour – 2 hours	0.00368	-0.0881***	0.0937***	27.60***
	(0.0225)	(0.0230)	(0.0192)	
More than 2 hours	0.255***	0.125***	0.0835***	0.04
	(0.0116)	(0.0433)	(0.0275)	
Banking behaviour				
No	-0.00305	0.00948	0.00955	0.09
	(0.0139)	(0.0117)	(0.0177)	
Sometimes	0.00227	-0.0372*	-0.0438	0.57
	(0.0204)	(0.0209)	(0.0344)	
Enough money to save				
No	-0.0281**	-0.0233**	-0.0193	0.18
	(0.0127)	(0.0100)	(0.0198)	
Observations	4,557			
Pseudo r-squared	0.0615			
Chi-square	324.95			
Prob > chi2	0.0000			
Hosmer–Lemeshow goodness-of-fit	0.5435			
Accuracy %	86.21%			

* Tables may have a footer.

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1. *Reference groups: female, 0–4 HH size, young adults, Gauteng, no education, 0–1 hour distance to financial services, yes, disagree. All variables are discussed against the reference groups.*

Distance to financial services emerges as a critical factor, particularly in rural areas. Rural residents living one to two hours from a post office are 7.10% less likely to have a bank account, and this effect is even stronger for those living more than two hours away, with a 12.4% decrease in likelihood. In contrast, urban residents do not exhibit the same sensitivity to distance from a post office. These results suggest that access to post offices is critical for financial inclusion in rural areas (Anson et al., 2013; Clotteau & Ansón, 2011). Interestingly, for urban residents, living one to two hours from a bank branch increases the likelihood of having a bank account by 12.9%.

Proximity to ATMs shows mixed results. In urban areas, living farther away from ATMs can increase the likelihood of owning a bank account, whereas in rural residents, living closer to ATMs is associated with lower bank account ownership.

Banking behaviour plays a significant role in bank account ownership. Individuals who sometimes withdraw all their funds immediately upon deposit are less likely to maintain a bank account. This behaviour is associated with a 3.72% decrease in the likelihood of owning a bank account in urban areas, whereas no significant effect is observed in rural areas. Financial capability also plays an important role in bank account ownership. Individuals who report not having sufficient funds to save are 2.81% less likely to own a bank account. This pattern is consistent across both rural and urban areas.

Credit Accounts

Table 4. Factors associated with a credit account

	-1	-2	-3	-4
Credit account	Overall	Urban	Rural	Wald chi2
Male	0.0136	0.0155	0.00521	0.10
	(0.0102)	(0.0111)	(0.0296)	
HH size				
5–9	0.0186	0.0256*	-0.0282	2.08
	(0.0131)	(0.0145)	(0.0328)	
10+	-0.0531	-0.0574	-0.0283	0.09
	(0.0492)	(0.0555)	(0.0852)	
Province				
Western Cape	-0.00443	-0.0263	0.114	1.06
	(0.0265)	(0.0186)	(0.136)	
Eastern Cape	-0.0513**	-0.0450**	-0.0884	0.18
	(0.0242)	(0.0208)	(0.109)	
KwaZulu-Natal	-0.0656***	-0.0578***	-0.112	0.31
	(0.0219)	(0.0173)	(0.107)	
Free State	-0.0736***	-0.0656***	-0.121	0.23
	(0.0255)	(0.0211)	(0.121)	
Limpopo	-0.0820*	-0.0588	-0.227**	3.08*
	(0.0424)	(0.0458)	(0.108)	
Mpumalanga	-0.0680***	-0.0589**	-0.122	0.43
	(0.0260)	(0.0237)	(0.107)	
North West	-0.0721***	-0.0578**	-0.159	1.28
	(0.0265)	(0.0247)	(0.106)	
Northern Cape	-0.0900***	-0.0844***	-0.123	0.16

