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Poverty Dynamics and Its Drivers in Tanzania: A Lesson to Poverty Reduction Policies

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Abstract: *Poverty has been understood to be dynamic in nature. Some people remain in poverty for long periods, but there are others who periodically move in and out of poverty. Identification of driving factors that are highly related to poverty dynamics is a crucial aspect in formulating successful policies geared at ending poverty. Using a sample of 2177, 3148, and 3182 in 2008, 2010, and 2012, respectively from Tanzania's national panel survey, this study intends to assess the dynamic nature and drivers of poverty in Tanzania, bearing in mind that an effective poverty reduction process requires context-specific knowledge about poverty dynamics. The study adopted the Markov transition matrix equation to assess the nature of poverty dynamics and the Multinomial Logit Model to analyse the determinants of poverty dynamics. The results show that poverty is extremely dynamic in the context of Tanzania. Policy variables such as education, rural-urban settings, household head occupation, electricity connection, and ownership of assets were statistically significant determinants of poverty dynamics in Tanzania. The findings imply that social protection and promotion programmes are critical to ensure inclusiveness in the development process and promote pro-poor growth. Policy makers must also consider the varying nature of poverty and vulnerability in designing policies.*

Keywords: Poverty, Poverty dynamics, Multinomial logit model

JEL classification: C35, D63, I32

1.0 Introduction

Poverty has been and is still a worldwide key issue of concern to practitioners and policymakers. As a result, many development efforts, policies, and strategies have been initiated to end poverty. The Millennium Development Goals (MDGs) established by the UN summit in September 2000 as the product of many foremost challenges faced by the world in the 2000s were the first efforts where poverty reduction was the key target issue. Apart from reducing poverty, the programme urged each country to keep freedom, respect for all human rights, peace, and security to improve people's welfare (UN, 2015).

However, MDGs' achievements were uneven, and most developing countries, especially African countries, failed to meet the MDG's targets at the end of 2015. According to various

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UN and other organisations' reports, many African countries have failed to reach the Millennium Development Goal (MDG) of universal primary education by 2015. Between 1990 and 2015, some Sub-Saharan African countries, in particular, failed to cut the rate of extreme poverty (assessed at $1.25 per day) in half (UN, 2015)[4]. As a way forward, the United Nations conference in Rio-de-Janeiro, Brazil in 2012 gave a new vision of the global efforts in the next 15 years. The UN conference report paved the way for new-born Sustainable Development Goals (SGDs) as the post-2015 agenda. Eradicating poverty in all forms everywhere by the end of 2030 remains among the seventeen sustainable development goals (UN, 2015). Global statistical data show that poverty has declined over time, indicating bright success for policymakers. Chronic poverty fell by an average of about 1% point each year over twenty-five years from 1990 to 2015 (World Bank, 2020).

Although the global statistics show that there is a downward trend in poverty, yet in some countries, especially in southern Asia and North African countries such as Syria, Yemen, and Nigeria respectively, poverty has recently increased to extreme points due to emerging conflicts (Corral et al., 2020). The World Bank's (2020) poverty and prosperity report shows that the number of poor people continued to rise in Sub-Saharan Africa despite the slow decline in the poverty rate. The World Bank report (2020) shows that the slowdown in global poverty reduction is slow progress in Sub-Saharan Africa. Having 40 per cent of the impoverished population in 2018 in Sub-Saharan Africa is a sign of substantial low progress in poverty reduction.

It is also recognised that the up or down poverty trend indicates nothing direct about poverty mobility, that is, whether the households that were poor before remain poor now or have moved out of poverty. Only poverty dynamics directly capture the poverty dynamism by attempting to measure the well-being factors at different points over time (Yaqub, 2000). An effective poverty reduction process requires context-specific knowledge about the causes of moving into and out of poverty. Since each type of poverty is likely to require a different policy treatment, there is a high demand for better knowledge of the key drivers and processes of poverty mobility as a further step in making effective policy interventions (McCulloch & Baulch, 2000). Policies needed for poverty reduction not only have to focus on the existing poor but also on non-poor individuals that are likely to become poor over time.

