

Research Application Summary

Determinants of poverty in Malawi

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Abstract

This paper analyzes the multi-dimensional poverty in Malawi by using the 2019 Malawi Fifth Integrated Household Survey (IHPS) data and suggests policy implications for practical poverty reduction in Malawi. Regarding the multi-dimensional characteristics of poverty, the study analyzed household's both subjective and consumption poverty. The study set Malawian household's subjective assessment of poverty and annual consumption value as a response variable, and selected socio-economic characteristics of households as explanatory variables based on main determinants of general, subjective and consumption poverty. The study adopted an ordered probit model and marginal effects for efficient and precise comprehension of the ordinal data, and also used multinomial logit model in order to compare subjective and consumption poverty. The results of the analysis indicate that the poverty status of Malawian households have strong relationships with household's social networks, region, natural disaster, market condition, financial inclusion, household characteristics like age, sex and education level. Policy implications like supporting both agricultural inputs including Ganyu labor and coping climate disaster, increasing access to food, financial inclusion and technology adoption has been highlighted.

Keywords: Malawi, poverty, rural development

Résumé

Cet article analyse la pauvreté multidimensionnelle au Malawi en utilisant les données de la cinquième enquête intégrée sur les ménages (IHPS) de 2019 au Malawi et suggère des implications politiques pour la réduction pratique de la pauvreté au Malawi. En ce qui concerne les caractéristiques multidimensionnelles de la pauvreté, l'étude a analysé à la fois la pauvreté subjective et la pauvreté de consommation des ménages. L'étude a défini l'évaluation subjective de la pauvreté et de la valeur de consommation annuelle des ménages malawites comme variable de réponse, et a sélectionné les caractéristiques socio-économiques des ménages comme variables explicatives basées sur les principaux déterminants de la pauvreté générale, subjective et de consommation. L'étude a adopté un modèle probit ordonné et des effets marginaux pour une compréhension efficace et précise des données ordinales, et a également utilisé un modèle logit multinomial afin de comparer la pauvreté subjective et la pauvreté de consommation. Les résultats de l'analyse indiquent que le statut de pauvreté des ménages malawiens est étroitement lié aux réseaux sociaux du ménage, à la région, à la catastrophe naturelle, à l'état du marché, à l'inclusion financière, aux caractéristiques du ménage telles que l'âge, le sexe et le niveau d'éducation. Les implications politiques telles que le soutien à la fois des intrants agricoles, y compris la

main-d'œuvre Ganyu et la lutte contre les catastrophes climatiques, l'amélioration de l'accès à la nourriture, l'inclusion financière et l'adoption de la technologie ont été mises en évidence.

Mots clés: Malawi, pauvreté, développement rural

Background

Sub-Saharan Africa (SSA), a region full of diverse cultures and resources, is predicted to be the slowest growing region in the world. Indeed Sub-Saharan Africa is expected to have a cumulative GDP growth rate of 3.6% per capita from 2020 to 20 period, significantly lower than that of the rest of the world (14%) (IMF, 2021). Malawi is a small open economy in Sub-Saharan Africa with a per capita GNI of just \$1540 in 2020, one of the lowest in the world. Per capita income has grown at an average of little more than 1.5 percent between 1995 and 2014, below the average of 2.8 percent for non-resource-rich African economies. Like in many developing countries, poverty reduction in Malawi is a major development goal. Above all, Malawi is committed to both the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) which both aim to eradicate extreme poverty and hunger. For years, the Malawi Government has pursued poverty eradication through various strategies emphasizing economic growth, infrastructure development, and provision of basic social services. These strategies have included: The Poverty Alleviation Program (1994); the Malawi Poverty Reduction Strategy (2002–2005); and, more recently, the Malawi Growth and Development Strategy (MGDS) (2011–2016 and 2017-2022). Despite these various policies and measures, poverty remains widespread in Malawi. In this respect, appropriate policy interventions are needed based on analysis of the factors affecting poverty in Malawi.