	(0.0247)	(0.0222)	(0.105)	
Age category				
Middle age	0.0397***	0.0452***	0.00702	0.98
	(0.0119)	(0.0130)	(0.0336)	
Advanced age	0.0533***	0.0476***	0.0958*	0.74
	(0.0166)	(0.0174)	(0.0543)	
Retirees	0.0186	0.0181	0.0247	0.02
	(0.0164)	(0.0175)	(0.0510)	
Educational attainment				
Primary and high school	-0.0126	-0.00526	-0.0615	0.32
	(0.0603)	(0.0695)	(0.0797)	
Matric	0.0407	0.0469	0.00576	0.14
	(0.0606)	(0.0698)	(0.0848)	
Tertiary	0.136**	0.133*	0.160	0.01
	(0.0618)	(0.0706)	(0.0979)	
Distance to PO				
1 hour – 2 hours	0.0207	0.0171	0.0500	0.61
	(0.0176)	(0.0197)	(0.0386)	
More than 2 hours	-0.0300	-0.0364	0.0132	0.56
	(0.0234)	(0.0258)	(0.0615)	
Distance to bank branch				
1 hour – 2 hours	-0.0786***	-0.0858***	-0.0415	1.02
	(0.0162)	(0.0182)	(0.0397)	
More than 2 hours	-0.00823	-0.00472	-0.0339	0.03
	(0.142)	(0.166)	(0.103)	
Distance to ATM				
1 hour – 2 hours	0.0268	0.0334	-0.0164	1.10
	(0.0204)	(0.0229)	(0.0397)	

More than 2 hours	-0.0661	-0.0779	0.0140	0.32
	(0.106)	(0.120)	(0.0893)	
Banking behaviour				
No	0.0175	0.0238*	-0.0249	1.91
	(0.0124)	(0.0136)	(0.0323)	
Sometimes	0.0260	0.0125	0.114	1.95
	(0.0234)	(0.0246)	(0.0699)	
Enough money to save				
No	-0.0609***	-0.0621***	-0.0602*	0.00
	(0.0113)	(0.0122)	(0.0345)	
Expensive bank fees				
Not sure	0.121***	0.156***	-0.114**	13.70***
	(0.0185)	(0.0207)	(0.0539)	
Agree	0.110***	0.139***	-0.0807*	19.53***
	(0.0150)	(0.0167)	(0.0413)	
Observations	6,47			
Pseudo r-squared	0.0752			
Chi-square	518.11			
Prob > chi2	0.0000			
Hosmer–Lemeshow goodness-of-fit	0.8364			
Accuracy %	79.32%			

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1. *Reference groups: female, 0–4 HH size, young adults, Gauteng, no education, 0–1 hour distance to financial services, yes, disagree. All variables are discussed against the reference groups.*

The factors that influence access to credit accounts as seen on table 3 vary substantially across rural and urban settings. In urban areas, larger households (five to nine members) are 2.56% more likely to access credit, whereas in rural areas, larger household size is associated with reduced access to credit. The province of residence further influences access to credit. The largest reduction is observed in rural Limpopo, where residents are 22.7% less likely to have a credit account. Similar results are evident in relation to urban residents in the Eastern Cape (4.5%), KwaZulu-Natal (5.78%), the Free State (6.56%), Mpumalanga (5.89%), North West (5.78%) and the Northern Cape (8.44%).

Education emerges as an important determinant of credit account ownership. In urban areas, residents with tertiary education are 13.3% more likely to have access to credit accounts, underscoring the positive role of higher education in urban financial inclusion. In rural areas, age appears to be more influential, with individuals aged 46–55 being 9.58% more likely to access credit, possibly reflecting higher levels of economic activity within this age group.

Perceptions of bank fees also significantly influence credit access. Urban residents who perceive bank fees as expensive are 13.9% more likely to access credit. In contrast, rural residents who perceive bank fees as expensive are 8.07% less likely to access credit, suggesting that cost considerations act as a stronger deterrent in rural areas. These results suggest that urban dwellers may have greater confidence or capacity to navigate the financial system despite higher perceived costs.

The relationship between banking behaviour and credit access is also noteworthy. In urban areas, individuals who do not withdraw all their funds immediately are 2.38% more likely to access credit, whereas no significant effect is observed in rural areas. Retaining funds in an account may help individuals build the financial history required for credit approval, with this effect being more pronounced in urban areas.