Kristjanson et al. (2009) conducted a study on understanding poverty dynamics in Kenya where the combinations of qualitative and quantitative methods were used to examine the causes of households' mobility into and out of poverty. A total of 4,773 households studied were chosen from the stratified households sample included in Kenya's Integrated Household Budget Surveys (KIHBS) sample. The findings indicated that poverty movements varied across the livelihood zones. The pastoral livelihood zone (Northern and North-eastern Kenya) experienced higher poverty than urban districts and a high potential livelihood zone. The key drivers for poverty escapes were determined: diversification of income, livestock diversification, crop diversification, formal sector employment, and social factors such as small household size and inheritance of property from parents.

[4]Out of 153 countries, only seven were able to accomplish this goal — and Botswana and Equatorial Guinea were the only African countries.

In the quest for the drivers of escape and descent changing household fortunes in rural Bangladesh, Sen (2003) used panel survey data conducted in 1987 – 1988 and 2000. He obtained data from 21 villages consisting of 379 households' representatives selected through a multi-stage stratified random sampling technique. Both objective and subjective poverty lines were used to measure the poverty trends since the multidimensional measures show improvements in poverty trend measurement (Foster et al., 1984). The results show that poverty was declining over time. The subjective poverty line portrayed a lower poverty level and slightly faster poverty reduction progress. The t-test method was conducted to identify the income in ascending and descending households. Critical drivers of poverty dynamics identified were education, family size, land ownership, non-farm activities, credit and services such as infrastructure, water and electric connection. The results indicated that large household size, illiteracy, and low infrastructures contributed to descending of household income and income from non-farm activities, credits, low household size, trade activities, and income from diversified agriculture driven to ascending of households or kept maintaining non-poor households.

Huff (2008) conducted a study on climbing out of poverty, and falling back in, measurements of persistence of poverty over time. He used a Panel Study of Income Dynamics data (PSID) from 1973 to 1988. He used a basic hazard model to estimate the poverty dynamics over time. The study results show that the probability of ending poverty spells after one year of poor was 0.53, and after four years, the poverty exit rate was 0.23. The results also show that the probability of blacks returning to poverty after a year was higher than whites. Also, the black exit rates were lower compared to white exit rates. The study introduced covariates of poverty dynamics such as household characteristics, including the household head's sex, education, and age. The study results show that the characteristics of individuals and their families affect the probability of entry and exit from poverty.

2.0 Poverty Situation in Tanzania

Since its independence in 1961, Tanzania joined the world to fight poverty. The available nationally representative surveys such as Household Budget Survey, National Panel Survey, Household Demographic Survey, and Economic surveys have helped the country to assess its poverty situation over time and periodically (Magombeyi & Odhiambo, 2016). Although the statistics in the country show that poverty reduction efforts have a promising future, a close assessment of this reduction relative to time is not substantial to be celebrated. Tanzania took almost 15 years to reduce poverty by 10.4% points from 38.6% to 28.2% between 1997 and 2012 (NBS, 2020).

Table 1: Tanzania poverty trend statistics from 1997 to 2020

Year	Source of Data	Basic needs poverty level in (%)	The food poverty level in (%)
1997	HBS	38.6	21.6
2001	HBS	35.7	18.7
2007/2008	HBS	34.4	11.8
2012	National population census	28.2	9.7
2017/2018	HBS	26.4	8
2020	NBS and REPOA	25.7	7.9

Source: NBS report, (2020). The United Republic of Tanzania Poverty Trend from 1991 to 2020

Although statistical data show that poverty has been declining, one thing to note is that poverty is dynamic (Kaghoma, 2012). Periodically, some bunches of people who were probably counted as not poor are moving into poverty; some remain in poverty for a longer time and some, due to environmental, economic, or social shocks, slip in and out of poverty.

