The potential of universal basic income schemes to mitigate shocks

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Outline

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- Data and methods

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Motivation

Motivation

- Sub-Saharan Africa has one of highest rates of poverty and inequality in the world -> low administrative capacity to strengthen social security

- We aim to simulate and investigate different Universal Basic Income scenarios in Uganda and Zambia and examine their impact on poverty and inequality during pre and crisis times.

    – Only a few studies simulate UBI in the SSA region (Lustig et al. 2021).

    – We want to investigate if the UBI is an effective tool in mitigating crisis shocks.

    – How effective is UBI in mitigating COVID-19 shocks?

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Research questions

1. Can Universal Basic Income reduce poverty and inequality in pre and crisis times?

2. Is Universal Basic Income more effective during pre or crisis times?

Literature review

Universal Basic Income

UBI definition:

- "A cash transfer given to all members of, a community on a recurrent basis regardless of income level and with no strings attached" (Hasdell, 2020, p.3).

- a UBI must be <u>universal</u> (it must target all population), <u>unconditional</u> (it does not require any criteria for receiving the benefit), <u>individual</u> (it is paid at the individual level), <u>periodic</u> (it is paid at regular intervals) and <u>cash payment</u> (the benefit is in cash)

UBI main pros:

- Greater efficiency and effectiveness, and reduction of the costs of the pre-existing transfer systems given its simplicity (Calsamiglia & Flamand, 2019)

- Mitigation of the effects of alleged massive unemployment due to the development of digital economies (Pulkka 2017; Caputo and Lewis 2016)

- UBI can contribute firstly to more stable and democratic societies and secondly to greater stability and equality in social relations (Haag, 2019).

→ In recent years an increased number of academics started to investigate the impact of UBI in developing countries, especially in contexts where a large amount of the population works in the informal sector.

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UBI in developing countries

- Even though there is a growing interest of UBI in the developing countries context, there is little evidence of its effects (Banerjee et al., 2019)

- Francese and Prady (2018) evidence that a UBI could be an effective tool in countries with targeting difficulties like low progressivity and coverage.

- Peruffo et al. (2021) conducted a quantitative analysis to compare the performance of UBI with means-tested cash transfers that required recipients to enrol their children at school (CCT) in Brazil.

- Coday and Prady (2018) show the potential advantages of replacing existing energy and food subsidies in India with a UBI.

- Ortiz et al. (2018) recommend some fiscal reforms to support a UBI in SSA countries financially.

Data and methods

Data on the models

SOUTHMOD models:

- UGAMOD_v1.6 (Uganda) based on the Uganda National Household Survey 2016/17.

- MicroZAMOD_v2.6 (Zambia) based on the Living Conditions Monitoring Survey 2015.

- Both models include COVID-19 shocks for 2020, developed by Lastunen et al. (2021). These are static tax-benefit models that allow us to calculate the effects of tax and benefit policies on individual incomes, poverty, and inequality.

Crisis dataset

Three main steps:

- Calculate the difference in country GDP between 2020 and 2017-19 for each industry using annual industry-level GDP data. → the service sector, manufacturing and education have been the most hit.

- Distribute the industry shocks to individual earnings in the pre-crisis dataset.

- Assign random workers in each sector to unemployment with zero income until the overall reduction in labor income matched the GDP shock for the same sector, the authors.

The reduction in the total change in mean disposable income shows that it is primarily due to earnings shocks.

The drop in disposable income is more pronounced in the upper half of the pre-crisis distribution of disposable household income.

Summary of policies in the models (2020)

	Uganda (baseline)	Zambia (baseline)	Uganda (UBI)	Zambia (UBI)
Cash benefits	Senior citizen grant (boa_ug)	Social cash transfer (bsa_zm), COVID emergency cash transfer (bsacv01_zm), home grown school feeding programme (bedot_zm) and electronic-farmer input support programme (bag_zm)	Universal Basic Income (ubi_ug)	Universal Basic Income (ubi_zm)
In-kind benefits	-	-	-	-
SIC	Employee contribution (tscee_ug) and employer contribution (tscer_ug)[S]	Employee pension contributions (tsceepi_zm), employer pension contributions (tscerpi_zm) and national health insurance contributions – employer (tscehrl_zm)	-	-
Direct taxes	Local service tax (lgv_ug), rental income tax (tpr_ug) and presumptive income tax (ttn_ug), income tax (tin_ug)	Turnover tax (ttn_zm), income tax (tin_zm)	Local service tax (lgv_ug), rental income tax (tpr_ug) and presumptive income tax (ttn_ug), income tax (tin_ug)	Turnover tax (ttn_zm), income tax (tin_zm)
Indirect taxes	VAT (tva_ug) and selected excise duties (tex_ug)	VAT (tva_zm), excise duty and VAT on selected excise items (tex_zm)	VAT (tva_ug) and selected excise duties (tex_ug)	VAT (tva_zm), excise duty and VAT on selected excise items (tex_zm)
Individual tax reliefs	-	-	-	-

Methods

- Microsimulation analysis:

  – Two baselines: a pre-crisis one and one with COVID-19 shocks.

