

Research Article

Impact of Demand and Supply Sides Policy on Financial Inclusion in Iringa Hope Joint SACCOS in Southern Highland Zone of Tanzania

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Abstract

In economics and finance industry in particular, financial growth promotes allowing circumstances for evolution through supply-led or a demand-pull method. Through monetary enclosure it helps establishment of reasonable financial amenities, such as access to payments and remittance amenities, reserves, credits and insurance services by the official financial structure to the excluded. This study examines impacts of supply and demand sides policy on financial inclusion in Iringa Hope Joint SACCOS based in Southern Highland Zone of Tanzania majoring Iringa and Njombe Regions. The study used Probit Model and a Cross-Sectional Survey Design. The quantitative analysis was calculated using Statistical Package for Social Science (SPSS ver. 20, IBM, USA). The study findings revealed that, factors influencing supply and demand on financial inclusion are strongly significance since its P-value approaching to one (1). The study found out that, management, leadership and financial literacy, accountability, loans affordable costs, human and physical resources, quality of supportive staff, location of financial services, financial mobile, self-efficacy, easy loans processes, awareness on financial services and gender equality increase the access to financial services hence opens the possibility of many people being included in financial sector. These results also highlight that, as the demand of financial services increase leads to increase in supply of services and its products, thus increasing the possibility of financial inclusion. Therefore, the government and other stakeholders need legal and institutional transformations which will help meet the needs especially in the rural communities, to broaden the scope of financial services hence making them financially inclusive. Policymakers should focus on developing policies considering a sustainable banking services delivery model and need-based products for rural and urban consumers.

Keywords

Financial Services, Policy, SACCOs, Interest, Loan, Saving

1. Introduction

Financial inclusion refers to the access to finance and financial services for all in a fair, transparent and equitable manner at an affordable cost [6]. Globally, microfinance is a concept that dates back from the 19th century when money

lenders were informally performing the role of now formal financial institutions [31]. It is regarded as a valuable tool for socio-economic up-liftment in developing countries and is projected to play a significant role in poverty alleviation and

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development [20, 13, 10, 31]. Financial inclusion is a phenomenon that is constituted as a factuality among various strategies of poverty reduction in developing countries [10]. Financial inclusion was a viable tool for poverty reduction strategy in Sub-Saharan African countries [33]. [32, 4, 35] argue that, the aggregate level of financial inclusion in Sub-Saharan Africa has increased significantly and there are variations in both the level and rates of improvement among the countries.

According to [23, 8] man, elder, matrimonial, educated, ironic, mobile users or people who are conscious on opening a bank account are further likely to have an official account than their complements. Being from a countryside area or from a bigger family size reduced the probability of having an account. Outcomes from the probit assortment model display that rural populations, employed, wealthier people, or people who were out of labor power are more probable to use their account to save cash than their complements. The third model presented that being married, widowed, or inferior condensed the possibility of account use than their complements. Policies should target the most vulnerable groups of the society [8]. Rural households, women, the poor, less educated people, and the young should be the focus of financial inclusion endeavors of the Government. Parallel to these policy measures, awareness of opening bank account and financial education programs should be promoted [23].

Unemployment and literacy rates were among the factors that contributed to financial inclusion, and it was observed that women were more vulnerable than men are to lack financial inclusion [9]. In less developed countries, the economy depends on agriculture, and people are less financially inclusive when they live in rural areas. Pay inequality reduce financial inclusion rates and has a negative impact on development. The low financial inclusion rate reduces the levels of development in developing countries [38]. The study recommend that the findings could lead to the development and empowerment of vulnerable groups in the studied countries. In order to improve the conditions for development, policy-makers should consider policies that enhance literacy, eliminate gender inequality and increase pay equality [9, 38].

“Orazi, Martinez and Vigier, revealed that most widespread instrument is financial accounts, which show a sustainable evolution in the three years of study for most of the countries [19]”. The use of debit cards instrument was considered more feasible to promote financial inclusion policies, since they do not have costs for the users and can be boosted with programs to formalize operations and public transfers, generating more immediate changes [28]. Credit cards showed a widespread diffusion and a more stable level. Formal savings and credit levels are lower in general, and there is no evidence of a generalized evolution for the years of study [27, 19]. Substantial progress still needs to be made concerning financial inclusion. Recognized that informality and economic difficulties imply a strong step backward to promote inclusive finance in developing countries [27].

