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THE EFFECT OF FINANCIAL INCLUSION ON HOUSEHOLD POVERTY IN INDONESIA

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Abstract

Poverty is a major socio-economic problem in Indonesia and is still far from the target set by the government. One of the government's efforts to alleviate poverty is increasing financial inclusion. This study seeks to examine the impact of financial inclusion on household poverty in Indonesia. Financial inclusion is measured through indicators of savings ownership, access to financial services, mobile phone usage, and internet access, and considers demographic variables such as gender of the household head and the location, whether in rural or urban area. This research method used a generalized ordinal logistic regression approach on a sample of 341,802 households in Indonesia obtained from the National Social and Economic Survey (SUSENAS) 2023. The findings show that financial inclusion reduces the likelihood of households falling into poverty or the low expenditure group and increases the chance of households moving to the higher expenditure group. On the other hand, financial inclusion plays a significant role in poverty alleviation and potentially increases household expenditure. Strengthening financial inclusion through financial literacy programs, expanded account ownership, and improve internet access especially among rural households and female-headed households can play a crucial role in reducing poverty in Indonesia.

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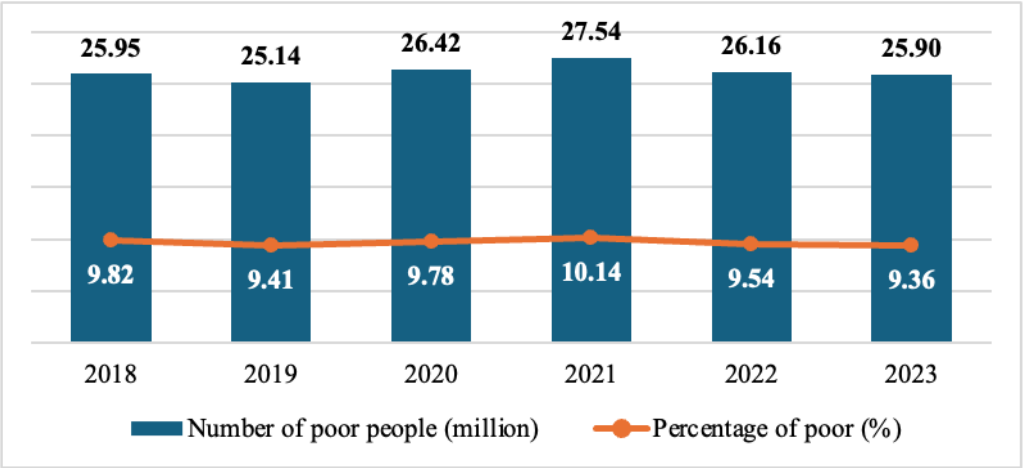
INTRODUCTION

Poverty is a socio-economic problem that is a global issue. This issue is the primary focus of countries' development goals worldwide. This is reflected in the goal of the Sustainable Development Goals (SDGs) number 1, which aims to eradicate poverty in all its form. Poverty is assessed not only by inadequate income, but also by multidimensions factors such as limited access to economic, social, and infrastructure resources that can improve welfare (Gweshengwe & Hassan, 2020). Poverty is defined as a condition in which individuals or households are unable to meet their fundamental needs, both food and non-food, given their expenditure (Badan Pusat Statistik, 2025). According to Statistics Indonesia (Badan Pusat Statistik, 2023), the poor are defined as those with a monthly per capita expenditure below the poverty line.



Source: Statistics Indonesia (BPS, 2023)

Figure 1. Percentage and Number of Poor People in Indonesia, March 2018-March 2023

Figure 1 shows the number of poor people and the poverty rate in Indonesia from 2018 to 2023. Over the past five years, poverty in Indonesia has declined but has remained stagnant. In 2023, the poverty rate in Indonesia was 9.36 percent, down by approximately 0.46 percentage points from 2018 (Badan Pusat Statistik, 2023). The highest poverty rate was 10.14 percent in 2021 due to the COVID-19 pandemic. Despite declining to 9.36 in 2023, this number remains far from the target set in the Indonesian government's Medium-Term Development Plan (RPJMN) 2020-2024, namely a poverty rate of 6.5 to 7 percent

The financial sector plays a crucial role in driving development. As part of poverty alleviation efforts in the digital era, financial inclusion is a key strategy for overcoming poverty, particularly in developing countries such as Indonesia. Financial inclusion serves as a mechanism to enhance economic stability, foster sustainable economic growth, and reduce poverty (Omar & Inaba, 2020; Kharisma & Santoso, 2021).

