Impact of Universal Old Age Benefit to Revenue and Poverty Reduction in Tanzania

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ABSTRACT

This manuscript analyzes the impact of old age benefit policy reforms on government revenue, income sharing, and poverty in Tanzania. This is an instrument for strengthening social protection. In this context, a universal old-age pension might assist Tanzania's Mainland in reducing income inequality in a similar manner to the positive outcome identified among developed countries in the European Union. This study uses a static microsimulation model for Tanzania (TAZMOD v2.4). The simulation model is based on social benefit reforms resulting from changes in the old age benefit policy. The two reforms were proposed. The findings found that in both proposed reforms, there is an increase in Government returns over taxes; Social Security Contribution (SSC) and indirect taxes increase by 5.31 percent from TSH 8,870,422.74 to TSH 9,368,616.08, respectively. Also, the share of the poor population decreased by 0.55%. Regarding the effect on poverty, it decreases by 0.55 percent in the two proposed reforms. The empirical results of the presented quantitative analyses have concrete policy implications: It can be concluded that there is an urgent need to reform the targeting of social pensions as the majority of the elderly and poor continue to be excluded from the benefits. The Government can introduce the old age benefit to people 60 years of age and older; hence, the outcomes are significant, and their space depends unfavorably on whether the profit sum is allocated. The government could improve old age benefits to address the issue of poverty and later improve old-age livelihoods.

Keywords: Microsimulation, Old Age Poverty, Social Benefit, Tax-Benefit Reforms

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I. INTRODUCTION

In the last decade, social protection has appeared as a policy framework employed to address poverty and vulnerability in developing countries, comprising a set of policies and programmes designed to reduce and prevent poverty and vulnerability throughout the life cycle (International Labor Organization [ILO], 2017). The minimum benefit types provided under social protection include children and families, maternity, unemployment, employment injury, sickness, old age, disability, survivors, and health protection.[1] The old-age pension is the most widespread form of social protection in the world; about 68 percent of people above retirement age worldwide receive an old-age pension. The main goal of pension policy is to ensure financial security at retirement age by providing guaranteed monthly income to retirees (ILO, 2018). The most common form of social protection is the old-age pension (ILO, 2014; ILO, 2018). There is a trend of growth in both contributory and non-contributory pensions in the least Developed Countries (LDCs), emerging nations, and middle-income countries (ILO, 2017).

The global population continues to age into the 21st century, and there is great concern among researchers about the impact of the old age pension policy, its sustainability, and its effect on well-being. The increase in old age might be due to the increase in life expectancy and a rapid decrease in the fertility rate (Alonso and Rosado, 2021). The number of elderly is estimated to reach around two billion by 2050 globally, while in Africa, it is estimated that in 2050, that number will reach 212 million (Haushofer et al., 2019). Furthermore, the objective of pension schemes in LDCs is based on their role in eliminating deficiency and achieving the Sustainable Development Goals (United Nations, Department of Economic and Social Affairs, Population Division, 2013; Mesa-Lago, 2008; Whiteford & Whitehouse, 2006). The exploration of various financing models has promoted an increase in emerging work in the

[1] ILO Convention No. 102 of 1952

field of pensions. Over the previous epochs, many scholars conducted research on pensions to ensure people's prosperity, such as the scholar's work on the different pension schemes relevant to old age (Weaver, 1998; Wolf & Del Rio, 2021).

This study reviewed the socio-protection approach in Kenya, Uganda, and Rwanda. The Government of Kenya is progressively building a social protection system that provides income security across the life cycle and addresses the challenges faced by the elderly, children, and people with disabilities. Investment in social protection has grown from KES[2] 4.3 billion in 2011/12 (0.1 percent of Gross Domestic Product (GDP)) to a projected KES 29.9 billion in 2017/18 (0.35 percent of GDP), of which 72 percent is financed by the Government and the rest by donors. The Inua Jamii Senior Citizens' Scheme is Kenya's flagship social protection scheme. All older persons aged 70 years and above who are not in receipt of a civil service pension are entitled to the benefit, as are persons aged 70 years and above who are not in receipt of a civil service pension (Mwasiaji et al., 2016).

Also, Uganda has an impressive record of poverty reduction, with significant declines over the past two or so decades. Uganda has been piloting two social protection schemes over the last few years under its Expanding Social Protection (ESP) Programme. This is a 5-year government programme, supported by DFID[3] and Irish AID. The pilot schemes are intended to gather evidence on the impacts of cash transfers as a means of informing national policy. They have been progressively implemented since 2011, in a total of 14 districts. One is an old age pension known as the Senior Citizens Grant (SCG), and the other is a Vulnerable Family Grant. The SCG is provided to those aged 65 years and over in the pilot districts, except in the Karamoja region, where life expectancy is shorter and eligibility was reduced to 60 years. The grant is currently 24,000 Ugandan Shillings per month (up from 23,000 Shillings when the programme started), which is around US$9.50.