“Bekele showed that difference level of financial inclusion among countries is due to differences in financial liberalization policy, gross domestic product, percentage of rural population, and mobile money service expansion are some macro-level differences that explain this variation [5]”. Differences in literacy rates and means of receiving payments such as government transfers is a micro-level variation among countries [38]. Also, gender, age, employment status, and owning a mobile phone had significant and positive effects on financial inclusion [30]. However, lack of documentation, lack of trust, and lack of money were significant barriers to financial inclusion. It was recommended that countries could learn from fellow to use more liberalized approach to enhancing its financial inclusion level [30, 38]. Also, recommended that a country should improve its financial inclusion level by reducing barriers such as lack of documentation and lack of trust by simplifying the documentation challenge and creating awareness to develop trust [5].

“Oke and Adamson pointed out that, the main limitation to access of financial services by small and medium enterprises is unfriendly interest rate charged on loan, poor infrastructural facilities stand as the constraint hindering financial inclusion [18]”. Banks services provision consciousness absolutely drives access to the quality financial services by the small and medium enterprises [36, 18, 22] the same to “Enriquez exhibited that savings from banks disturbs the access to quality financial services provision, income limitation, illiteracy and lack of trust in financial institution which negatively drives the financial inclusion [22]”. Also, factors like the transaction charges, distance, collaterals, withdrawing process and interest rate drive access to quality of financial services negatively [18, 36]. The borrowing interest rate should be gorgeous to inspire unceasing access to loanable funds [18]. Financial providers should build an effective and well-functioning financial system that offers affordable and sustainable financial services to micro, small and medium enterprises [18, 22].

“Mumtaz revealed that financial inclusion absolutely effects agricultural involvement, by the households which have access to financial services and expected to contribute in different agricultural activities [15]”. The likelihood of contributive households in agricultural activities with mobiles and smartphones is becoming higher. User-friendliness of fertilizer reduces the agricultural participation gap. Income, education, cotton and sugar production overwhelmed the differences in agriculture participation between digital finance and non-digital finance [25, 15]. Financial Inclusion is impacted by demand side and supply side factors. Banks need to focus on such dimensions more effectively to achieve the Government target of making the economy completely inclusive [25].

“Nguyen and Luong revealed that people who are female, wealthier, more educated, or in the personnel show a higher financial inclusion index [17]”. Women are less likely to be financially included because they complain that financial institutions are too far away or because another family

member has an account [25]. Older people are more concerned about lack of documentation, lack of trust, and demand reasons. To achieve the purposes of robustness, the measurement of financial inclusion was changed following previous studies to confirm robust and stable baseline results [25, 17]. The findings contribute to issuing adequate policies that break the barriers to financial inclusion and enhance financial inclusion, especially for less educated, poor, out of the workforce, and old people [25].

In Tanzania, the level of financial exclusion still remains high, at 28 per cent with those excluded being people living in rural areas, smallholder farmers, youth and women. There are various microfinance banks that functions to support and provide microfinance services in Tanzania. Among many players in the industry, they include the CRDB, National Microfinance Bank, and Akiba Commercial Bank [10]. Furthermore, there are also other banks that involved with micro financing in Tanzania such as the PRIDE and SEDA, Tanzania Commercial Bank and FINCA. Others are community and small banks have also expressed interest in the same including the NGOs, Savings, and Credits Cooperatives Societies (SACCOS) and other non-profit organizations (Harvey et al., 2018). These lenders aim to provide easy access to formal credit to customers that need it the most and would not typically be eligible for bank credit, thus providing inclusion for a large rural and urban population of the country.

“Mader point out that, agents of financial inclusion charge high transaction costs that discourage poor people from joining and remaining in the formal financial sector [11]”. Other scholars argued that agents of financial inclusion are seeking to make profit off poor people, which is exploitative in nature [11, 30]. There is a big gap in the demand and supply of financial services in the market, whereby the majority of the financial service products offered do not meet users’ needs. Thus, this study explored the impacts of supply and demand sides policy on financial inclusion in Iringa Hope Joint SACCOS in Southern Highland Zone of Tanzania.

2. Material and Methods

2.1. Research Design

This study used interpretivist research philosophy to answer main research question- ‘How is the demand and supply side policy affecting performance in terms of financial inclusion advancement and what policy reforms and upgrading strategies can be adopted particularly for financial services beneficiaries. The study employed a cross-sectional research design. The cross-sectional design was used because is appropriate for description purposes as well as for the determination of the relationship between variables and it is cost-effective [34].