The Indonesian government has implemented the National Strategy for Inclusive Finance (SNKI) via Presidential Regulation Number 82 of 2016. SNKI seeks to enhance public access to formal financial services, thereby promoting inclusive economic growth and reducing poverty rates. Enhancing access to formal financial services stands as a fundamental principle of SNKI. Inclusive finance is reflected in the percentage of adults who use formal products and services, including banking, cooperatives, and financial technology (fintech). In addition, account ownership is also a fundamental measure of inclusive finance. People with accounts are better able to avoid the abyss of poverty because they can rely on savings or receive financial support from family in the event of a financial emergency (Demirgüç-Kunt *et al.,* 2022).

One of the foundations of inclusive finance listed in SNKI is the expansion of the reach of digital financial services. The development of financial infrastructure and information technology can

significantly affect the accessibility and efficiency of inclusive finance. This aligns with the Vision of Digital Indonesia 2045, which sets the future direction of digital Indonesia. One target is to achieve sustainable, technology-driven economic growth that benefits society and the economy. This target can be achieved by utilizing information technology, especially in the health and education sectors (Wardhana *et al.*, 2022).

Recent studies have explored the relationship between financial inclusion and poverty, yielding mixed results. According to Saha and Qin (2022), financial inclusion is more effective in reducing poverty. Kumar and Jie (2023) conducted research on financial inclusion and poverty in 156 countries and found that financial inclusion has a significant association with reducing extreme poverty in developing countries. This indicates that enhanced access to financial services can stimulate heightened economic activity (Ade *et al.,* 2023). In contrast, Nita Aryani *et al.* (2024) found no effect of financial inclusion on reducing poverty in Indonesia. Likewise, Husaini & Sitorus (2025) found no empirical evidence that financial access is an instrument for alleviating poverty in the ASEAN region.

Based on the dynamics described for financial inclusion aimed at reducing poverty, the increase in these indicators is inconsistent with the declining poverty rate. Furthermore, the effect of financial inclusion on poverty at the micro level remains unexplored in Indonesia. The aim of this study is to address the existing knowledge gap by examining how access to inclusive financial services effect poverty at the household level in Indonesia.

The classification of urban and rural areas is determined by the BPS based on several indicators, including population density, the percentage of households employed in the non-agricultural sector, and the availability of educational, health, and transportation facilities. In Indonesia, poverty is concentrated in rural areas due to limited access to basic infrastructure, such as education and health services (Naufal *et al.,* 2023). (Rahayuningrum and Khalil (2025) find that, in the context of structural poverty, rural poverty is consistently higher than urban poverty. especially among people with low levels of education. Based on this theory, the following hypothesis is formulated:

H_1: Household locations in rural areas are more likely to be poor.

The head of household is a household member considered the primary decision-maker and manager of the household economy. Gender differences are often associated with disparities in employment opportunities and wages, household gender roles, access to capital assets, and decision-making authority. Research by Kharisma and Santoso (2021) shows that female-headed households often earn lower wages in the labor market and have fewer assets, resulting in higher poverty rates than male-headed households. This is consistent with research by Hermawan *et al.* (2024), which found that the gender of the household head significantly affects poverty. Households headed by males are more likely to have higher incomes than households headed by females. A study by Ekaputri *et al.* (2025) shows that female-headed households face a higher risk of poverty. According to this result, the subsequent hypothesis is formulated:

H_2: A household with a female head is more likely to be poor.

A savings account is a formal financial product that enables individuals or households to save money at financial institutions such as banks. Savings account ownership is one indicator of financial inclusion. Several studies have shown that households with savings account ownership are more likely to reduce poverty. Research conducted by Ekaputri *et al.* (2025) and Tran *et al.* (2022) indicates that bank account ownership is significantly associated with a reduced risk of household poverty. In addition, a recent study by Kadir *et al.* (2025) found that financial inclusion, including savings ownership, negatively affects poverty in both multidimensional and absolute terms. Based on this explanation, the following hypothesis can be formulated:

H_3: Households with ownership of a savings account are less likely to be poor.