Savings Accounts

Table 5. Factors associated with a savings account

	-1	-2	-3	-4
VARIABLES	Overall	Urban	Rural	Wald chi2
Male	0.00813***	0.007**	0.015*	1.60
	(0.00285)	(0.00310)	(0.00819)	
Age categories				
Middle age	0.00752**	0.008**	0.004	0.06
	(0.00344)	(0.00383)	(0.00733)	
Advanced age	0.00225	0.00222	0.00231	0.04
	(0.00415)	(0.00442)	(0.0113)	
Retirees	0.000432	-0.00224	0.0146	1.81
	(0.00428)	(0.00402)	(0.0168)	
Distance to bank branch				
1 hour – 2 hours	0.00999**	0.00949*	0.0147	0.21
	(0.00487)	(0.00541)	(0.0105)	
More than 2 hours	0.00165	0.00221	-0.00249	0.33
	(0.00536)	(0.00601)	(0.00936)	
Banking behaviour				
No	0.00824***	0.00900***	0.00411	0.14
	(0.00266)	(0.00300)	(0.00553)	
Sometimes	0.0233***	0.0173**	0.0537	0.72
	(0.00858)	(0.00745)	(0.0397)	
Enough money to save				
No	-0.0134***	-0.0136***	-0.0126	0.04
	(0.00334)	(0.00356)	(0.00965)	
Banking fees expensive				
Not sure	-0.00587	-0.00784*	0.00510	0.93
	(0.00451)	(0.00423)	(0.0175)	
Agree	-0.0127***	-0.0138***	-0.00668	0.68

	(0.00254)	(0.00271)	(0.00721)
Observations	6,842		
Pseudo r-squared	0.0849		
Chi-square	82.85		
Prob > chi2	0.0000		
Hosmer–Lemeshow goodness-of-fit	0.6029		
Accuracy %	98.66%		

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1 *Reference groups: female, 0–4 HH size, young adults, Gauteng, no education, 0–1hours distance to financial services, yes, disagree. All variables are discussed against the reference groups.*

Gender differences emerge regarding the likelihood of owning a savings account, with males more likely to hold savings accounts in both rural and urban areas. In urban areas, men are 0.7% more likely to have a savings account, while in rural areas this increases to 1.5%. Age also plays a role, particularly in urban areas, where middle-aged individuals are 0.8% more likely to own savings accounts. However, this age effect is not statistically significant in rural areas, suggesting that urban areas may provide more opportunities or incentives for working-age individuals to save.

Geographic proximity to bank branches also affects savings account ownership, although the magnitude of the effect is small. Urban residents who live one to two hours away from a bank branch are 0.95% more likely to own a savings account, highlighting the importance of physical access to banking infrastructure. In contrast, distance does not significantly influence the likelihood of owing a savings account among rural residents.

Banking behaviour and financial capacity are also key determinants of savings account ownership. In urban areas, individuals who do not regularly engage in other banking activities are nevertheless more likely to own savings accounts. Financial capability, however, remains a constraint: not having enough money to save significantly reduces the likelihood of owning a savings account, with a 1.36% decrease in urban areas and a similar decrease in rural

areas. Urban individuals who do not withdraw all their money at once are 0.90% more likely to actively engage with savings services. Similarly, urban individuals who sometimes withdraw all their money at once are 1.36% more likely to have savings accounts. This pattern of not withdrawing all available funds may enhance individuals' ability to accumulate savings over time. Overall, the regression coefficients for savings accounts were smaller in magnitude than those observed for credit and transactional bank accounts.

Insurance

On table 6 the results indicate that demographic and geographic factors shape insurance usage. Gender plays a significant role, particularly in urban areas, where males are 2.28% more likely to use insurance services. However, this gender effect is not statistically significant in rural areas, where insurance usage appears to be more evenly distributed across genders.

Household size has a notable negative impact on insurance usage. In urban areas, households with five to nine members are 5.71% less likely to use insurance, and a similar effect is observed in rural areas, where such households are 3.66% less likely to have insurance. For larger households (10 or more members), the effect in urban areas is even stronger, with an 11% decrease in insurance usage.

Age significantly influences insurance adoption in urban areas. Middle-aged individuals in urban settings are 5.51% more likely to use insurance, while advanced-age individuals are 7.02% more likely to have insurance. Retirees in urban areas are 3.38% more likely to use insurance services, suggesting that older urban residents have greater access to, or trust in, insurance products. In contrast, the impact of age on insurance usage in rural areas is less pronounced.