The multidimensional nature of poverty is now fully recognized, but in countries where this problem is pervasive, poverty reduction policies do not take into account other dimensions. In developing countries, poverty is usually studied only in terms of accountancy by comparing income or consumption levels which has limitations (Herrera and Razafindrakoto, 2006). Subjective poverty is multidimensional, and it gives valuable information about poverty because it catches deprivation in various aspects of one's life. In addition, since in many developing countries, such as Southern Africa, when current income or expenditure is not strongly connected with the various factors of a household's living conditions, money-metric indicators often mislead the level of poverty (Posel and Rogan, 2016). On the other hand, subjective poverty assessment gives reliable data since it is hardly affected by instant damages (such as natural disaster, physical illness of household that are only effecting single year or two), and also, it does not takes much funding, because it does not require multiple surveys through decades (Pradhan and Ravallion, 2011). In this respect, measuring poverty based on subjective assessment can be used as reliable information to measure poverty in developing countries when the environment for obtaining objective figures is not available.

Data and procedure. The current analysis is based on the Malawi Integrated Household Panel Survey (IHPS) in 2019, operated by the Government of Malawi’s National Statistical Office (NSO) as part of the World Bank Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) initiative. The sample size is 3178 households covering 51 provinces of which 2355 are rural and 823 urban households. The IHPS covers a wide range of issues, including education, health, housing, food security and well-being. The 2019 IHPS is the fifth

round of survey, since it started in 2010.

As for the dependent variable, the following question was asked to the head of the household, “Imagine six steps, where on the bottom, the first step, stand the poorest people, and on the highest step, the sixth, stand the rich. On which step are you today?”. Such subjective assessment of poverty is converted to numeric data from 1 to 6. In order to deduce the determinants of poverty, the study considered socio-economic characteristics of Malawian households in terms of multiple-facets of poverty for unbiased variable selection. Table 1 informs the definition of socio-economic variables of Malawian households included in the analysis. Variables are selected based on Determinants of poverty presented in other studies (Subjective poverty determinants (Benfield, 2016), Consumption poverty determinants by Maharjan and Piya (2012), and General Poverty determinants by Haughton and Khandker (2009). To be more precise and objective, the study added more variables.

Table 1. Definition of Variables

Variables		Definition
Outcome variables		
Subjective poverty conditions	Poverty status (1-6)	Imagine six steps, where on the bottom, the first step, stand the poorest people, and on the highest step, the sixth, stand the rich. On which step are you today?
	Explanatory variables	
	Neighbor step	Imagine six steps, where on the bottom, the first step, stand the poorest people, and on the highest step, the sixth, stand the rich. On which step are most of your neighbors today?
Regional	Friend step	Imagine six steps, where on the bottom, the first step, stand the poorest people, and on the highest step, the sixth, stand the rich. On which step are most of your friends today?
	Urban	Urban: 1 / Rural: 0
	Province	Northern province (Yes:1/No:0) Central province (Yes:1/No:0) Southern province (Yes:1/No:0)
Own property		
	Do you own or are purchasing this property, is it provided to you by an employer, do you use it for free, or do you rent this property? (OWNED, BEING PURCHASED:1 / FREE, AUTHORIZED, FREE, NOT AUTHORIZED, EMPLOYER PROVIDES, RENTED: 0)	