2.2. Sampling Techniques

The sample size was estimated according to [37] who stated that if the interest is in population proportion, then the sample size, n , can be estimated as follows:

$$n = \frac{z^2 p(1-p)}{e^2} \quad (1)$$

Where: Z is the abscissa of the normal curve that cuts off an area at the tails ($1 -$ equals the desired confidence level, e.g. 95%), e was the desired level of precision and p estimated proportion of an attribute that was present in the population, e.g. the proportion of people who are members of SACCOS. With the commonly used 95% confidence level, $Z = 1.96$, thus equation becomes:

$$n = \frac{1.96^2 p(1-p)}{e^2}, \quad (2)$$

$$\text{Approximately } n = \frac{4p(1-p)}{e^2} \quad (3)$$

$$n = \frac{4 \times 0.638(1-0.638)}{0.05^2} = 369.5296 \approx 370$$

Therefore, the sample size of this study was 370 respondents.

Table 1. Respondent’s breakdown in the study areas.

Description	Stratum	Sampling Fraction n/N	n/N_x Sub-population
Iringa Municipality	455	0.164	75
Kilolo District	700	0.164	114
Iringa District	820	0.164	134
Njombe	252	0.164	41
Mufindi	36	0.164	6
Total	2263		370

Source: Researcher, (2024)

A multi-stage random sampling approach was used to select a representative sample. The first stage involved selecting regions to be studied. Second stage involved the development of a list of districts. The third stage involved the development of a list of wards. Finally, from the list of wards followed by simple random sampling whereby each person received an equal chance of being selected and the required sample size of respondents were proportionally selected from each ward. All these stages involved collaboration with SACCO’s staff, members and wards officers.

2.3. Data Collection

The population of this study was selected from 2 regions in Southern Highland Zone of Tanzania namely; Iringa and Njombe regions. Data was collected from 370 respondents from Southern Highland Zone of Tanzania majoring two regions namely: Iringa and Njombe. The target population generated the required data on the subject matter. The structured survey questionnaires consisting of both closed and open-ended questions and depth interviews was used to collect data. The study had three types of questionnaires namely for SACCOS members, for SACCOS leaders and for non-members. The survey was done using questionnaires which was designed basing on study objective and hypothesis.

2.4. Data Processing and Analysis

Quantitative information from the questionnaires was coded, and analyzed using Statistical Package for Social Science (SPSS ver. 20, IBM, USA) was used to analyze the data.

2.5. Model Specification

The probit model was used to account for demand and supply factors that influence financial deepening. This type of econometric analysis is frequently used to determine the probability that an individual or entity with certain characteristics belongs or does not belong to the group that is being studied. Probit model are binary classification models where the dependent variable is dichotomous and takes the value 0 or 1. In this analysis the probit models take as the dependent variable, y_i , supply and demand of financial inclusion (1 if the factor influence and 0 if not); the unit of the study is the individual. The probit model was based on the cumulative normal distribution function. Let us assume that the factors influencing demand and supply depend on a latent variable y which is determined by a set of exogenous variables, included in vector x , so that the model to be able to calculate the probability that an event occurred using the following formula:

$$Y_i = \beta_0 + \beta_1 X_i + \beta_p X_p + e \quad (4)$$

Whereby, the subscript i represents individuals. The vector represents the parameters of the model and e is a normal distribution error term of average 0 and variance 1.

However, if Y_i is assumed to be distributed normally with the same average and variance, it is possible to estimate the regression parameters and thus obtain information on Y_i as follows;

$$Pr(Z_i^4 \leq Z_i) = F(Z_i)$$

$$= \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{Z_i} e^{-\frac{t^2}{2}} dt = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\beta_1 + \beta_2 X} e^{-\frac{t^2}{2}} dt \quad (5)$$

Where t is standardized normal variable, $t \sim N(0,1)$

In this model the probability is bound between 0 and 1.

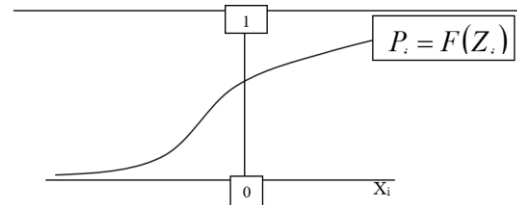


Figure 1. Probability model: Probit Model.