Like everywhere in the world, the population of Rwanda is aging. In 2010, those over 60 were estimated to account for 4 percent of the population. In 2050, this is expected to be 10 percent. Poverty levels remain high, with an estimated 77 percent of the population living below the poverty line. The Vision 2020 Umurenge Programme (known as VUP) aims to help all of Rwanda's poor, yet the article raises concerns that a lack of focused support for older people has resulted in them receiving inadequate assistance. There are worries that VUP will do little to address or reduce old-age poverty. The article suggests a means-tested social pension should be implemented with a transfer amount of Rwf 7,000 a month and an age of eligibility of 70. According to our pension calculator, a universal pension of this amount for everyone over 70 would reach 40 percent of older Rwandans and cost around 0.4 percent of Rwanda's GDP, or 1.51 percent of government expenditure. Currently, the Government of Rwanda spends an estimated 5.1 percent of its GDP on social protection (Help Age, 2021).

Like other countries in the region, the issue of social protection is critical for contemporary mainland Tanzania. While the country struggles to reduce poverty to ensure inclusive and sustainable growth, many countries have more recently embarked on efforts to expand their social security coverage, in particular the old age pension benefit (Khalfan et al., 2020). The majority of people working in the informal and agricultural sectors on Tanzania's Mainland are not covered by any social protection (FSDT, 2017). As of July 2018, Tanzania's Mainland had 1.35 million contributors to the mandatory defined benefit pension schemes, up from 1.0 million in 2003. Three Contributors are mainly in the formal sector, while most of those in the informal and agriculture sectors that constitute the largest share of the labour force are not covered. The ILO reports that just 3.6 percent of those aged 15–64 were 'active contributors to a pension scheme' in Tanzania in 2015 (ILO, 2017). Subsequently, in an effort to address high levels of poverty and inequality and to ensure inclusive and sustainable growth, many countries have recently embarked on efforts to expand their social security coverage, in particular the old-age pension benefit. The establishment of universal old-age pensions has been gaining strong momentum among developing economies (ILO 2017; Dietrich et al. 2017).

II. METHODOLOGY

TAZMOD is based on EUROMOD software, and concepts and variables are implemented in a comparable way to the SOUTHMOD modeling conventions in order to provide an overview of EUROMOD's status in European nations (Decoster *et al.,* 2019). TAZMOD collects information about income taxes, social security contributions, turnover taxes, VAT and excise taxes, and other taxes and benefits to the extent that the underlying data permits this. The TAZMOD model uses data from the 2011/2012 and 2017/2018 Tanzanian mainland household budget surveys produced by the National Bureau of Statistics (NBS) (NBS, 2014, 2020), which is based on probabilistic sampling.

[2] KES = Kenya Shillings

[3] The Department for International Development

TAZMOD utilizes data relating to 10,186 households containing a total of 46,593 individuals. Policies were simulated for the years 2012, 2015, 2016, 2017, and 2018 by updating household-level data from the year 2011/2012 (Wright et al., 2019). Consumption was used when calculating and estimating indicators of poverty and income distribution over income, which is underreported in the household budget surveys, and this can affect the interpretations. Additionally, in Tanzania's economy, household consumption is viewed as a better measure of poverty than income. The scale of this study is consistent with similar poverty and income distribution-related studies conducted in Tanzania.

2.1 The Proposed Reform under this Study

Reform 1: *Government of URT introduces Old Age Benefit policy payable at 20,000 TSH per month for those aged 60 years or over and **Reform 2:** Government of URT introduces Old Age Benefit policy payable at 15,000 TSH per month for those aged 75 or over*

III. RESULTS & DISCUSSION

The study is divided into three parts: the budgetary influence, the household income disparity effect, and the effect of poverty. The study designates the kinds of results and analysis that can be conveyed, and two hypothetical policy reforms are revealed. As designated in the earlier section, TAZMOD comprises systems from 2012 as the standard over to 2021.

The First Reform

Reform1: *Government of URT introduces Old Age Benefit policy payable at 20,000 TSH per month for those aged 60 or over*

The above reform elaborates that the change in policy has an effect on government income and spending, revenue distribution, and poverty. Note that in the baseline system used for micro-simulation analysis of the study, 2017 tax benefits are used to calculate the rules and uprate factors for the 2021 policy year.