		Drought	During the last 3 years, was your household affected negatively by Drought? (Yes: 1/No: 0)	Household	H_Breakup	During the last 3 years, was your household affected negatively by break-up of household? (Yes: 1/No: 0)
		Irregular rain	During the last 3 years, was your household affected negatively by Irregular rain? (Yes: 1/No: 0)		Violence (Conflict/Violence)	During the last 3 years, was your household affected negatively by Conflict/Violence? (Yes: 1/No: 0)
		Flood	During the last 3 years, was your household affected negatively by Floods? (Yes: 1/No: 0)		H_size	Total members of the household as a continuous variable
					Female	Male: 0 / Female:1
		Crop Disease	During the last 3 years, was your household affected negatively by Unusually High Level of Crop Pests or Disease? (Yes: 1/ No: 0)		Marital	What is a household head's present marital status? (Monogamous married or non-formal union. Polygamous married or non-formal union: 1, Separated. Divorced. Widow or widower. Never married: 0)
		Landslide	During the last 3 years, was your household affected negatively by Landslide? (Yes: 1/No: 0)			
		Lvstk_disease (Livestock Disease)	During the last 3 years, was your household affected negatively by Unusually High Level of Livestock Disease? (Yes: 1/No: 0)		Borrow	Over the past 12 months, did you or anyone else in this household borrow on credit from someone outside the household or from an institution for business or farming purposes, receiving either cash or inputs? (Yes: 1/No: 0)
		Lowpr_output (Low prices of agricultural output)	During the last 3 years, was your household affected negatively by Unusually Low Prices for Agricultural Output? (Yes: 1/No: 0)		Electricity	Do you have electricity working in your dwelling? (Yes: 1/ No: 0)
		Highpr_input (High costs of agricultural input)	During the last 3 years, was your household affected negatively by unusually High Costs of Agricultural Inputs? (Yes: 1/No: 0)		Reduc_earn (Reduced earning of household business)	During the last 3 years, was your household affected negatively by reduction in the Earnings from Household (Non-Agricultural) Business (Not due to Illness or Accident)? (Yes: 1/No: 0)
		Highpr_food (High prices for Food)	During the last 3 years, was your household affected negatively by unusually High Prices for Food? (Yes: 1/No: 0)		Reduc_salary (Reduced earning of salaried member)	During the last 3 years, was your household affected negatively by reduction in the Earnings of Currently Salaried Household Member(s) (Not due to Illness or Accident)? (Yes: 1/No: 0)
Community	Access to water		How long does it take to draw water from the water source?		Employ_loss	During the last 3 years, was your household affected negatively by Loss of Employment of previously Salaried Household Member(s) (Not due to Illness or Accident)? (Yes: 1/No: 0)
	Aid_maize		The amount of received maize (kg) from aid program in last 12 months.			
	Bank account		Do you, either by yourself or together with another household member or someone outside your household, currently have an account at a bank, credit union, micro finance institution, village savings organization, or another financial institution? (Yes: 1/No: 0)		Ill/injured	During the last 3 years, was your household affected negatively by Serious illness or Accident of Household Member(s)? (Yes: 1/No: 0)
	Child away (Children elsewhere)	lives	Does the household head or spouse have any biological sons and/or daughters who are 15 years old and over and do not live in this household? (Yes: 1/No: 0)		Foodconsume (Food consumption adequacy)	Concerning your household's food consumption over the past one month, which of the following is true? (It was less than adequate for household needs: 1/ It was just adequate for household needs: 2/ It was more than adequate for household needs: 3)
					Log_consume	log of total value of food and non-food consumption per year as a continuous variable (Not included in consumption poverty measure)

Individual	Age of household head including age squared value	
	Age/Age^2	What is the highest educational qualification you have acquired? (1-9)
	Education	In the last 12 months, did you work on household farming activities even if only for one hour? (Yes: 1/No: 0)
	Farmer	In the last 12 months, did you work as an employee for a wage, salary, commission, or any payment in kind: including doing paid apprenticeship, domestic work or paid farm work, excluding Ganyu ¹ , even if only for one hour? (Yes:1/No:0)
	Employed	

¹Any off-own-farm work done by rural people on a casual basis in Malawi
Source: 2019 Malawi IHPS survey questionnaire selected by Author

Table 2 shows demographic and socio-economic characteristics of Malawian households by mean, standard deviation, minimum and maximum of the data.

Table 2. Demographic and Socio-economic characteristics of Malawian households

Characteristics	Mean	SD	Min	Max
Outcome variables				
Poverty status, (1-6)	2.216	0.98	1	6
Explanatory variables				
Neighbours poverty, (1-6)	2.550	1.09	1	6
Friends poverty, (1-6)	2.559	1.10	1	6
Region	0.259	0.44	Rural = 0	Urban = 1
Northern Province	0.113	0.32	No=0	Yes=1
Central Province	0.456	1.00	No=0	Yes=1
Southern Province	0.430	1.49	No=0	Yes=1
Own property	0.679	0.47	Not Owned=0	Owned=1
Damaged by Drought	0.157	0.36	No=0	Yes=1
Damaged by Irregular Rain	0.161	0.37	No=0	Yes=1
Damaged by Flood	0.151	0.36	No=0	Yes=1
Damaged by Crop pest and Disease	0.167	0.37	No=0	Yes=1
Damaged by Landslide	0.174	0.38	No=0	Yes=1
Damaged by Livestock Disease	0.165	0.37	No=0	Yes=1