Moreover, poverty vulnerability is critical; World Bank (2019) indicated that three Tanzanians fell into poverty for every four who escaped poverty between 2008 and 2012. The up or down poverty trend indicates nothing direct about poverty mobility, whether people or households that were poor before remain poor or have moved out of poverty. Only poverty dynamics directly capture the poverty dynamism by attempting to measure the well-being factors at different points over time (Yaqub, 2000). An effective poverty reduction process requires context-specific knowledge about the causes of moving into and out of poverty. Since each type of poverty is likely to require a different policy treatment, there is a high demand for better knowledge of the key drivers and processes of poverty mobility as a further step in making effective policy interventions (McCulloch & Baulch, 2000). This peculiar property trend shows that policymakers lack some information about poverty mobility, that is why most government survey reports usually show ups and downs in poverty trends. Policies that are needed to address poverty must take into consideration the properties of each type of poverty. Each type of poverty should be treated differently in policymaking and implementation.

Researchers have examined poverty mobility, key drivers of poverty mobility in the world, and a few in Tanzania. According to Kaghoma (2012) and De Weedt (2010) education greatly impacts social changes in Tanzania. The more significant proportion of households with higher secondary education or tertiary education, the less probability of entering into poverty. Kaghoma (2012) explained that parents' education has no impact on social welfare changes for offspring. However, the probability of parents with higher secondary education levels is high to preventing descendent from having lower secondary or primary education. However, Magongo and Da Corta (2012) reported that alcoholism, divorce, and widowhood dragged households into poverty. Divorce and widowhood lead to the dispossession of assets either by their husbands or male kins, and male household heads involved in alcoholism and use less money for essentials. According to Brockington (2019), the ownership of land assets and livestock assets helped the household earn income and improve well-being, hence contributing the household to move from a poor state to a non-poor. In addition, use of low technology in production, low prices of agricultural products, divorce, and female-headed families contributed people to remain in chronic poverty for a long period.

Moreover, the other researchers who got the same results were such as Huff (2008), Sen (2003), Aikael et al. (2021), Mukherjee (1971) and Bertocci (1970); Huq (1976), Adnan (1977), Thorp (1978), Maloney (1988), Siddiqui (2000), Westergaard and Hossain (2000) in Bangladesh; Baulch and Vu Huang (2011) in Vietnam, Suri et al. (2008), Kristjanson et al. (2009) in Kenya; and Dang et al. (2017). The overall results from these researchers indicated that the determinants of poverty dynamics were sex, household size, ownership of assets, education level, incidence of illness, and area of residence, where the majority of rural areas were seen to have a high likelihood to fall into poverty than urban areas. Other determinants are marital status, such as widowhood and divorce, electricity connection, and household head occupation.

These studies indicated the importance of understanding poverty dynamics and key drivers of poverty dynamics in policy making and implementation. Poverty reduction is a complicated issue that needs knowledge about poverty dynamics and the drivers of poverty dynamics over a specific period of time.

3.0 Methodology

3.1 Data source

The pieces of literature on poverty dynamics have largely relied on a quantitative method, using longitudinal or panel household survey datasets in which poverty has been measured based on income or consumption expenditure (Baulch & Hoddinott, 2000; Lawson et al., 2003). This study adopted a longitudinal research design from the National Panel Survey conducted from 2008 to 2012. Therefore, the study used secondary data from the National Panel Surveys (NPS) that were conducted in three waves from 2008 to 2012. The study adopted the NPS sample design in all three waves which were based on the stratified and multi-stage cluster sample design. The sample design was designed to provide national estimates that identified four stratified clusters: Dar es Salaam, other urban areas in Tanzania mainland, rural areas in Tanzania mainland, and Zanzibar. This study analysed sample households that appeared in all three waves. The analysed sampled households were 2177, 3148, and 3182, in 2008, 2010, and 2012, respectively.

3.2 Analytical methods

3.2.1 Markov transition probability

Markov transition probability method was used to estimate and analyse poverty dynamics in Tanzania. Markov transition matrix is the simplest and common method used to show the number or percentage of individuals that move from one state to another across two or three years in a country (Baulch & Vu Hoang, 2011).

The study adopted the Markov transition matrix equation employed by Cho et al. (2015), which can be written as:

$$pij = pr(s_{t+1} = j | s_t = i) = \frac{pr\,(s_{t+1} = j \cap s_t = i)}{pr\,(s_t = i)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

pij = probability of household moving from poverty status i

s_t = poverty status at time t (in years)

s_{t+1} = poverty status in the next year

The sketch of the Markov transition matrix can be summarised in Table 2.