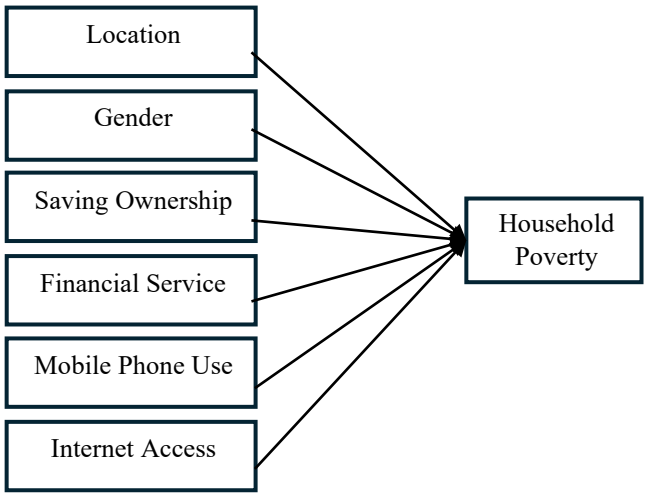
An individual or household's capacity to use financial products and services is determined by their access to financial services. According to Peprah *et al.* (2021), the use of financial services can significantly increase productivity. Several studies found that access to formal financial services is closely associated with poverty reduction (Tao *et al.,* 2023; Tsouli, 2022; Churchill, 2020). These results

align with Tran *et al.* (2022), who found that household financial products and services, including credit, savings, and stocks, can reduce the risk of poverty. Based on these findings, the hypothesis is formulated:
H_4: Households with access to financial services are less likely to be poor.

In a socio-economic context, mobile phones also serve as tools that support economic activities and access to information. Mobile phone use is revolutionizing financial inclusion and enabling more people to access and use digital financial services, such as *mobile banking and e-wallets*. (Islam *et al.,* 2022) study on financial services showed that mobile phone utilization for digital financial services can reduce poverty. In the context of agricultural service, Zhuo *et al.* (2023) investigated the effect of smartphone use on farmer income. The results showed that smartphone adoption can increase farmers' income, which mitigates the risk of falling into poverty. In addition, (Liang *et al.,* 2024) found that the use of smartphones has a significant impact on multidimensional poverty. Based on these findings, the following hypothesis is formulated:
H_5: Households with mobile phone use are less likely to be poor.

Access to the internet is an important determinant of equal economic opportunity. Internet access allows households to access information, enhance online consumption, and increase job opportunities. Through these channels, it can be concluded that internet access contributes significantly to poverty alleviation (Mateko, 2024). (Yang *et al.,* 2021) investigated the impact of mobile internet on poverty in rural households in China. The results showed that the role of mobile internet have significant impact on multidimensional poverty reduction. In line with the previous findings, Hidayat *et al.* (2021) reported that internet access significantly reduces poverty levels. Based on this explanation, the following hypothesis is proposed:
H_6: Households with internet access are less likely to be poor.

The conceptual framework in this study explains the influence of household characteristics, namely the classification of residential area and the head of household's gender, and financial inclusion variables on the level of poverty experienced by households, which can be described as follows:



Source: Researched Data, 2025

Figure 2. Conceptual Framework

RESEARCH METHODS

This study uses quantitative data sourced from BPS. The study uses data from the 2023 National Socioeconomic Survey (Susenas) in Indonesia because of the dataset's availability, which provides

comprehensive information on financial inclusion and household economic conditions. The unit of analysis in this study is the household. Seven variables are used: poverty level, location, gender, ownership of savings accounts, access to financial services, mobile phone use, and internet access. The total sample in this study comprised 341,802 households. The independent variable was divided into three expenditure groups according to the World Bank classification. The operational definition of the variables in this research is explained as follows:

Table 1.
Operational Definition of Variables

Variable Types	Variable Name	Definition
Dependent Variable	Poverty rate	The inability of a person to meet fundamental needs for both food and non-food. Categorized into three categories of expenditure 0: Bottom 40 percent (low) 1: Middle 40 percent (mid) 2: Top 20 percent (high)
Independent Variables	Location	Dummy variable of household location 0: Rural 1: Urban
	Gender	Dummy variable for gender of household head 0: Female 1: Male
	Savings Ownership	Dummy variable of saving ownership 0: All household members over 5 years do not have savings account 1: There is household member over 5 years who has savings account
	Financial Services	Dummy variable of financial services 0: All household members over 5 years did not have used financial products/services in the past year 1: There is household member over 5 years who has used financial products/services in the past year
	Mobile Phone Use	Dummy variable of mobile phone use 0: All household members do not use mobile phone 1: There is household member who use mobile phone
	Internet Access	Dummy variable of internet access 0: All household members do not have internet access 1: There is household member who has internet access