Damaged by Low prices of agricultural output	0.166	0.37	No=0	Yes=1
Damaged by High costs of agricultural input	0.175	0.38	No=0	Yes=1
Damaged by High prices for Food	0.170	0.38	No=0	Yes=1
Time of Access water (min)	14.870	44.61	0min	1,800min
Aid_maize (kg)	95.42	76.26	0	400
Bank	0.291	0.45	No=0	Yes=1
Child lives elsewhere	0.358	0.48	No=0	Yes=1
Damaged by Household Break-up	0.166	0.37	No=0	Yes=1
Damaged by Conflict/Violence	0.169	0.37	No=0	Yes=1
Household size	4.608	2.23	1	20
Household head sex	0.703	0.46	Male=0	Female=1
Marital status	0.729	0.44	Not in a Relationship=0	In a Relationship =1
Borrow on credits	0.263	0.44	No=0	Yes=1
Electricity	0.195	0.40	No=0	Yes=1
Damaged by Reduction in Household Business earnings	0.160	0.37	No=0	Yes=1
Damaged by Household Business Failure	0.168	0.37	No=0	Yes=1
Damaged by Reduction in earnings of salaried household member(s)	0.176	0.38	No=0	Yes=1
Damaged by Loss of employment of Salaried household member(s)	0.170	0.38	No=0	Yes=1
Damaged by Illness or accident of Household member(s)	0.162	0.37	No=0	Yes=1
Food security	1.58	0.61	1	3
Log of household consumption	13.03	0.99	7.78	16.23
Household head age	41.40	16.03	3	119
Age squared	1970.9	1560.03	9	14161
Education	1.837	1.38	1	8
Farming activities	0.692	0.46	No=0	Yes=1

Empirical Model

The study used Ordered Probit model since the independent variables consisted of ordinal values. The ordered probit model is defined as follows:

$$y^* = x' \beta + \varepsilon$$

Since y^* is unobservable response variable, it provides a criterion for respondents to select observable response y . To analyze poverty status in the study, there are 6 selectable responses.

The equation below represents the relationship between y^* (Unobserved) and y (Observed) applied in the analysis for poverty status.

$$\begin{aligned} y &= 1 \text{ if } y^* \leq \mu_1 (=0) \\ &= 2 \text{ if } \mu_1 < y^* \leq \mu_2 \\ &= 3 \text{ if } \mu_2 < y^* \leq \mu_3 \\ &\dots \\ &= 6 \text{ if } \mu_5 < y^* \end{aligned}$$

In order to apply the equation to the analysis, μ_1 to μ_5 represents the thresholds. If the respondent chooses 2, then the respondent has y^* between μ_1 and μ_2 .

The μ is defined as unknown parameters to be estimated with β . The determination of poverty step depends on certain measurable factors x and certain unobservable factors ε . Here, ε is assumed to be normally distributed across observations, and the mean and variance of ε is normalized to zero and one. The following probabilities are induced.

$$\begin{aligned} \text{Prob}(y = 1 | x) &= \Phi(x' \beta), \\ \text{Prob}(y = 2 | x) &= \Phi(\mu_1 - x' \beta) - \Phi(x' \beta), \\ \text{Prob}(y = 3 | x) &= \Phi(\mu_2 - x' \beta) - \Phi(\mu_1 - x' \beta), \\ &\dots \\ \text{Prob}(y = 6 | x) &= 1 - \Phi(\mu_5 - x' \beta). \end{aligned}$$

The β shows whether the latent variable y^* increases or decreases with the regressors x . The marginal effects can be explained as each unit increase in the independent variable increases or decreases the probability of selecting alternative J (1,2,...,6) by the marginal and is expressed as a percentage.

Results and Discussions

The results of the regression analysis through ordered probit model are shown in Table 3.