Table 2: Poverty Dynamics 2008 – 2012

		2010		2012	
2008		Poor	Non – poor	Poor	Non – poor
Poor	Non – poor	N	V	N	V
N	V	n	v	n	v

3.2.2 Multinomial Logit (MNL) regression model

The study used Multinomial Logit (MNL) regression model to estimate the determinants of poverty dynamics. The NPS 2008 households' characteristics were used as a base reference year for the poverty trajectories in the next two periods. Each household took a single observation across three waves, which means the variation of the dependent variable of the given household over time was not observed. This means that panel data econometric techniques were not used to estimate the covariates of poverty dynamics but rather the study used the cross-section data multinomial logit framework. The dependent variable takes four values: chronic poor, impoverishment, transitory poverty, and sustained escapes, in which the sustained escapers' category was used as a base outcome group relative to other poverty trajectory categories.

Let p_j = the multinomial probability of observation falling in the j category; the relationship between this probability and the explanatory variables R can be shown by the multinomial regression model as follows:

$$log\left[\frac{p_j(x_i)}{p_k(x_i)}\right] = \alpha_{0i} + \alpha_{1j}x_{1i} + \alpha_{2j}x_{2i} + \cdots + \cdots + \alpha_{rj}x_{ri} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where; $j = 1, 2, 3, \ldots, (k-1), i = 1, 2, 3, 4, \ldots\ldots . n.$

From the empirical reviews, the multinomial regression model equation employed in this study can be written as follows:

$$y = log\left|\frac{\pi_j x_i}{\pi_k x_i}\right| = \beta_0 + \beta_1 educ_i + \beta_2 Area_i + \beta_3 hsize_i + \beta_4 Remittence_i + \beta_7 sex_i + \beta_6 marital_i + \beta_7 Age_i + \beta_8 assets_i + \beta_{19} Electricity_i + \beta_{10} shocks_i + \beta_{11} occupation_i + \varepsilon_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where y = 1 = chronic poverty
2 = impoverishment
3 = transitory poverty and
4 = sustained escapes

3.2.3 Identifying poor and non-poor

Poverty status identification has been a complex issue that researchers have put attention on methods of measuring poverty over time. Researchers have been measuring poverty by using either the income method or the non-income method. The minimum level of income that the household or individuals use to cater to basic needs such as food, shelter, and clothing is considered the poverty line. The household or an individual whose level of consumption or income is below the poverty line is referred to as poor.

However, an income of individuals fluctuates much and sometimes people in developing countries provide false information about their income earnings; as a result, household consumption expenditure or individual consumption expenditure is usually used to compute

poverty over time. Haughton and Khandker (2009) explained that most developing countries used consumption expenditures to measure poverty since it is easier to capture consumption expenditures than income, which comes from self-employment or informal sources.

Under this study, the poverty rate was computed by considering real consumption expenditure per adult equivalent per 28 days. The mean consumption expenditure was computed, whereby a household was considered poor if the household's head real average consumption expenditure value per 28 days was below 50% of the total average consumption per 28 days. This means that a household head whose consumption by average is less than half of the average total consumption was considered poor. Therefore, the poverty lines were 26879.91Tsh, 32964.42 Tsh, and 42626.21Tsh in 2008, 2010, and 2012, respectively.

3.2.4 Identifying poverty trajectories

Poverty trajectories can be referred to as the paths that poor households move over time. Poverty trajectories show how long the household(s) live in poverty or escape from poverty. Poverty trajectories take four values, that are chronic poverty, transitory poverty, impoverishment, and sustain escapes. Table 3 shows the definitions of each poverty trajectory over three waves over time.