3.1 Budgetary Effect

The data reveals that Government revenue through taxes, Social Security Contribution (SSC) and indirect taxes increases by 5.31 percent from 8,870,422.74 to 9,368,616.08. The direct taxes decreased by 6.10 percent. Cognizant, indirect taxes increased by 9.88 percent. Social security contributions (employer, employee and self-employed) increased by 10 percent and social assistance surged to 31.87 percent. This implied that Government revenue or national revenue is money received by a government from taxes and non-tax sources to enable it to undertake public expenditure. Government revenue is a component of the government budget and an important tool of the government's fiscal policy. The collection of revenue is the most basic task of a government, as revenue is necessary for the operation of government, provision of the common good (through the social contract in order to fulfill the public interest), and enforcement of its laws; this necessity of revenue was a major factor in the development of the modern bureaucratic state. The findings align with Kakwani and Subbarao (2005) on Ageing and Poverty in Africa and the Role of Social Pensions. The analysis is based on 1991, 2001 and 2011 Namibia Population and Housing Censuses. The study concluded that living arrangements is constantly changing from extended family pattern to western nuclear family, mainly due to urbanization and decreased fertility rate. Housing conditions had notably improved in rural areas while in urban areas the conditions are affected by the mushrooming of informal settlements. There is need to encourage or conduct focused research on ageing to help coin policies based on evidence and make communities sensitive towards ageing. The study further recommends Government to encourage old people to form organizations that would in turn focus on sensitizing and help championing issues of ageing and aged persons.

Table 1
Tax Benefit Policy Yearly (TSH)

Variables	tz_2018 (base)	tz_2021_reform	Difference to base	Percentage Change in 2021
Government revenue through taxes, SSC and indirect taxes	8,870,422.74	9,368,616.08	498,193.34	5.32
... direct taxes	2,881,905.38	2,716,068.35	-165,837.04	-6.11
... indirect taxes	3,433,457.72	3,810,020.04	376,562.33	9.88
... social security contributions (employer, employee and self-employed)	2,555,059.64	2,842,527.69	287,468.05	10.11
social security contributions (employer, employee and self-employed)	175,559.09	257,683.87	82,124.78	31.87
... child benefits	0.00	0.00	0.00	
... social assistance	175,559.09	257,683.87	82,124.78	31.87
... orphan/widow benefits	0.00	0.00	0.00	
... disabled benefits	0.00	0.00	0.00	
... unemployment benefits	0.00	0.00	0.00	
... pension benefits	0.00	0.00	0.00	

The findings of Reform 1 show that introducing an old age benefit policy payable at 20,000 TSH per month, which is above the ILO threshold for those aged 60 or over, shows a decrease in poverty of 0.55 percent, while male-headed households poverty decreased by 0.68 percent as compared to female-headed households, whose poverty decreased by 0.16 percent. While households with children saw poverty decrease by 0.56 percent, the findings agree with that data that, across the regions, poverty rates are higher for women than for men. Similarly, according to Sharma (2023), in 2019, female-headed households with children had poverty rates almost twice (36.5%) that of single or male-headed families (16.3%). This paper uses five-year American Community Survey estimates from the National Historical Geographic Information System to empirically examine the spatial distribution and determinants of female-versus-male-headed households with children living in poverty in the counties of the USA. The findings agree with the study by Jouste and Rattenhuber (2018) on the role of universal pensions: Simulating universal pensions in Ecuador, Ghana, Tanzania, and South Africa. Ecuador, Ghana, Tanzania, and South Africa The study found that universal pensions would significantly reduce poverty and inequality in settings in which no means-tested old-age pensions exist. Poverty decline and income inequality decrease are often the central motivating elements behind the reorganization of tax remunerations.

Table 2
Poverty Effect

Variables	tz_2018 (base)	tz_2021_reform	Difference to base	Percentage Change in 2021
Share of poor population, in %	0	0	0	
All	26.38	26.24	-0.14	-0.55
Poor households out of ...	0	0	0	
... male headed households	26.06	25.89	-0.18	-0.68
... female headed households	27.39	27.34	-0.04	-0.16
... households with children	28.01	27.86	-0.16	-0.56
... households with older persons	30.36	30.31	-0.06	-0.19
Poverty gap (average normalised poverty gap, FGT(1))	0	0	0	
All	6.16	5.90	-0.26	-4.38
Poor households out of ...	0	0	0	
... male headed households	6.17	5.91	-0.25	-4.31
... female headed households	6.14	5.87	-0.27	-4.61
... households with children	6.57	6.30	-0.28	-4.42
... households with older persons	7.14	6.84	-0.30	-4.35
Absolute national poverty line, in national currency, yearly:	591,842	658,429	66,588	10.11