Descriptive Statistics

Table 6. Factors associated with a savings insurance

	-1	-2	-3	-4
	Overall	Urban	Rural	Wald chi2
Male	0.0187**	0.0228**	-0.0140	1.54
	(0.00865)	(0.00962)	(0.0166)	
HH size				
5–9	-0.0543***	-0.0571***	-0.0366**	1.37
	(0.0107)	(0.0120)	(0.0148)	
10+	-0.0968**	-0.110**	0.00913	0.88
	(0.0450)	(0.0499)	(0.0597)	
Age categories				
Middle age	0.0468***	0.0551***	-0.0180	3.20*
	(0.0102)	(0.0114)	(0.0182)	
Advanced age	0.0643***	0.0702***	0.0244	0.02
	(0.0137)	(0.0150)	(0.0345)	
Retirees	0.0278**	0.0338**	-0.0202	1.32
	(0.0129)	(0.0144)	(0.0233)	
Distance to bank branch				
1 hour – 2 hours	-0.0828***	-0.0917***	-0.0246*	0.03
	(0.0113)	(0.0128)	(0.0146)	
More than 2 hours	0.0150	0.0166	0.00575	0.0
	(0.0206)	(0.0235)	(0.0308)	
Banking behaviour				
No	0.101***	0.112***	0.0186	0.81
	(0.00971)	(0.0109)	(0.0157)	
Sometimes	0.0844***	0.0873***	0.0674	0.37
	(0.0206)	(0.0221)	(0.0623)	

Enough money to save				
No	-0.164***	-0.178***	-0.0736***	2.09
	(0.00937)	(0.0106)	(0.0193)	
Banking fees expensive				
Not sure	0.0723***	0.0705***	0.100**	6.01**
	(0.0151)	(0.0164)	(0.0405)	
Agree	0.0853***	0.0892***	0.0684***	3.01*
	(0.0125)	(0.0140)	(0.0255)	
Observations	6,842			
Pseudo r-squared	0.1722			
Chi-square	1112.24			
Prob > chi2	0.0000			
Hosmer–Lemeshow goodness-of-fit	0.5045			
Accuracy %	82.11%			

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1 *Reference groups: female, 0–4 HH size, young adults, Gauteng, no education, 0–1 hour distance to financial services, yes, disagree. All variables are discussed against the reference groups.*

Distance from financial services again plays an important role. Urban residents who live one to two hours away from a bank branch are 9.17% less likely to use insurance, compared to a 2.46% decrease in rural areas. This suggests that geographic access to financial institutions has a stronger influence on insurance usage in urban areas.

Banking behaviour and financial capability also significantly affect insurance usage. Urban individuals who do not withdraw all their money once it is deposited are 11.2% more likely to use insurance. Similarly, the inability to save reduces the likelihood of insurance usage, with a 17.8% decrease in urban areas and a 7.36% decrease in rural areas. Urban residents who withdraw all

their funds are 2.2% less likely to use insurance services, indicating that this behaviour is associated with a lower likelihood of utilising more complex financial products like insurance. This effect is less pronounced in rural areas, where fewer individuals use insurance overall, suggesting that refraining from immediately withdrawing funds increases access to insurance predominantly in urban settings.

Internet Banking

Table 7. Factors associated with internet banking

	-1	-2	-3	-4
VARIABLES	Overall	Urban	Rural	Wald chi2
Male	0.0434***	0.0431***	0.0502**	1.33
	(0.00956)	(0.0106)	(0.0227)	
Age category	-0.00682	-0.00477	-0.0241	0.63
Middle age	(0.0114)	(0.0127)	(0.0256)	
	-0.00861	-0.00926	-0.00469	0.00
Advanced age	(0.0149)	(0.0162)	(0.0412)	
	-0.0987***	-0.105***	-0.0592*	0.00
Retirees	(0.0130)	(0.0143)	(0.0318)	
Employed full time	-0.0406**	-0.0387**	-0.0579	0.34
	(0.0172)	(0.0174)	(0.0676)	
Distance to PO				
1 hour – 2 hours	-0.0429***	-0.0421**	-0.0498**	1.35
	(0.0161)	(0.0183)	(0.0222)	
More than 2 hours	-0.100***	-0.114***	-0.0109	2.04
	(0.0165)	(0.0179)	(0.0421)	
Distance to bank branch				
1 hour – 2 hours	-0.0652***	-0.0755***	0.00576	2.03