Table 3: Definitions of poverty trajectories and measurement

Definitions	Measurement for the case of three waves where P – poor and N- non-poor
Chronic poverty – is when an individual or household lives in poverty for a long time.	**PPP –** poor in the first wave, poor in the second wave and experience poor in the third wave.
Impoverishment poverty – refers to the situation in which individuals or households live in non-poverty but drop into poverty over time.	**NPP or NNP –** non-poor in the first wave, poor in the second wave, and poor in the third wave or non-poor in the first wave, non-poor in the second wave, and fall into poverty in the third wave.
Transitory poverty – refers to the situation in which an individual or household lives in poverty, succeeds in moving out of poverty, and finally drops into poverty again.	**PNP –** poor in the first wave, non-poor in the second wave, and poor in the third wave.
Sustained escapers – refers to individuals or households escaping poverty for an extended period even if they experience poverty for a short time but still can move out of poverty and live non-poor for a long time. Poverty experience may occur due to economic shocks.	**PNN –** poor in the first wave, non-poor in the second wave, and non-poor in the third wave.

Source: Chronic Poverty Advisory Network (CPAN)

4.0 Results and Discussion

4.1 Poverty dynamics in Tanzania 2008 – 2012

Poverty dynamics show the mobility of a household's poverty status over time. The descriptive analysis method was used to determine poverty mobility over three waves from 2008 to 2012. Table 4 indicates data results of the households' poverty mobility in Tanzania from 2008 and 2012.

Table 4: Poverty dynamics between 2008 and 2012 in %

		2010		2012	
2008		Non-Poor	Poor	Non-Poor	Poor
Non-Poor	78.4	61.6	16.8	60.4	13.2
Poor	21.6	12.0	9.6	11.9	14.5
Total 100		**73.6 26.4**		**72.3**	**27.7**

The results show that 21.6% of households were poor and 78.4% were not poor in 2008. In the 2010 survey, 9.6% continued to be poor, 12% of poor households moved to non-poor, 61.6% remained to non-poor, and 16.8% slipped into poverty. However, the third wave indicated that from 2010 to 2012, 60.4% continued to be non-poor, 14.5% continued to sleep into poverty, 13.2% of non-poor households dropped into poverty, and 11.9% of poor households moved to non-poor. These results imply that households that moved from poor to non-poor in 2010 did not move far from the poverty line since the number of households that were not poor in the previous year moved to poverty in 2012.

4.2 Determinants of poverty dynamics in Tanzania

Under this study, the multinomial logit regression model was used to estimate the determinants of poverty dynamics and the results are tabulated in Table 5. This study used the NPS 2008 households' characteristics as a base year reference for poverty trajectories in the next two years. Each household has taken a single observation across the three waves. This means that the variation of the dependent variable of the given household over time was not observed. The estimation results show that the risk ratio of the household falls into a particular poverty trajectory relative to the sustained escape poverty category.

The results presented in Table 5 indicate that the overall regression model (multinomial logistic model) was statistically significantly different from zero since the Prob>F = 0000. R-square 18.6% implies that the variations of the independent variables explain the variability of poverty dynamics. The results from Table 5 show that according to gender, the relative risk ratio for being male reduces the likelihood of falling into chronic poverty relative to being in sustained escape by 0.932 compared to female-headed households. This means that male household heads had low likelihood of falling into chronic poverty as compared to be in sustained escape than female household heads.

The results are also supported by Magongo and Da Corta (2011) who explained that male household heads are more exposed to trading networks than females. Also, they explained that in some societies, especially Sukuma land, successful women who engaged in trading activities were termed prostitutes, and they were discriminated against the community. As a result, female households feared engaging in trade activities that could help them to move out of chronic poverty. However, widows were grabbed assets or wealth, even children, by their husbands' family members after their husbands' death; hence, women are more prone to poverty than men. Therefore, from the empirical evidence, female households could be more likely to fall into chronic poverty than males.