3.2 Household Income Inequality Effect

This underlines the fact that introducing an old-age benefit policy payable at 20,000 TSH per month for those aged 60 or over can reduce inequality. Households in the *20th* to *80th* quintiles obtain a marginally higher profit than in the baseline year. This is due to the fact that government revenue increased compared to the baseline data. The rest of the clusters of families are affected more: for example, the income of Quintile *40th* increased by TZS 84,135.95 billion; the income of Quintile *50th* increased by TZS 96,629.73 billion; Quintile 60th increased by TZS 114,565.78 billion; and by TZS 185,289.65 billion for Quintile *80th*. Thus, the reform consequences show that there is a more optimistic outcome for consumption-based income distribution for poor households.

The above findings can be supported by the study done by Gasior *et al.* (2018), which determined that a very great emphasis on returns is perceived for the richest quintile (20%) of the population, fluctuating from 67% of full disposable income in South Africa to 88% in Mozambique. The study's results suggest that income-based measures result in higher levels of poverty and inequality than consumption-based measures. The country with the most effective system in terms of reducing income inequality and poverty is South Africa; in Ghana, the tax-benefit system was found to have the smallest impact on inequality. The systems of Uganda, Mozambique, and Zambia were estimated to have no poverty-reducing properties; many individuals remain largely unaffected by them as they are too poor to pay direct taxes, and benefits are very modest and narrowly targeted. Originality/value: While consumption data are crucial for measuring poverty, income data are becoming vital for assessing the extent to which tax-benefit policies achieve redistribution in economies where personal consumption is becoming less significant and the share of people in employment is increasing. To the best of the authors' knowledge, this is the first study where poverty and inequality are measured in both terms. The above findings can be supported by the study done by Gasior, Leventi, Noble, Wright, & Barnes (2018), which concludes that a very high concentration of incomes is observed for the richest quintile (20%) of the population, varying from 67% of total disposable income in South Africa to 88% in Mozambique.

Table 3

Income Distribution - Consumption-Based after Taxes and Transfers, Yearly

Variables	tz_2018 (base)	tz_2021_reform	Difference to base	Percentage Change in 2021
Gini (household income)	0.3800	0.3811	0.0011	0.28
P80/P20	2.68	2.72	0.04	1.36
Quintiles of distribution and median	0	0	0	
20th	533,349.29	594,293.73	60,944.44	10.25
40th	719,147.78	803,283.73	84,135.95	10.47
50th	836,192.64	932,822.37	96,629.73	10.36
60th	966,720.45	1,081,286.23	114,565.78	10.60
80th	1,428,841.91	1,614,131.57	185,289.65	11.48
Absolute national poverty line, in national currency, yearly	591,842	658,429	66,588	10.11

Reform 2: Government of URT introduces Old Age Benefit Policy Payable at 15,000 TSH per Month for Those Aged 75 and above

The above reform used to elaborate the change in policy that has an effect on government revenue and expenditure, income distribution and poverty. Note that the baseline system used for micro-simulation analysis of the study is the 2017 tax benefit to calculate the rules and uprate factors applied to the 2021 policy year. Those aged 75 or over have the risk for poverty and are few and proving them with monthly income would reduce poverty.

3.3 Budgetary Effect

According to reform 2, the Government of URT decided to introduces Old Age Benefit policy payable at 15,000 TSH per month for those aged 75 and above. The data reveals that Government revenue through taxes, Social Security Contribution (SSC), and indirect taxes increased by 5.31 percent from 8,870,422.74 to 9,368,616.08. The Households in the 20th and 80th quintiles show an increase of 0.04 percent compared to baseline; this means the proposed reform would improve the livelihoods of the selected quintiles.

Table 4

Tax Benefit Policy Yearly (TSH)

Variables	**tz_2018 (base)**	**tz_2021_reform**	**Difference to base**	**Parentage Change**
Gini (household income)	0.3800	0.3811	0.0011	0.28
P80/P20	2.68	2.72	0.04	1.36

3.4 Poverty Effect

The findings of Reform 2 show that by introducing an Old Age Benefit policy payable at 15,000 TSH per month for those aged 75 or over, there is a decrease in poverty of 0.55 percent from 26.3 percent to 26.24 percent. Meanwhile, male-headed households poverty decreased by 0.68 percent as compared to female-headed households, whose poverty decreased by 0.16 percent. While households with children had poverty decrease by 0.56 percent, this means the reform would be beneficial to a selected age category and later would improve livelihoods.