	(0.0170)	(0.0190)	(0.0354)	
More than 2 hours	0.201	0.230	0.0353	0.39
	(0.158)	(0.188)	(0.103)	
Distance to ATM				
1 hour – 2 hours	-0.0393**	-0.0434**	-0.0136	0.10
	(0.0182)	(0.0206)	(0.0302)	
More than 2 hours	-0.0286	-0.0296	-0.0254	0.01
	(0.111)	(0.127)	(0.0608)	
Banking behaviour				
No	0.0892***	0.0964***	0.0438**	0.05
	(0.0111)	(0.0124)	(0.0218)	
Sometimes	0.0321*	0.0304	0.0464	0.40
	(0.0192)	(0.0208)	(0.0500)	
Enough money to save				
No	-0.154***	-0.164***	-0.0989***	0.30
	(0.0104)	(0.0116)	(0.0263)	
Expensive bank fees				
Not sure	-0.00761	-0.0111	0.0185	0.34
	(0.0158)	(0.0171)	(0.0436)	
Agree	-0.0327**	-0.0394***	0.0154	1.53
	(0.0127)	(0.0139)	(0.0307)	
Observations	6,474			
Pseudo r-squared	0.1331			
Chi-square	876.82			
Prob > chi2	0.0000			

Hosmer–Lemeshow goodness-of-fit	79.78%
Accuracy %	0.4663

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1 *Reference groups: female, 0–4 HH size, young adults, Gauteng, no education, 0–1 hour distance to financial services, yes, disagree. All variables are discussed against the reference groups.*

Table 7 shows that internet banking usage differs significantly between urban and rural populations. In urban areas, males are 4.31% more likely to use internet banking than their female counterparts, and a similar pattern is observed in rural areas, where males are 5.02% more likely to use internet banking. Age also plays a role, retirees in urban areas are 10.5% less likely to use internet banking contrary to younger adults, reflecting a generational gap in the adoption of digital financial services.

Distance to financial services also influences internet banking usage. Urban residents who live one to two hours away from a post office are 4.21% less likely to use internet banking. Similarly, rural residents are 4.98% less likely to use internet banking when located at this distance. The same pattern is evident for proximity to bank branches and ATMs. However, for individuals who live more than two hours away, the variable is statistically insignificant.

Financial capacity also serves as an important constraint. Not having enough money to save reduces the likelihood of adopting internet banking by 16.4% in urban areas and by 9.89% in rural areas, highlighting financial capacity as a barrier to digital banking adoption. The tendency to withdraw all funds immediately after deposit also influences internet banking usage, particularly in urban areas. Individuals in urban settings who exhibit this behaviour are less likely to engage with internet banking services, suggesting that those who do not maintain account balances are also less inclined to adopt digital financial solutions. Conversely, urban individuals who do not withdraw all their money immediately are 9.64% more likely to use internet banking. Similarly, rural residents who do not with draw all their money immediately

are 5.38% more likely to use mobile banking, suggesting that internet banking may serve as a substitute for traditional banking channels for some users.

Discussion

The study provides a detailed examination of the factors that influence access to and usage of financial services in South Africa, with particular attention to contrasts between rural and urban areas. The findings reveal significant differences in how key factors, such as proximity to services, household size, education and gender, influence financial behaviour in these two settings. These differences suggest that a one-size-fits-all approach to promoting financial inclusion is unlikely to be effective and that targeted interventions are required to address the distinct barriers faced by rural populations.