Table 5: Multinomial logit estimations (log of odds ratio)

Variables	Chronic poverty	Impoverishment poverty	Transitory poverty
Gender of household head	-0.932*	-0.145	0.314
	(0.489)	(0.419)	(0.407)
Household size	0.437***	0.150**	0.234***
	(0.0884)	(0.0622)	(0.0725)
Remittances	0.705	0.479	0.164
	(0.718)	(0.520)	(0.656)
Electricity connection	-0.278	-2.315**	-2.122
	(1.193)	(1.010)	(1.298)
Assets	-0.417**	-0.222*	-0.277*
	(0.190)	(0.135)	(0.159)
Lower sec	-15.72***	-0.880	-0.476
	(0.751)	(0.647)	(0.659)
Higher sec	-13.14***	-15.18***	3.198***
	(1.145)	(0.712)	(1.171)
College	-14.14***	-14.70***	-14.77***
	(1.402)	(0.892)	(1.113)
University	-10.76***	-13.69***	-11.56***
	(1.637)	(1.127)	(1.621)
Adult (36-59 years)	-0.306	0.193	-0.105
	(0.414)	(0.306)	(0.309)
Elders (60+ years)	0.520	0.798**	0.163
	(0.477)	(0.357)	(0.400)
Polygamous marriage	0.159	-0.210	0.0712
	(0.528)	(0.350)	(0.431)
Divorced	-1.692	-0.424	0.110
	(1.289)	(0.696)	(0.844)
Single	-15.05***	-16.17***	0.663
	(0.677)	(0.566)	(0.848)
Widow	-1.265*	-0.867	0.731
	(0.717)	(0.538)	(0.593)
Agriculture	1.505	0.325	1.425*
	(1.277)	(0.552)	(0.849)
Government employed	-14.59***	-0.601	-15.16***
	(1.195)	(0.934)	(0.974)
Private sector employed	-14.99***	-0.269	0.506
	(1.200)	(0.769)	(1.059)
Rural	1.038*	0.794**	1.461***
	(0.572)	(0.359)	(0.511)
Constant	-4.487***	-1.424	-4.496***
	(1.650)	(0.867)	(1.153)
Observation	718	718	718

Source: Author computation from data

Robust standard errors in parentheses Note: *** p<0.01, ** p<0.05, * p<0.1

According to household members' size, the results show that an increase in one member of the household leads to a rise in the relative risk ratio of falling into chronic poverty, impoverishment, and transitory poverty as compared to the sustained escape category by 0.437, 0.150, and 0.234, respectively. The results mean that households with large household sizes were more likely to enter into poverty (chronic poor, impoverishment, or transitory poverty) than households with small household sizes. The same results were obtained by Hanifa et al. (2015) and Aikael et al. (2021) who explained that in the African context, especially in rural areas, people consider that large household size is the source of labour force. Large household size is the critical factor of production in rural areas, since the majority depend on agriculture.

However, households with small household sizes and younger members seem more secure than those with large household sizes. Also, the results were contrary to the theory that a large household size implies the availability of a labour force. Households with large household size but with fewer income earners lead to a higher likelihood of entering poverty than households with small household sizes. Also, Lanjouw and Ravallion (1995) and Oduro (2002) explained that families with a small measure number of members tend to remain non-poor compared to large families that tend to move from non-poor to poor states over time.

Electricity connection reduces the risk ratio of the household to fall into impoverishment compared to the sustained escape category by 2.315. The results indicate that poor households were found in rural areas with a low electric connection compared to urban areas with a high electric connection.

Regarding household head education status, the results show that household heads with at least lower secondary education had a lower likelihood of falling into poverty compared to households with primary education. This means that household heads with primary education had a high likelihood of falling into poverty compared to households with at least lower secondary education. The evidence from descriptive analysis in Table 5 shows that none of the household heads with at least lower secondary fell into chronic poverty. Furthermore, household heads with higher secondary education, diploma, and university education maintained non-poverty compared to households with primary education. De Weedt (2010) and Kaghoma (2012) did research and the results portrayed that additional education level adds assets (income) that can lead a household to move from poor to non-poor. The results indicated that the number of households who attained A-level or tertiary education remained non-poor compared to households with primary education.