Source: Data Processed, 2025

We used a methodology to assess this research, classifying expenditure into three groups: low, medium, and high. The dependent variable has three ordinal categories. The ordered logit model (OLM) is a widely used method for modeling ordinal outcome variables. An assumption of parallel lines in OLM must be satisfied. This means that the coefficients of the explanatory variables are constant across categories. However, in this case, GOLM (gologit) is selected as an alternative to address the challenge of the parallel line assumption (Anthanasius Fomum & Opperman, 2023). The advantages of this method are that it can relax the restriction and allow some coefficients to vary across outcome categories (Moges *et al.,* 2025). Unlike ordered logit, the coefficients do not have to be equal across thresholds. So, this research provides a better model fit use gologit model when the parallel line assumption is violated.

The generalized ordered logit model can be expressed as:

$$P(Y_i > j) = \frac{\exp(\alpha_j + X_i\beta_j)}{1 + \exp(\alpha_j + X_i\beta_j)}, \quad \ldots\ldots(1)$$

$$j = 1,2,\ldots,m-1$$

m represents the number of categories for the ordinal dependent variables. In this study, the estimated gologit model can be specified as:

$$Pov = \alpha + \beta_1 Sav_i + \beta_2 Fin_i + \beta_3 MobPh_i + \beta_4 Intr_i + \beta_5 Loc_i + \beta_6 HH_i + \varepsilon_i \quad \ldots\ldots(2)$$

In the equation above, Pov denotes the poverty level, the dependent variable in this study. Meanwhile, the six independent variables used are: Sav refers to savings ownership, Fin refers to access to financial services, MobPh refers to mobile phone use, Intr refers to internet access, Loc refers to the location of the household's residential area, and HH refers to the gender of the head of the household.

RESULT AND DISCUSSION

Based on the characteristics sample, most households in the dataset are located in rural areas. Specifically, 198.387 (58 percent) households resided in rural areas and 143.415 (42 percent) households in urban areas. This distribution indicates that the sample is dominated by rural households, which is relevant because rural areas often face greater limitations in access to financial services and digital infrastructure compared to urban areas. In terms of household leadership, the majority of households (289.932; 84,8 percent) were male-headed, and 51.870 (15,2 percent) were female-headed. The relatively smaller proportion of female-headed households suggests that gender dynamics may play an important role in determining household economic conditions and access to financial resources. In the financial inclusion variable on savings ownership, 870.006 (25.5 percent) of sample households report that no household members have savings. The remaining 74,5 percent of sample households have at least one household member with savings and are categorized as experiencing financial inclusion in savings ownership. These results suggest that financial inclusion through savings ownership has been relatively widespread among the sample population. Based on the total data, the percentage of households in which no household member uses financial products/services is 61.1 percent, or 208.826. While the remaining 38,9 percent of sample households have household members who use financial products/services. This indicates that although financial inclusion is expanding, a considerable proportion of households still lack access to formal financial institutions.

Regarding the mobile phone use variable, 130.202 households (38.1 percent) with members aged 5 years and above do not use mobile phones. The remaining 61.9 percent of sample households whose entire household members are 5 years of age and older use mobile phones. This finding suggests that mobile phone ownership is relatively widespread and may serve as an important channel for expanding digital financial services. A total of 130.695 samples, or 38,2 percent of the data sample, whose entire household members are 5 years old and above use the internet, and the remaining 211.107 samples, whose household members are 5 years old and above, do not use the internet. This indicates that despite the relatively high penetration of mobile phones, internet access remains uneven across households, which may constrain the expansion of digital financial inclusion.

Table 2.
Descriptive Statistics of the Variables

Variables	Category	Frequency	Percentage
Location	0: Rural	198.387	58,00
	1: Urban	143.415	42,00
Gender of Head	0: Female	51.870	15,20
	1: Male	289.932	84,80
Saving Ownership	0: No ownership	87.006	25,50
	1: Ownership	254.796	74,50
Access to Financial Services	0: No access	211.291	61,82
	1: With access	130.511	38,18
Mobile phone Use	0: No use	31.345	9,17
	1: Use	310.457	90,83
Internet Access	0: No access	63.009	19,02
	1: With access	276.793	80,98

Source: Data Processed, 2025

This study used ordinal logistic regression to examine how financial inclusion influenced poverty through household expenditure levels. This is because this research uses ordinal outcome variables. It is divided into three groups: the lowest 40 percent of expenditure, the middle 40 percent, and the top 20 percent. The ordinal logistic regression results are shown in Table 3.