Proximity to financial services remains a significant barrier in rural areas. Rural residents are far more likely to live at greater distances from key financial institutions, including post offices, bank branches and ATMs, which limits their ability to engage with the formal banking system. This geographic isolation contributes to lower rates of bank account ownership, reduced access to credit and limited use of insurance services in rural areas. In urban areas, where residents typically live closer to these services, financial inclusion levels are higher, underscoring the role of physical access in shaping financial behaviour. These findings are consistent with previous studies, such as Akudugu (2013), Wokabi and Fatoki (2019) and Simatele and Maciko (2022), which emphasise the role of geographic accessibility in determining financial behaviour. Expanding mobile banking and digital financial services in rural areas may be a viable strategy for overcoming geographic barriers. By reducing reliance on physical banking infrastructure, rural populations could gain improved access to formal financial services, thereby narrowing the inclusion gap.

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These patterns are closely linked to infrastructural disparities. In rural South Africa, weak transportation networks and long distances between service points often restrict access to banking infrastructure. Rural areas

usually have fewer financial institutions, making it challenging for residents to access even basic services without having to travel far. In contrast, urban residents generally benefit from closer proximity to a range of financial services, reducing the burden of travel costs and time. This helps explain why distance has a more pronounced and consistent effect on financial inclusion outcomes in rural areas.

Household size also shows notable differences between rural and urban settings, particularly in relation to the likelihood of accessing credit, using insurance and saving. In urban areas, larger households (five to nine members) are associated with a higher likelihood of owning a bank account and accessing credit. In rural areas, however, larger households are less likely to engage with these services. This divergence could be explained by differing economic dynamics. Urban households may benefit from greater access to formal employment, more stable income streams and higher educational attainment, increasing both the need for and the ability to use financial services such as credit. In contrast, larger rural households often experience considerable financial pressure due to lower income levels and reliance on informal employment or subsistence agriculture, leaving limited disposable income for saving or participation in the formal financial system.

Education also varies in its influence across services and geographic contexts. In urban areas, individuals with tertiary education are significantly more likely to access credit and to use insurance services, highlighting the role of education in enhancing financial literacy and engagement. In rural areas, education plays a stronger role in determining remittance usage. This suggests that in contexts where traditional financial services are less accessible, educated individuals are more adept at navigating alternative financial channels, such as remittance services. These findings are consistent with previous research (e.g., Asuming et al., 2019), which identifies education as a key enabler of financial inclusion since it equips individuals with the knowledge required to use financial products effectively. The variation in the influence of education across various services possibly reflects differences in

product complexity: more sophisticated services such as credit and insurance may require higher levels of financial literacy than remittance transactions.

Gender disparities further influence financial service usage, particularly when examined alongside the empirical results of this study. The regression results indicate that gender is a statistically significant determinant of financial service usage, with males consistently showing a higher likelihood of engaging with services such as credit, insurance, and digital banking in both urban and rural contexts. For instance, as shown in Table 5 and Table 7, males are significantly more likely to own savings accounts and use internet banking, with marginal effects indicating a positive and statistically significant relationship ($p < 0.05$). In urban areas, males are approximately 0.7% more likely to own savings accounts and 4.3% more likely to use internet banking, while in rural areas this gender gap increases for certain services, with males being 1.5% more likely to hold savings accounts and 5.0% more likely to use internet banking. Similarly, the results for insurance usage (Table 6) demonstrate that urban males are 2.28% more likely to use insurance services, underscoring a gender-based disparity in access to more sophisticated financial products. These findings suggest that gender disparities are not merely theoretical but are reflected in measurable differences in financial behaviour. In rural settings, these disparities are further compounded by socioeconomic constraints. The descriptive statistics (Table 2) and regression results indicate that rural populations have lower levels of education and income stability, which are key determinants of financial service usage. For example, educational attainment -particularly tertiary education is positively associated with access to financial services such as credit, with individuals holding tertiary qualifications being 13.3% more likely to access credit in urban areas. In contrast, rural populations, where only 4.22% of respondents have tertiary education, exhibit lower engagement with these services.

Furthermore, in the case of remittance and informal financial usage, education plays a facilitative role in rural areas by enabling individuals to navigate alternative financial channels more effectively. This suggests that both gender and education are among the most strongly correlated socio-

economic factors influencing financial service usage in the study. The persistence of these disparities aligns with existing literature, which attributes women's lower levels of financial inclusion to structural barriers such as limited access to income, lack of collateral, and restricted financial autonomy (Zins & Weill, 2016). Addressing these inequalities will require targeted interventions that are informed by empirical evidence, including policies aimed at improving women's access to education, income opportunities, and financial literacy programmes, particularly in rural and underserved regions (Demirgüç-Kunt et al., 2021).