The results of Table 5 show that single household heads had a low likelihood of falling into chronic poverty or impoverishment poverty compared to the sustained escape category. Table 5 also shows that widows had a low likelihood of falling into chronic poverty as compared to the sustained escape category. Magongo and Da Corta (2011) indicated that widows were grabbed assets or wealth, even children, by husbands' family members after their husbands' death. It was much practised in Sukuma land and other areas in Tanzania. This contributed to the large number of widow-headed households remaining in poverty for a long time. However, the improvement of government laws that protect women's rights has brought a significant impact that contributed widow-headed families having a low likelihood of falling into chronic poverty as compared to sustained escape category. Although, Aikael et al. (2021) portrayed that polygamous households are more insecure and are more likely to fall into poverty or persistently sleep into poverty, the study results indicated that the polygamous marriage factor was statistically insignificant.

Regarding occupation status, the results show that agriculture sector employed households had a high probability of entering transitory poverty compared to government-employed and privately employed factors. Evidence from descriptive analysis in Table 5 shows that only 0.03 per cent of government employees were chronically poor, and none of the private sector employed households were chronically poor. Aikael et al. (2021) explained that government employees have trust and the opportunity to have financial assistance (loans) from financial

institutions that make them engage in a diverse economy or secondary sector. Also, government employees usually have a high education level (tertiary education) that reduces the risk of them entering poverty.

Regarding household age, elders aged 60 years and above were more likely to fall into impoverished poverty as compared to sustained escape category. Hellier (2012) obtained the same results, that middle age (adults) and elders were more likely to fall into poverty compared to young age household heads. Since elders are time-invariant to education attainment that could add income and most of them are retired, as a result, it leads to more likely to fall into impoverished poverty. Also, Aikael et al. (2021) portrayed that chronic poverty and vulnerability are lower among households with young household heads than among older household heads.

Regarding the area of residence, the results show that households found in rural areas were more likely to fall into all categories of poverty as compared to the sustained escape category than their counterpart households found in urban areas. Aikael et al. (2021) explained that households found in rural areas engage much in agriculture activities that face price fluctuations and weather changes. Also, there is limited diversification of the economy due to some factors, such as little electric connection in rural areas that leads more likely to fall into poverty. Also, household heads found in urban areas are involved in the secondary sector and trade or are employed either in the government or private sector, which leads to low likelihood of falling into poverty.

The factor or incidence of illness was not statistically significant, implying that the incidence of diseases did not impact household poverty dynamics. Individual health is very important in production and productivity. In line with these results, De Weedt and Dercon (2006) explained that the incidence of illness gave no information on changes in consumption patterns. However, the cost of health treatments (long time serious illness) reduced consumption, and the non-poor households were likely to fall into poverty.

Moreover, shocks, remittances, polygamous and divorced marital status were statistically insignificant in explaining dynamic. This implies that these factors are unimportant in explaining poverty dynamics in Tanzania over the three periods surveyed.

5.0 Conclusion

Poverty dynamics are fundamental in the determination of driving factors for the downfall of households' income and poverty reduction processes. The distinctions of poverty into poverty trajectories such as impoverishment, transitory and chronic poverty are important for a number of reasons. First, moving in and out of poverty looks less serious than remaining stuck in poverty. Someone who is poor now, but can reasonably expect to be out of poverty next year, is in a better position than someone who is equivalently poor now, and is likely to remain there in the future. Second, the policies needed to address the various types of poverty may differ. With respect to this study's findings and other pieces of literature on poverty dynamics, the study recommends that the government should invest much in secondary education and tertiary education that enable households to have a long-term escape from poverty.

The government has shown great efforts in providing free primary and lower secondary education, which has shown a promising poverty reduction rate. The government should also consider to invest much in higher secondary and tertiary education, which may contribute to poverty reduction. The government and development stakeholders should increase more investment efforts in rural areas to improve people's welfare. The statistical data shows that the poverty reduction rate is slightly faster in rural areas than in urban areas due to an increase in linking network infrastructures and social services such as education, health services, electricity connections, and water services (World Bank, 2019). In addition to all efforts that the government of Tanzania is making to improve people's welfare, it should also increase efforts in strengthening linking network infrastructures, trade exposures, and sufficient social services in rural areas to improve people's standard of living. The agriculture sector is still the leading employer of many Tanzanians. To help Tanzanians move out of poverty, the government should invest much in irrigation schemes and diversification of the economy.

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