Table 3. Estimation Results: Determinants of poverty in Malawi

Parameter	Poverty step	DF	Estimate	SD	Wald-Chisq	Pr > ChiSq
Intercept	5	1	0.475	0.066	51.158	<.0001
Intercept	4	1	1.335	0.081	268.999	<.0001
Intercept	3	1	2.617	0.087	900.329	<.0001
Intercept	2	1	3.988	0.093	1835.695	<.0001
Neighbor step		1	0.216	0.023	85.373	<.0001***
Friend step		1	0.361	0.024	225.744	<.0001***
Urban		1	0.190	0.065	8.486	0.0036**
North region		1	-0.462	0.072	40.795	<.0001***
Central region		1	-0.117	0.047	6.153	0.0131*
Property own		1	0.033	0.054	0.379	0.5383
Drought		1	0.099	0.065	2.330	0.1269
Irregular rain		1	-0.131	0.063	4.279	0.0386*
Flood		1	-0.007	0.066	0.012	0.9116
Crop disease		1	-0.108	0.062	3.067	0.0799
Landslide		1	0.006	0.061	0.009	0.9263
Livestock Disease		1	-0.065	0.063	1.064	0.3022
Lowpr_output		1	-0.139	0.063	4.913	0.0267*
Highpr_input		1	0.156	0.061	6.491	0.0108*
Highpr_food		1	-0.110	0.062	3.185	0.0743
Water time		1	-0.001	0.000	1.672	0.196
Aid_maize_kg		1	0.001	0.000	3.093	0.0786
Bank account		1	0.586	0.054	119.239	<.0001***
Child away		1	0.214	0.062	11.959	0.0005**
H_breakup		1	0.034	0.062	0.304	0.5813
Violence		1	0.002	0.061	0.002	0.9684
hhsiz		1	0.051	0.011	20.067	<.0001***
female		1	-0.041	0.060	0.456	0.4997
marital		1	0.197	0.064	9.519	0.002**
loan		1	-0.004	0.049	0.008	0.9275
electricity		1	0.586	0.070	69.723	<.0001***
H_business fail		1	-0.107	0.062	2.970	0.0848
Employ loss		1	-0.095	0.063	2.310	0.1286
Injured		1	-0.099	0.063	2.487	0.1148
Food consume		1	0.308	0.038	65.622	<.0001***
Log_Consume		1	-0.342	0.017	413.498	<.0001***
Age		1	-0.053	0.008	39.650	<.0001***
Ages		1	0.000	0.000	30.756	<.0001***
Edu		1	0.116	0.019	36.453	<.0001***
Farmer		1	-0.122	0.058	4.449	0.0349*
Employed		1	0.028	0.057	0.232	0.6302

Note: *p < 0.05; **p < 0.01; ***p < 0.001 / Number of observations: 2,688

According to the results, poverty status of neighbours and friends as judged by the Head of the household has significant relationship with the poverty of household head himself. Likewise, household head’s subjective income status also has strong relationship with his/her individual poverty. Such results might be unsurprising regarding the fact that people often choose neighbourhoods with similar economic status. Also, since most of the poor people suffer chronic poverty, it lasts for many years or a life time and is likely to be transmitted through generations (Hulme and Shepherd, 2003). However, like Belle (1983) argued, poor households often fail to avoid neighborhood 'negative networks', which force many individuals to participate in survival networks that prevent upward mobility and often impose emotional penalties. Therefore, it is essential to reduce negative effects of neighbourhoods for the poor households.