The adoption of digital financial services, such as mobile and internet banking, also differs markedly among urban and rural populations. Internet banking is more prevalent in urban areas, particularly among individuals who live farther from physical bank branches. This reflects the expanding role of technology in urban financial systems, where the use of online banking platforms is supported by greater internet penetration, higher levels of digital literacy and better access to reliable infrastructure. In rural areas, mobile banking is more widely adopted as an alternative to traditional banking services, especially in regions where infrastructure is weak and physical distance from banking facilities poses a major barrier. The strong uptake of mobile banking in rural areas could be attributed to its lower cost and greater convenience relative to traditional banking, as well as the higher penetration of mobile phones compared to other forms of digital technology. As noted by Demirgüç-Kunt et al. (2021), mobile banking has become a powerful tool for financial inclusion in sub-Saharan Africa, extending financial services to individuals who are otherwise excluded from formal banking systems due to geographic constraints.

Financial capability, measured by the ability to save, emerges as a critical determinant of the usage of financial services. Individuals who report not having enough money to save are consistently less likely to engage with the formal financial system in both rural and urban settings. This finding underscores the pervasive role of poverty in limiting financial inclusion, particularly in rural areas, where income instability and lower employment

rates are more common. Limited savings capacity reduces access to bank accounts and credit and constrains the use of insurance and remittance services, underscoring the need for policies that address underlying economic disparities. In rural areas, this challenge is compounded by the higher costs associated with accessing financial services and the perception that formal banking services are too expensive. This may help explain why rural residents are particularly sensitive to banking costs, as reflected in the significant negative effect of perceived high bank fees on financial service usage in rural areas.

Banking behaviour- specifically, the immediate withdrawal of all deposited funds - also plays a significant role in shaping financial service usage, particularly bank account ownership and access to credit. This behaviour reflects a transactional use of bank accounts, where individuals primarily receive payments (e.g., salaries or government grants) and withdraw all funds for immediate consumption. The results show that this behaviour is more common in rural areas, where individuals may not recognise the benefits of maintaining account balances due to limited access to financial literacy programmes or low trust in the banking system. In urban areas, individuals who withdraw all their funds immediately upon deposit are also less likely to own bank accounts or to access credit, suggesting that this behaviour limits long-term engagement with formal financial services. This pattern arises from different factors across rural and urban contexts. In rural areas, where access to banking infrastructure is limited, individuals may view bank accounts primarily as a means of receiving income rather than as tools for managing finances. As noted by Simatele and Maciko (2022), bank accounts are often used as 'mailboxes' for salaries and government grants.

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The findings reveal that financial inclusion in South Africa is shaped not only by traditional determinants but also by employment status, income stability, and trust in financial institutions. Individuals with stable, formal employment are significantly more likely to access credit and maintain active bank accounts. Formal employment provides consistent income streams and meets the eligibility criteria required by financial institutions, thereby

facilitating access to financial services(Wentzel et al., 2016) . In contrast, individuals engaged in informal or irregular employment face substantial barriers due to income volatility and lack of documentation. This challenge is particularly pronounced in rural areas, where informal employment dominates.

Trust in financial institutions also plays a crucial role in determining financial service usage. Low levels of trust, often driven by high transaction costs, perceived lack of transparency, and previous negative experiences, discourage individuals from engaging with formal banking systems (Nanziri et al., 2018). This is especially relevant for digital financial services, where concerns about security and fraud may limit adoption. Strengthening consumer protection frameworks, improving transparency, and enhancing financial literacy are therefore essential for building trust. These results suggest that financial inclusion strategies must address both economic constraints and behavioural factors, particularly in underserved populations. Expanding employment opportunities, promoting income stability, and building trust in financial systems are critical to increasing financial service usage.