Table 3.
Ordinal Regression Logistic Estimation

Variable	Coefficient (SE)	Odds Ratio (SE)
Location	0.523*** (0.007)	1.687*** (0.012)
Gender	0.847*** (0.010)	2.332*** (0.024)
Financial Service	0.488*** (0.008)	1.629*** (0.012)
Saving Ownership	0.657*** (0.009)	1.930*** (0.018)
Mobile Phone	0.274*** (0.019)	1.316*** (0.025)
Internet acess	1.325*** (0.013)	3.762*** (0.048)

(***) 1 percent level of significance, (**) 5 percent level of significance, (*) 10 percent level of significance
The result is not interpreted because the assumption of parallel lines does not hold.
Source: Data Processed, 2025

A formal test of parallel regression lines is required to verify this estimation. The test was used to test the assumption of parallel regression lines. It produced a likelihood-ratio test to see whether the coefficients are equal across categories (proportional odds assumption).

Table 4.
Likelihood-Ratio Test of Proportionality of Odds

Df	Chi-square	P > Chi-square
6	2779.27	0.000

Source: Data Processed, 2025

The chi-square statistic ($\chi 2$) of 2779.27 (df = 6) was significant, indicating that the parallel lines assumption was not supported. In other words, the model is not appropriate. To address this problem, we used generalized ordered logit estimation to obtain results that satisfy the parallel line assumption. In the generalized ordered logit model, two logit models were specified because the dependent variable has three categories. The GOLM results for 341.802 households are shown in Table 5.

Table 5.
Generalized Ordered Logit Model Estimation

Cutpoint	Variables	Coefficient (SE)	Odds Ratio (SE)
0	Location	0.386*** (0.008)	1.471*** (0.012)
0	Gender	0.875*** (0.011)	2.399*** (0.026)
0	Financial Service	0.407*** (0.009)	1.503*** (0.013)
0	Saving Ownership	0.609*** (0.010)	1.838*** (0.018)
0	Mobile Phone	0.304*** (0.019)	1.355*** (0.026)
0	Internet acess	1.350*** (0.013)	3.857*** (0.050)
1	Location	0.709*** (0.009)	2.032*** (0.019)
1	Gender	0.701*** (0.015)	2.017*** (0.031)
1	Financial Service	0.562*** (0.010)	1.754*** (0.017)
1	Saving Ownership	1.005*** (0.017)	2.731*** (0.046)
1	Mobile Phone	-0.099** (0.038)	0.906** (0.034)
1	Internet acess	1.241*** (0.026)	3.461*** (0.089)

(***) 1 percent level of significance, (**) 5 percent level of significance, (*) 10 percent level of significance
Source: Data Processed, 2025

Based on the GOLM estimation, the hypotheses regarding the relationship between the independent variables: location, gender, financial inclusion indicators (such as savings ownership,

formal financial services, phone use, and internet access), with the dependent variable household poverty are supported. All independent variables are statistically significant and consistent with the expected direction of influence; notably, financial inclusion is a crucial factor in alleviating household poverty.

The GOLM results examine the likelihood that households are classified into any of the expenditure levels (high, medium, or low). There are two cutpoints that separate the categories of the dependent variable. For example, cutpoint 0 is the threshold between the first category (low expenditure level) and the second category (mid expenditure level). Cutpoint 1 is the threshold between the second (mid expenditure level) and third (high expenditure level) categories. Positive coefficients suggest that elevated values of the explanatory variable enhance the probability of households ascending to a higher expenditure category, whereas negative coefficients imply that increased values of the explanatory variable raise the likelihood of remaining in the current or a lower category. We also compute marginal effects to estimate the probabilities of changes in a predictor variable for all 341.802 households in the survey. For each household, there will be three probabilities, depending on the category of the dependent variable.

The odds ratio of the location variable in cutpoint 0 is 1.471. It shows that as location increases (i.e., from 0 to 1), the odds of the mid expenditure category relative to the low expenditure category increase by approximately 1.471 times. This means the households in the city or urban areas are 1.471 times more likely to be in a higher expenditure level than the households that live in rural areas, ceteris paribus. At cutpoint 1, households in urban areas are 2.032 times as likely as those in rural areas to be at a higher expenditure level, ceteris paribus.