In the regional category, people feel poor in the rural area, while they feel less poor in urban areas. This supports the World Bank estimation that about 79% of the world's poor live in rural areas, far exceeding the proportion of the total rural population from 17% in 2016. This implies that urban residents could receive more income than that of rural communities since there are more advantages in urban areas in terms of jobs, facilities and education. Thus, rural areas supports for various jobs and decent livelihood should be supplemented. Moreover, people feel relatively poorer in Northern and central province than in Southern province. In the aspects of natural disaster, people who are effected negatively by irregular rains tend to feel poor. Droughts and floods will be more intense, resulting in lower agricultural productivity, which will have a negative and immediate impact on rural livelihoods (Easterling *et al.*, 2007). As a result, certain effective interventions, such as irrigation, will be less effective since insufficient rains would lower the amount of water available for irrigated agricultural production in the off-rainfall season (Maganga *et al.*, 2021). In addition, people who damaged by high cost of food price experience more severe poverty. Similarly, food consumption adequacy level from ‘Household’ category also show significant relationship with poverty. Due to irregular rainfall, small farm size, insufficient input, and difficulties of access to market, many farmers cannot meet their livelihood needs. The IPC, (2020) report that food insecurity is severe in both urban and rural areas of Malawi, since more than 12% of urban households suffered food crisis due to the above-average maize prices and greater vulnerability of market dependence.

As Mussa (2015) argued, since Malawi consumes the highest amount of maize per capita in Southern Africa, the most important food in Malawi is maize, as a staple food. Thus, maize prices have special political, social, and economic importance. Maize is grown by more than 90% of farmers Malawi and accounts for 60% of calorie consumption. In fact, 80% of small holder farmers are net buyers of maize. The purchase of maize is decreased due to expensive import prices, reflecting Malawi’s land-locked environment and poor access network (Makombe *et al.*, 2010). One in three households in Malawi does not meet the daily calorie requirement per person. In order to overcome such harsh condition, policy support to lower food prices (especially maize) will be needed for farm households, and structural changes such as market access, increased distribution facilities, food tax relief, and increased food aid are needed to revitalize the domestic maize market supply, and eradicate hunger.

Finally, People who are affected by the low price of output feel poor while people who are affected by the high cost of input feel less poor. The result suggests that the input subsidies will have positive impact on rural farmers, as Hemming *et al.* (2018) indicated that the higher input subsidies made higher agricultural yields and increased income of farmers.

In the community category, people who currently have an account at a bank, credit union, micro finance institution, village savings organization, or another financial institution tends to feel less poor. Such result supports the arguments of Omar and Inaba (2020), that Financial activities have the effect of reducing poverty and income inequality in developing countries. Thus, in order to improve the overall welfare of society, policy reform is needed for increasing access and use of official financial services by the underprivileged.

In the Household category, people who currently are in a relationship feel less poor, just as the results of Anyanwu (2014)’s analysis that divorce, separation, or widows have a statistically significant negative impact on the probability of poverty. Also, access to electricity has a positive effect on poverty alleviation, due to the convenience of any materials operated by electricity such as light, heating system, and any other electric home appliances.

In the individual category, the younger the household head gets, the more they seem to escape from poverty. This could be a weakness in the welfare system which does not favour senior citizens. As previous studies on poverty have revealed, the level of education has significant relation with poverty. In this study the education level of the household showed significant results for escaping poverty. Therefore, the Government of Malawi should ensure appropriate education support for further economic and social development.

The marginal effects of each variable can be calculated from the previous calculated coefficients and are defined as each unit increases or decreases the probability of selecting alternative J (1, 2,...,6) expressed as a percentage. Table 4 shows the marginal effects in each poverty status.

Table 4. Marginal effect application for Malawi

Int	Variable	ME	SD	Variable	ME	SD
1	Neighbor step	0.0007988	0	LivestockD	0.0008128	0
2	Neighbor step	0.0006349	0	LivestockD	-0.0006378	0
3	Neighbor step	0.0001586	0	LivestockD	-0.0001688	0
4	Neighbor step	0.0000053	0	LivestockD	-0.0000062	0
5	Neighbor step	0.0000000	0	LivestockD	0.0000000	0
6	Neighbor step	0.0000000	0	LivestockD	0.0000000	0
1	Friend step	0.0013377	0	Lowpr_output	0.0008477	0
2	Friend step	0.0010632	0	Lowpr_output	-0.0006641	0
3	Friend step	0.0002656	0	Lowpr_output	-0.0001771	0
4	Friend step	0.0000088	0	Lowpr_output	-0.0000065	0
5	Friend step	0.0000000	0	Lowpr_output	0.0000000	0
6	Friend step	0.0000000	0	Lowpr_output	0.0000000	0
1	water time	-0.0000021	0	high cost_input	0.0007787	0
2	water time	-0.0000017	0	high cost_input	-0.0006137	0
3	water time	-0.0000004	0	high cost_input	-0.0001594	0
4	water time	0.0000000	0	high cost_input	-0.0000056	0
5	water time	0.0000000	0	high cost_input	0.0000000	0
6	water time	0.0000000	0	high cost_input	0.0000000	0
1	aid_maize_kg	0.0000030	0	high price_food	0.0008584	0