  – Four UBI scenarios with increasing levels of generosity for each baseline.

- For the analysis we use:

  – International poverty line of $1.90 (2011 PPP).

  – Gini index as an indicator of inequality.

  – Per capita equivalence scale (national one varies greatly across countries).

UBI scenarios

	1st UBI	2nd UBI	3rd UBI	4th UBI
Uganda				
Benefit in NCU per month	1,837	4,487	38,583	77,135
Benefit in USD per month	0.49	1.21	10.38	20.74
Expenditure as a share of GDP (%)	0.7	1.71	15	30
Expenditure as a share of tax revenue (%)	5	12	107	214
Zambia				
Benefit in NCU per month	12.2	27.45	151.59	302.87
Benefit in USD per month	0.63	1.4	8.26	16.5
Expenditure as a share of GDP (%)	0.8	1.71	10	20
Expenditure as a share of tax revenue (%)	4	10	58	106
Benefit in NCU per month	12.2	27.45	151.59	302.87

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Main findings

UBI impact in pre-crisis scenario

Uganda	Baseline	1st UBI	2nd UBI	3rd UBI	4th UBI
Poverty rate	75.6%	75.3%	74.8%	66.3%	48.1%
Poverty gap	57.3%	56.5%	54.9%	36.6%	20.6%
Inequality	74.4%	73.7%	72.1%	57.5%	48.2%
Zambia	**Baseline**	**1st UBI**	**2nd UBI**	**3rd UBI**	**4th UBI**
Poverty rate	73.3%	72.7%	72.3%	66.4%	50.8%
Poverty gap	57.0%	57.1%	55.2%	37.8%	20.7%
Inequality	75.6%	76.0%	74.3%	62.5%	53.7%

UBI impact in pre-crisis scenario

- Children benefit the most from the UBI in both Zambia and Uganda, as they experience the greatest reduction in poverty across all four UBI scenarios.
- Elderly population benefits the least, with poverty increasing in the first two UBI scenarios and decreasing in the third and fourth in Zambia.
- Female population experiences a greater decline in poverty than the male population in both Zambia and Uganda.
- UBI is more effective in reducing the poverty gap across the population than the poverty rate.
- Uganda registers a greater reduction of inequality compared to Zambia.

UBI impact in crisis scenario

Uganda	Baseline	1st UBI	2nd UBI	3rd UBI	4th UBI
Poverty rate	76.8%	76.5%	76.1%	67.7%	49.2%
Poverty gap	59.0%	58.2%	56.6%	37.8%	21.5%
Inequality	75.5%	74.8%	73.1%	57.5%	47.9%
Zambia	Baseline	1st UBI	2nd UBI	3rd UBI	4th UBI
Poverty rate	75.5%	75.3%	74.8%	69.1%	54.0%
Poverty gap	59.6%	60.3%	58.3%	40.3%	22.4%
Inequality	77.1%	77.8%	75.9%	62.7%	53.2%

UBI impact in crisis scenario

- We find that all four UBI scenarios reduce poverty rates in Uganda during crisis times but not as much as during pre-crisis times.
- Children are the population group that benefits the most from the UBI during crisis times, while the elderly benefit the least. The reduction in inequality is proportional to the benefit amount included in the UBI.

- The poverty rate falls by 0.3 percentage points in the first UBI option and 21.5 in the fourth UBI scenario in Zambia.
- The first two UBI scenarios in both countries increase poverty for people aged 65 and up, with Zambia experiencing a greater increase
- Females are the second group that benefits more from the UBI in poverty rate and poverty gap reduction.

Conclusions

Conclusions

- Can Universal Basic Income reduce poverty and inequality during pre and crisis times? **Yes.**

- The generosity of UBI matters. However, an increase in generosity leads to spending as a share of tax revenue or GDP.

- Even the first two UBI scenarios seem to be effective in reducing poverty and inequality among all the four sub-groups of the population.

- The last two UBI scenarios require a significant increase of share of tax revenue: In Uganda, the 3rd UBI option needs more than 100% of tax revenue, and the 4th option requires more than 200%. In Zambia, the 3rd scenario requires 58% of tax revenue and the fourth scenario 106%.

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Questions? Comments?
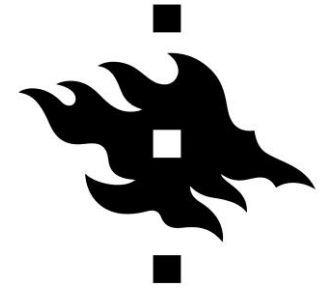
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