For gender, the odds ratios for both cutpoints are approximately 2. It indicates that male-headed households are twice as likely to be at the higher expenditure level as female-headed households. The odds ratio of the savings ownership variable in cutpoint 0 is 1.838. This indicates that households with savings accounts are 1.838 times as likely to be in the mid-expenditure group as households without savings accounts. While the households that own savings accounts are 2.731 times more likely to be in the high expenditure group than the households that do not own savings accounts, ceteris paribus.

Table 6.
Marginal Effect Generalized Ordered Logit Model Estimation

Variables	Low Exp. Level	Mid Exp. Level	High Exp. Level
Location	-0.076*** (0.002)	-0.025*** (0.002)	0.102*** (0.001)
Gender	-0.173*** (0.002)	0.072*** (0.002)	0.100*** (0.002)
Financial Service	-0.080*** (0.002)	-0.000 (0.002)	0.080*** (0.001)
Saving Ownership	-0.120*** (0.002)	-0.024*** (0.003)	0.144*** (0.002)
Mobile Phone	-0.060*** (0.004)	0.074*** (0.005)	-0.014** (0.005)
Internet acess	-0.266*** (0.002)	0.089*** (0.004)	0.178*** (0.004)

Significant level: (***) 1 percent (**) 5 percent (*) 10 percent
Source: Data Processed, 2025

Regarding financial services, the odds ratios for both cutpoints are about 1.5. This means households with access to financial services are 1.5 times as likely to have higher expenditure than households without such services. The odds ratio of the mobile phone use variable in cutpoint 0 is 1.35. This means the households that use mobile phones are more likely to have higher levels of expenditure than the households that do not use mobile phones, ceteris paribus. For example, households that use mobile phones are 1.35 times as likely to be at the mid-expenditure level. But the mobile phone has a negative effect on moving to a higher category in cutpoint 1. Households that use mobile phones are 0.09 times as likely to be at the low expenditure level. Regarding the internet access variable, the odds ratio for both cut points is approximately 3. It indicates that households with internet access are 3 times as likely to be in the higher expenditure category than households without access. This means that internet accessibility significantly increases the likelihood of higher welfare.

A marginal change from rural to urban household location decreases the probability of being in the low-or mid-expenditure group and increases the probability of being in the high-expenditure group. Households in urban areas decrease the probability of being in low- or mid-expenditure levels by 7.6 percent and 2.5 percent, respectively, and increase the probability of being in high-expenditure levels by 10 percent. The study's results demonstrate that location significantly influences household poverty. This means that the area where the household lives affects its economic opportunities and its ability to increase expenditure. Households in rural areas are less likely than those in urban areas to move into a higher expenditure group. The high likelihood that rural households are poor is attributable to regional disparities that limit access to basic infrastructure, including schools and health services, thereby increasing their poverty risk (Naufal *et al.,* 2023). Rural areas generally face constraints that directly affect household income. In addition, most rural households work in the informal sector. Work in this sector is less productive than in the formal sector. This increases the risk of poverty (World Bank, 2020)**.** In addition, poverty data released by BPS consistently show that poverty rates in rural regions exceed those in urban regions.

In terms of gender, male-headed households decrease the likelihood of a household being in a low expenditure level by 17 percent. Also increases the probability that households belong to the mid- and high-expenditure levels by 7 percent and 10 percent, respectively. According to this study, poverty is significantly impacted by the head of the household's gender. Female-headed households are less likely to endure poverty than male-headed households. This result is consistent with Hermawan *et al.* (2024) study, which reports that households headed by women are more vulnerable to poverty than those headed by men. The status of women as heads of households is closely linked to the conditions under which they hold this role, as certain circumstances increase their vulnerability to poverty, limiting their time and energy to access economic opportunities (UN Women, 2021)**.**

The transition from lacking access to financial services to having access reduces the likelihood of a household experiencing low expenditure levels by 8 percent and increases the probability of a household experiencing high expenditure levels by 8 percent. This study demonstrates that access to financial services significantly impacts household poverty. This means that households that use financial products and services are less likely to experience poverty than households in which no household member uses them. Access to financial services, including credit, insurance, and payment services, enables individuals and households to mitigate risk, start businesses, and participate in the formal economy. Consequently, access to financial services and related products has been demonstrated to contribute significantly to poverty alleviation. This aligns with Inoue (2024) findings, which indicate that access to financial products, including digital banking services, significantly increases income and reduces poverty, particularly in developing countries. Financial inclusion can provide a policy tool for poverty alleviation through increasing the use of financial accounts and ownership (Nyarko *et al.,* 2023)