Table 5

Income Distribution - Consumption-Based after Taxes and Transfers, Yearly

Variables	***tz_2018 (base)***	***tz_2021_reform_1***	***Difference to base***	***Percentage Change 2021***
Government revenue through taxes, SSC and indirect taxes	8,870,422.74	9,368,616.08	498,193.34	5.32
... direct taxes	2,881,905.38	2,716,068.35	-165,837.04	-6.11
... indirect taxes	3,433,457.72	3,810,020.04	376,562.33	9.88
... social security contributions (employer, employee and self-employed)	2,555,059.64	2,842,527.69	287,468.05	10.11
Government expenditure on social transfers	175,559.09	257,683.87	82,124.78	31.87
... child benefits	0.00	0.00	0.00	-
... social assistance	175,559.09	257,683.87	82,124.78	31.87
... orphan/widow benefits	0.00	0.00	0.00	-
... disabled benefits	0.00	0.00	0.00	-
... unemployment benefits	0.00	0.00	0.00	-
... pension benefits	0.00	0.00	0.00	-

3.5 Household Income Disparity Effect

The exploration of microsimulation scenarios shows that Reform 2 has an affirmative result on household income sharing created by consumption, as discoursed in Reform 1. This underscores the information that presenting an old age assistance policy payable at 15,000 TSH per month for those aged 75 or over can reduce inequality. Households in the 20th to 80th quintiles receive a slightly higher benefit than in the baseline year. Hence, there is a more positive impact on the consumption-based income distribution for poor households. Furthermore, the proposed reform indicated that the consumption-based distribution of income for poor households is having a positive effect. Likewise, the underprivileged quintile of the inhabitants owns less than one (1) percent of cumulative disposable earnings in five (5) out of the six (6) countries and about 2% in South Africa. The indirect taxes are also included for the income portions of quintiles one (1) to four (4) contract in progress. Divergent segments of income in the richest quintile surge in all countries, with the main surge being projected in Ethiopia and Tanzania (Gasior et al., 2018).

Table 6: Income Distribution - Consumption-Based after Taxes and Transfers, Yearly

	tz_2018 (base)	tz_2021_reform_1	Difference to base	Percentage Change 2021
Share of poor population, in %	0	0	0	
All	26.38	26.24	-0.14	-0.55
Poor households out of ...	0	0	0	-
... male headed households	26.06	25.89	-0.18	-0.68
... female headed households	27.39	27.34	-0.04	-0.16
... households with children	28.01	27.86	-0.16	-0.56
... households with older persons	30.36	30.31	-0.06	-0.19
Poverty gap (average normalised poverty gap, FGT(1))	0	0	0	-
All	6.16	5.90	-0.26	-4.38
Poor households out of ...	0	0	0	-
... male headed households	6.17	5.91	-0.25	-4.31
... female headed households	6.14	5.87	-0.27	-4.61
... households with children	6.57	6.30	-0.28	-4.42
... households with older persons	7.14	6.84	-0.30	-4.35
Absolute national poverty line, in national currency, yearly:	591,842	658,429	66,588	10.11

IV. CONCLUSIONS

The study shows a correlation between social assistance and the reduction of poverty. The result shows that one Government of URT introduces two reforms. Both proposed reforms reveal that there is an increase in Government revenue through taxes, Social Security Contribution (SSC) and indirect taxes increased by 5.31 percent from 8,870,422.74 to 9,368,616.08, respectively. The share of the poor population decreased by 0.55%. Regarding the effect on poverty, it decreased by 0.55 percent in both reforms. The Government can introduce the old age benefit to people 60 years of age and older; hence, the effects are generous, and their possibility is governed unfavourably by unfavourably whether the assistance amount is allocated.

The effects of the Gini income disparities and the P80/P20 equivalent disposable income ratio have been reached. In the light of the Gini coefficients of equivalent disposable income in reform, it shows how much disparity is exacerbated by the indirect tax-benefit system. Reform is increasing inequality by 0.28 percent. Overall, the P80/P20 ratio is increasing by 1.36 percent with household income inequality, and thus, income inequality in society is slightly increasing.

V. POLICY IMPLICATIONS & RECOMMENDATIONS

The government through the Tanzania Social Action Fund (TASAF) to increase budget allocation for social protection programs to support old age for 60 and older and other vulnerable groups. Further, the government of URT to consider social assistance and poverty reduction schemes research to effectively implement the recommended scheme.

Disclosure statement

Authors have declared that no competing interests exist.

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