2	aid_maize_kg	0.0000024	0	high price_food	-0.0006728	0
3	aid_maize_kg	0.0000006	0	high price_food	-0.0001790	0
4	aid_maize_kg	0.0000000	0	high price_food	-0.0000066	0
5	aid_maize_kg	0.0000000	0	high price_food	0.0000000	0
6	aid_maize_kg	0.0000000	0	high price_food	0.0000000	0
1	hhsiz	0.0001803	0	Bankaccount	0.0010186	0
2	hhsiz	0.0001433	0	Bankaccount	-0.0008100	0
3	hhsiz	0.0000358	0	Bankaccount	-0.0002019	0
4	hhsiz	0.0000012	0	Bankaccount	-0.0000067	0
5	hhsiz	0.0000000	0	Bankaccount	0.0000000	0
6	hhsiz	0.0000000	0	Bankaccount	0.0000000	0
1	food consume	0.0007291	0	Child away	0.0019029	0
2	food consume	0.0005795	0	Child away	-0.0014851	0
3	food consume	0.0001448	0	Child away	-0.0004025	0
4	food consume	0.0000048	0	Child away	-0.0000153	0
5	food consume	0.0000000	0	Child away	0.0000000	0
6	food consume	0.0000000	0	Child away	0.0000000	0
1	Age	-0.0145025	0	H_breakup	0.0007726	0
2	Age	-0.0001433	0	H_breakup	-0.0006078	0
3	Age	-0.0000358	0	H_breakup	-0.0001591	0
4	Age	-0.0000012	0	H_breakup	-0.0000057	0
5	Age	0.0000000	0	H_breakup	0.0000000	0
6	Age	0.0000000	0	H_breakup	0.0000000	0
1	Ages	0.0001637	0	Violence	0.0008096	0
2	Ages	0.0000013	0	Violence	-0.0006360	0
3	Ages	0.0000003	0	Violence	-0.0001675	0
4	Ages	0.0000000	0	Violence	-0.0000061	0
5	Ages	0.0000000	0	Violence	0.0000000	0
6	Ages	0.0000000	0	Violence	0.0000000	0
1	Edu	0.0403344	0	Female	0.0089941	0
2	Edu	0.0003008	0	Female	-0.0066451	0
3	Edu	0.0000751	0	Female	-0.0022297	0
4	Edu	0.0000025	0	Female	-0.0001190	0
5	Edu	0.0000000	0	Female	-0.0000004	0
6	Edu	0.0000000	0	Female	0.0000000	0
1	Urban	0.0013390	0	Marital	0.0058885	0
2	Urban	-0.0010476	0	Marital	-0.0044665	0
3	Urban	-0.0002809	0	Marital	-0.0013592	0
4	Urban	-0.0000105	0	Marital	-0.0000626	0
5	Urban	0.0000000	0	Marital	-0.0000002	0
6	Urban	0.0000000	0	Marital	0.0000000	0
1	North region	0.0005322	0	Loan	0.0014738	0
2	North region	-0.0004186	0	Loan	-0.0011488	0
3	North region	-0.0001096	0	Loan	-0.0003130	0
4	North region	-0.0000039	0	Loan	-0.0000120	0
5	North region	0.0000000	0	Loan	0.0000000	0
6	North region	0.0000000	0	Loan	0.0000000	0