Conclusion

The results of this study highlight the need for targeted and context-specific policy interventions to enhance financial inclusion in South Africa. These recommendations are grounded in the empirical findings, which identify geographic location, education, income (proxied by financial capability), gender, and distance to financial services as the most significant determinants of financial service usage. In rural areas, the results demonstrate that distance to financial infrastructure is a critical barrier. For example, individuals living more than two hours from a post office are 12.4% less likely to own a bank account, while those living one to two hours away are 7.1% less likely to have a bank account. Similarly, the likelihood of accessing credit and insurance decreases as distance from financial institutions increases. These

findings provide strong empirical support for policies aimed at expanding digital financial infrastructure, particularly mobile banking and agent-based networks, to overcome geographic barriers.

The study also shows that financial capability and income stability are among the strongest predictors of financial inclusion. Individuals who reported not having enough money to save were significantly less likely to use financial services, with reductions observed across multiple services, including savings (−1.34%), credit (−6.09%), and insurance (−16.4%). This suggests that policies focused solely on access may be insufficient unless accompanied by interventions that improve income stability and economic participation. In addition, education and gender emerge as important socio-economic determinants, particularly in urban areas. Individuals with tertiary education are 13.3% more likely to access credit, highlighting the role of education in facilitating engagement with more complex financial products. Gender disparities are also evident, with males being more likely to use services such as insurance (2.28% higher in urban areas) and internet banking (4.3% higher in urban areas and 5.0% in rural areas). These findings suggest that targeted financial literacy programmes, especially for women and less-educated populations, are essential to improving financial service uptake.

In urban areas, although geographic barriers are less severe, perceptions of banking costs and financial behaviour play a more prominent role. The results indicate that individuals who perceive banking fees as high are significantly affected in their use of financial products, particularly credit, while those who withdraw all funds immediately after deposit are less likely to maintain active engagement with financial services. These findings support policies aimed at reducing banking costs and promoting behavioural financial literacy.

International experiences provide valuable lessons that align with these findings. For instance, Kenya's mobile money system (M-Pesa) demonstrates how digital financial services can mitigate geographic barriers, while India's financial inclusion strategy shows the importance of combining infrastructure development with financial literacy initiatives (Demirgüç-Kunt et al., 2021).

Overall, the evidence suggests that achieving meaningful financial inclusion requires a multidimensional approach that addresses the most influential determinants identified in this study—namely, geographic access, financial capability, education, gender disparities, and cost barriers. Policies that simultaneously target these factors through infrastructure development, financial education, regulatory reform, and economic empowerment initiatives are most likely to yield sustained improvements in financial service usage.

Appendix

Appendix A.1

Table A1. Variance inflation factor test

	Bank account	Credit account	Savings account	Insurance use	Mobile banking	Internet banking	Remittances
Distance to ATM	3.10	3.19	2.86	2.98	3.19	3.19	3.11
Distance to bank branch	2.98	3.05	2.86	2.93	3.05	3.04	3.00
Distance to PO	1.17	1.21			1.21	1.19	1.20
Education level		1.21	1.04		1.21		1.21
Enough money to save	1.05	1.15		1.04	1.15	1.05	1.15
Expensive banking fees		1.09		1.08	1.09	1.08	
HH size	1.03	1.06	1.03	1.04	1.06		1.04
Banking behaviour	1.03	1.05	1.03	1.04	1.05	1.03	1.05
Gender	1.02	1.05	1.02	1.02	1.05	1.02	1.03
Age category	1.02	1.03	1.01	1.02	1.03	1.01	1.04
Province		1.02			1.02		1.03
Employed							1.02
Mean VIF	1.55	1.46	1.55	1.52	1.46	1.58	1.44

Table A2. Omitted variable linktest

	Bank account	Credit account	Savings account	Insurance	Mobile banking	Internet banking	Remittances
_hat	0.297	-2.842	0.850	0.867***	1.072***	0.813	1.152***
	(0.396)	-2.001	(0.459)	(0.121)	(0.036)	(0.157)	(0.046)
_hatsq	0.166	-0.465	-0.048	-0.051	0.236***	-0.080	0.179***
	(0.092)	(0.242)	(0.141)	(0.044)	(0.041)	(0.064)	(0.026)
_cons	0.694	-7.748	-0.096	-0.046	-0.256***	-0.070	-0.126***
	(0.413)	-4.085	(0.371)	(0.070)	(0.056)	(0.082)	(0.035)

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

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