List of independent variables that are presumed to influence financial inclusion deepening included supply and demand side factors which include demographic variables as well as job creation, training, capital allocation, access points, documentation, financial innovation, operational costs, risk management, changes in social behavior, taxes and market prices.

3. Results and Discussion

The study findings relay on probit model which are binary classification models where the dependent variable is dichotomous and takes the P-value 0 or 1. In this analysis assumes that the P-value is significance at level 1 or approaching to 1 the factor influences and 0 if not, thus as the P-value approaching to one (1) is the strong significance of independent variable in influencing dependent variable. The study findings show that factors influencing supply and demand on financial inclusion are strongly significance. This means that as the demand of financial services increase leads to increase in supply of services and its products, thus increasing the possibility of financial inclusion. However, management, leadership and financial literacy, accountability, loans affordable costs, human and physical resources, quality of supportive staff, location of financial services, financial mobile, self-efficacy, easy loans processes, awareness on financial services and gender equality is the demand-side variables which increase the access to financial services hence opens the possibility of many people being included in financial sector.

Table 2. Demand-side on Financial Inclusion: Probit Model Analysis.

Parameter	Estimate	Std. Error	Z	P-value
SACCOS provides management, leadership and financial literacy	.016	.168	.093	.926
SACCOS members are individually accountable	.008	.150	.054	.957
Loans by borrowers is determined by the affordable costs	.040	.184	.215	.830
Human and physical resources help provision of services be effective	.114	.172	.660	.509
Quality of supportive staff boost the requests for loans	.043	.129	.335	.737
Location of SACCOS help easy accessibility of financial services	.027	.132	.207	.836
Financial mobile services increased members to access financial services	.031	.160	.296	.872
Self-efficacy from financial services prompted people to join SACCOS	.010	.127	.075	.940
Easy loans processes influence people to join SACCOS	.000	.211	.002	.998
Awareness on financial services help members increase income	.011	.125	.090	.928
Loans have been easily accessible with gender equality	.024	.195	.121	.903
Intercept	2.129	.436	4.885	.000

The support offered in this study by [21] who revealed that essay access to loans, credit facilities, access through digital financing, and ownership of accounts has increased the financial inclusion. The financial inclusion level was highly dependent upon the quality of the financial services used by the individual firms [21]. “Eton et al, revealed that digital financing accelerated financial inclusion and easy access to service providers, especially for ATM services and the ability to move from one bank to another [7]”. Once the admittance measurement was cast-off as a substitution of financial enclosure, consciousness of monetary amenities, using some else account definitely energies financial enclosure crossways and amongst the demand-side features with solitary consciousness of financial amenities that is important [21, 18]. On the other arrow, illiteracy, substitute to save, absence of faith, income restriction destructively disturbs financial enclosure crossways and amongst the demand-side aspects with only absence of trust in financial institution that is momentous [22]. While high transaction charge, bank distance, credentials accessibility, security obligation and removal trouble destructively disturb financial enclosure among the supply-side variable star. Through solitary bank distance and drawing trouble that are meaningfully manipulating financial enclosure among the supply-side variable star [18, 22].

According to [1] once practise measurement used as a substitution of financial enclosure, only consciousness of financial amenities energies financial enclosure crosswise the demand-side features. Also, alternate to save, account, lack of conviction, revenue limitation damagingly initiatives financial attachment transversely the demand-side aspects with only lack of faith and revenue limitation that are suggestively upsetting financial enclosure transversely the demand-side

aspects [1, 22]. On other side, high operation rate, bank distance, papers accessibility, guarantee condition, taking out difficulty and interest proportion undesirably energy financial attachment [22].

In economics and finance industry in particular, financial expansion indorses allowing situations for progress through either a supply-led or a demand-pull procedure [24]. Through Monetary enclosure assistances delivery of inexpensive financial amenities, such as admittance to outflows and remittance facilities, reserves, credits and insurance services by the official financial scheme to those who incline to be excepted [24, 3]. The supply side of financial enclosure is categorised by quatern dissimilar classes of financial products and correspondingly, the demand side is pigeon-holed by five diverse foundations of borrowing. Non-natural Neuronic Systems have stayed used to classify the precise aspects that stimulus these products and bases [24]. Whereas some of these aspects are mutual for together supply and demand, some other aspects are explicit to supply side and demand side of financial enclosure. Even indoors the supply and demand classes, there are convinced aspects that are very explicit to a specific product or basis [3]. Definite approaches can be advanced for attractive financial enclosure by aiming different parts by leveraging the features. Identification of these aspects helps the policy maker to choose on the suitable mass media for encouraging the suitable messages [16, 24]. Thus, it is conceivable to develop explicit approaches grounded on these aspects to bring a higher section of the monetarily omitted people into the domain of numerous reserves instruments by this means enhancing the financial enclosure [16].