1	Central region	0.0031407	0	Electricity	0.0006907	0
2	Central region	-0.0024172	0	Electricity	-0.0005495	0
3	Central region	-0.0006945	0	Electricity	-0.0001367	0
4	Central region	-0.0000039	0	Electricity	-0.0000045	0
5	Central region	-0.0000001	0	Electricity	0.0000000	0
6	Central region	0.0000000	0	Electricity	0.0000000	0
1	Property own	0.0070027	0	Reduced_earn	0.0007424	0
2	Property own	-0.0052460	0	Reduced_earn	-0.0005840	0
3	Property own	-0.0016738	0	Reduced_earn	-0.0001529	0
4	Property own	-0.0000827	0	Reduced_earn	-0.0000055	0
5	Property own	-0.0000002	0	Reduced_earn	0.0000000	0
6	Property own	0.0000000	0	Reduced_earn	0.0000000	0
1	drought	0.0007070	0	H_businessfail	0.0008458	0
2	drought	-0.0005571	0	H_businessfail	-0.0006631	0
3	drought	-0.0001448	0	H_businessfail	-0.0001763	0
4	drought	-0.0000051	0	H_businessfail	-0.0000065	0
5	drought	0.0000000	0	H_businessfail	0.0000000	0
6	drought	0.0000000	0	H_businessfail	0.0000000	0
1	Irregular rain	0.0007992	0	Reduced_salary	0.0008675	0
2	Irregular rain	-0.0006268	0	Reduced_salary	-0.0006806	0
3	Irregular rain	-0.0001662	0	Reduced_salary	-0.0001803	0
4	Irregular rain	-0.0000061	0	Reduced_salary	-0.0000066	0
5	Irregular rain	0.0000000	0	Reduced_salary	0.0000000	0
6	Irregular rain	0.0000000	0	Reduced_salary	0.0000000	0
1	Flood	0.0007109	0	Employ_loss	0.0008598	0
2	Flood	-0.0005591	0	Employ_loss	-0.0006738	0
3	Flood	-0.0001465	0	Employ_loss	-0.0001794	0
4	Flood	-0.0000053	0	Employ_loss	-0.0000066	0
5	Flood	0.0000000	0	Employ_loss	0.0000000	0
6	Flood	0.0000000	0	Employ_loss	0.0000000	0
1	Crop disease	0.0008365	0	Farmer	0.0095469	0
2	Crop disease	-0.0006558	0	Farmer	-0.0070217	0
3	Crop disease	-0.0001743	0	Farmer	-0.0010777	0
4	Crop disease	-0.0000064	0	Farmer	-0.0001308	0
5	Crop disease	0.0000000	0	Farmer	-0.0000004	0
6	Crop disease	0.0000000	0	Farmer	0.0000000	0
1	Landslide	0.0008367	0	Employed	0.0011207	0
2	Landslide	-0.0006572	0	Employed	-0.0008776	0
3	Landslide	-0.0001732	0	Employed	-0.0002344	0
4	Landslide	-0.0000063	0	Employed	-0.0000087	0
5	Landslide	0.0000000	0	Employed	0.0000000	0
6	Landslide	0.0000000	0	Employed	0.0000000	0

Total observation: 2688

Conclusion

The study established the determinants of poverty in Malawi by considering the socio-economic characteristics of Malawian households, collected from 2019 IHPS survey data. A total of 2,688 households were considered in the analysis, and Ordered probit model was used for ordinal dependent variables. Subjective assessment of poverty, as a dependent variable, consisted of ordinal data which represented the six levels of poverty status of Malawian households. In order to select the independent variables, as unbiased as possible, the study selected appropriate variables based on the main determinants of multiple facets of poverty and these included general poverty, subjective poverty, and consumption poverty.

The results indicated that social networks, region, land distribution, natural disaster, aid, market condition, financial inclusion, household characteristics like age, sex and education level were the key determinants of poverty for Malawian households. In order to overcome poverty factors, study suggests policy implications as follows; 1) rural extension programs should be operated to build coping strategy for disaster, economic, and social shocks. 2) policy support to lower food prices (especially maize), structural changes such as market access, increased distribution facilities, food tax relief, and increasing food aids. 3) policies promoting employment and a strong social safety net. 4) increased investment in education and skilling the youth. Specifically, ‘Ganyu’ labours, who represents rural poverty should be protected from unfair wage, and supported to overcome endless poverty and hunger.

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