Comparing modes of saving ownership, households with a savings account are 14,4 percent more likely to be classified as households with a high expenditure level and 2.4 percent and 1.2 percent less likely to belong to the mid and low expenditure level categories, respectively. The analysis concludes that ownership of savings accounts significantly affects household poverty. Households with savings accounts are more likely to take advantage of economic opportunities and, therefore, less likely to experience poverty. Savings account ownership plays an important role in increasing household financial resilience. Savings accounts allow individuals or households to save money, manage income, and plan long-term expenses. This discussion aligns with research by Tran *et al.* (2022), Tsouli (2022), and Hermawan *et al.* (2024), which concluded that households with savings accounts are less likely to be classified as poor. This is because they are better able to plan their finances and use financial products. In addition, in the Indonesian context, account ownership expands access to non-cash social protection programs, *such* as PKH, BPNT, and other forms of assistance.

A change in mobile phone usage status significantly affects the likelihood that a household is classified into one of three expenditure levels. A transition from non-use to use increases the probability that a household is classified in the mid-expenditure level by 7.4 percent, while simultaneously reducing

the likelihood of classification in the low- and high-expenditure levels by 6 percent and 1.4 percent, respectively. Research findings indicate that the use of mobile phones has a significant negative effect on poverty. This indicates that households with access to mobile phones are less likely to experience poverty. This means households that use mobile phones have a negligible probability of falling into poverty compared to households that do not use mobile phones. This aligns with Matsuura-Kannari *et al.* (2024), who show that the mobile phone penetration can reduce poverty by increasing income diversification. argue that mobile phones help alleviate poverty, particularly among low-income households and vulnerable groups (Mohammed & Ameh, 2025). The use of mobile phones reduces business expenses and enhances productivity, facilitating access to improved marketplaces and pricing information, and enabling timely communication of business-related information, thereby elevating rural livelihoods.

For internet access, a change from no access to access increases the probability that a household is in mid- or high-expenditure levels by 8.9 percent and 17.8 percent, respectively. That change also reduces the probability that a household is at a low expenditure level by 26.6 percent. The analysis results indicate that households with internet access are less likely to be classified as low-expenditure households than households without internet access. This means that internet access is associated with a lower likelihood of households falling into poverty. This finding is consistent with research by Chunfang *et al.* (2023) and Li *et al.* (2025), which shows that internet access can increase household expenditure. Hermawan *et al.* (2024) found in a study in West Java that internet access increases the income of poor households, particularly among the 40 percent of households with the lowest incomes. Internet access can expand access to information and economic opportunities, thereby raising household income and expenditures. The internet can help people, including those in rural areas, strengthen their social networks, update their knowledge, and access job opportunities, and it can also enable households to benefit from internet access, thereby increasing their productivity and income (Vaio *et al.,* 2024)

CONCLUSION AND SUGGESTIONS

The study examines the effect of financial inclusion on household poverty using a generalized ordinal logistic model and explores other socioeconomic factors on household welfare. The empirical results show that several socioeconomic factors, such as location, gender of the head of household, ownership of savings, access to financial services, mobile phone usage, and internet access, significantly influence household poverty. It reduces the likelihood that households fall into poverty or a low-expenditure group and increases the likelihood that households move to a higher-expenditure group. On the other hand, financial inclusion plays a significant role in poverty alleviation and potentially increases household expenditure. It affects household poverty among both those living in rural areas and those headed by women. These results indicate that financial inclusion improves welfare among vulnerable groups, including rural households and female-headed households, suggesting that inclusive financial systems can help reduce structural inequalities in access to economic opportunities. In terms of policy implications, the results suggest that expanding financial inclusion should remain a priority in poverty reduction strategies in Indonesia. Therefore, the government needs to focus on programs to expand financial inclusion, such as financial literacy, account ownership, and digitalization for households, to reduce poverty in Indonesia.

This study still presents several limitations. The data used in this study are limited to a single time period and do not capture the long-term dynamics of poverty. Furthermore, the independent variables are limited to household conditions. A suggestion for further research is to use a longer period. In addition, variables not examined in this study could be incorporated, such as proximity to the nearest financial services and the state of the internet infrastructure.

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