According to [14], the study investigated the extent of demand-side and supply-side factors that prevent Zambian

women entrepreneurs from accessing financial services from microfinance institutions. The findings revealed that, both demand and supply side factors such as lack of collateral, low manpower, high interest rates, lack of knowledge about financial services, low access to financial institutions, lack of education, few financial institutions supporting women, poverty, devoid of self-confidence, type of business management etc. prevent women's access to financial services from microfinance institutions [14, 26]. This study offers insights to microfinance institutions on how to make women rights a priority and educate women about financial inclusion. It also provides a foundation for the development of policies that address financial inclusion for women [26].

“Oke, and Adamson discovered that the main constriction to admission to finance by MSMEs is high interest amount charged on credit, although underprivileged infrastructural services is a main limitation clogging financial enclosure from the supply-side opinion [18]”. The regression outcomes on demand-side factors open that bank services consciousness absolutely and suggestively energies access to, usage and superiority of financial amenities of MSMEs. On the other hand, accessibility of other resources of savings sidewise from bank detrimentally disturbs the access to usage and value of financial services, revenue restraint, illiteracy and absence of trust in monetary institution depressingly get-up-and-go financial enclosure [22]. Correspondingly, supply side elements such as operation charge, bank distance, security necessities, trouble to withdraw, and interest amount destructively get-up-and-go access to, usage and value of financial amenities [22]. Borrowing interest degree must be gorgeous to inspire unceasing access to loanable funds. Monetary benefactors must shape an active and well-functioning financial scheme that offers reasonable and supportable financial amenities to MSMEs [18, 22].

“Giday scrutinised the connection among financial enclosure and its demand-side elements, applied a humble probit model and two probit models [8]”. The humble probit model approximation outcomes show that man, adult, wedded, more sophisticated, annoying, mobile operators or people who are conscious on how to open a bank account are further likely to have a recognised account than their counterparts. Though, being from a countryside area or from a higher household scope decreases the possibility of having an account [23, 8]. Countryside populations, hired, wealthier people, or people who are out of employment are further likely to use their account to save cash than their complements [23]. Additionally, the tierce model displays that being nuptial, widowed, or inferior decreases the probability of account usage than their complements. Rules must target the most susceptible groups of the social order. Expressly, countryside families, females, the deprived, less educated people, and the young must focus on financial enclosure endeavours of the administration [23]. Analogous to rule measures, consciousness of opening bank account and financial training programs should be encouraged [2].

“Malik and Bustami suggested that, there is more emphasis on supply-side factors relative to demand-side factors in the context of integration [12]. Demand side factors only marginally impact waste reduction efforts [29, 12]. Similarly, the food sector is most sensitive to integration efforts attaching high importance to sustainability and efficiency initiatives. They can be a useful guide for managers and policymakers in planning and executing at the interface of demand and supply chains in developing countries [29].

4. Conclusion and Recommendations

The study found that as the demand of financial services increase leads to increase in supply of services and its products, thus increasing the possibility of financial inclusion. Also, the study found out that, management, leadership and financial literacy, accountability, loans affordable costs, human and physical resources, quality of supportive staff, location of financial services, financial mobile, self-efficacy, easy loans processes, awareness on financial services and gender equality is the demand-side variables which increase the access to financial services hence opens the possibility of many people being included in financial sector. The financial literacy and regulatory policies have a very important role in ensuring the success of financial inclusion strategies. The government and other stakeholders need legal and institutional transformations which will help meet the needs especially in the rural communities, to broaden the scope of financial services hence making them financially inclusive.

Abbreviations

ATM	Automated Teller Machine
BOT	Bank of Tanzania
CRDB	Cooperative and Rural Development Bank
FINCA	Foundation for International Community Assistance
IBM	International Business Machines
MSMEs	Microfinance Small and Medium Enterprises
NGOs	Non-Governmental Organizations
PRIDE	Promotion of Rural Initiative and Development Enterprises
SACCOS	Savings, and Credits Cooperatives Societies
SEDA	Social and Economic Development Action
SPSS	Statistical Package for Social Science
USA	United State of America

Conflicts of Interest

The authors declare no conflicts of interest.

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