



Comparing the poverty-reduction efficiency of targeted versus universal benefits amid crises

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Background

- Vast analytical literature on social protection policies in developing countries
 - Redistributive effects examined e.g. by World Bank (Gentilini et al. 2020) and CEQ (Inchauste and Lustig 2017)
 - Very little formal analysis on tax/benefit systems as an insurance against crises
 - Informal discussion by World Bank (Bowen et al. 2020)
- ⇒ **This paper: examines how different targeting approaches perform when crises hit**
- **Analytically and by using microsimulation for the case of Ethiopia**

Tax-benefit system goals

- One key objective: offer **social protection** to alleviate (chronic) poverty
- But also: offer **social insurance**
 - Cushioning against negative shocks , e.g. unemployment
- Can also be examined via the lens of **automatic stabilization**
 - Increase in benefits and reduction in taxes paid when incomes decline

Little automatic stabilization

- Adu-Ababio (2022) shows that only a small fraction (1-20%) of income losses compensated for households
- Three key reasons
 1. Government size (and hence the level of taxes and benefits) smaller in developing countries
 2. Large share of workers in the informal sector; do not pay income taxes
 3. Many benefits not means tested
 - Rather: based on proxy means test (PMT)

PMT systems

- Based on household-level indicators, a score calculated
- If score < threshold, HH eligible for a lump-sum subsidy
- HH retains the subsidy until the score collected anew

Targeting or not when crises occur?

Targeted or more universal benefits?

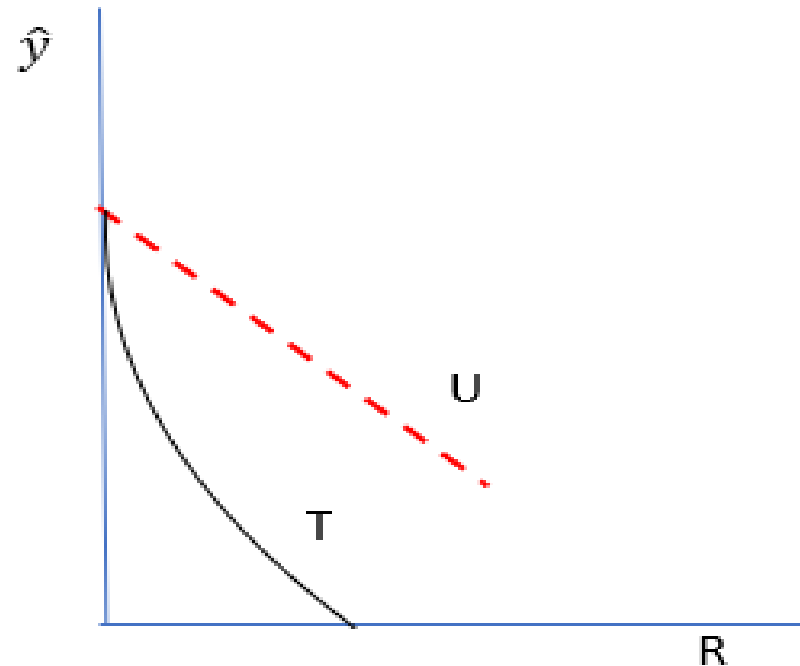
- Should policies be
 - Targeted (proxy means tested, PMT) transfers
 - More universal
 - To certain demographic groups: categorical
 - Everyone: universal basic income, UBI
- Trade-off:
 - Targeting to minimize poverty in "normal" circumstances
 - Shocks: the profile of the needy may change => A case for more universalism?

Theoretical points

- If benefits appropriately targeted before the crisis
 - They may not remain to be so if the shock disproportionately affects the initially non-poor group
- Link between social protection budget and poverty reduction
 - Greater poverty increase in universal shock in targeted systems

The relation between poverty and social protection resources

- Takeaways
 - Poverty reduction the same with no resources
 - Poverty lower in targeted
 - Curve steeper in targeted:
 - Loss of income => greater pov incr in targeting



Predictions

- With small budget, targeting matters relatively little
- Poverty *levels* higher in uniform systems
- *Increase* in poverty smaller in uniformal systems

Simulations for Ethiopia

Ethiopian context

- The Productive Safety Net Programme (PSNP) the main social assistance programme.
- PSNP is a hybrid variant of PMT
 - Combination of community targeting and PMT
- Modelling conducted using ETMOD, tax-benefit microsimulation model for Ethiopia
- Covers policy years until 2022, underpinned by Ethiopia socioeconomic survey

Our simulations

- Two shocks investigated: Covid-19 and an agricultural shock
- Three systems compared
 - Existing PMT
 - Categorical benefit (hh with >4 kids / older members)
 - UBI
- Existing budget vs 10X larger budget financed via indirect taxes

Simulations for Ethiopia

- Baseline poverty
 - (Agg gap 140bn, social assistance spending 3bn)

	PMT	CB	UBI
Headcount ratio	43.36	43.35	43.42
Diff		-0.01	0.06

- 10X benefit amounts, budget neutral expansion


	PMT	CB	UBI
Headcount ratio	41.45	42.73	43.13
Diff		1.28	1.68

Incidence of (5X-magnified) Covid shock

Population	
Poor in baseline	41 900 000
Job lost due to shock	277 086
Ratio	0.66
Population	
Non-poor in baseline	54 700 000
Job lost due to shock	1 037 095
Ratio	1.90
Correlation coefficient for job loss and base poverty gap:	-0.0194

Poverty implications, magnified Covid shock

Indicators	PMT		Higher PMT		CB		Higher CB		UBI		Higher UBI	
	Base	crisis	Base	crisis	Base	crisis	Base	crisis	Base	crisis	Base	crisis
Poverty rate	43.36	45.99	41.45	43.97	43.35	45.97	42.73	45.32	43.42	46.05	43.13	45.64
Difference in poverty rate between the baseline and crisis	2.63		2.52		2.63		2.58		2.63		2.51	

(just) smaller 

Conclusion

- Social assistance budget in Ethiopia is very small compared to poverty rate
- Poverty reduction efficiency, during crisis, across benefit systems is quite similar with small budget
- Perfect targeting works less well if the profile of the poor changes due to the shock.
- The UBI system provides better protection for households slightly above the poverty line before crisis

Extra slides

Modelling of shocks

- Shocks considered:

1. Actual COVID shock

- By randomly transiting individuals from paid employment to unemployment with no market income based on deviation of sectoral GDP growth for 2020 from its recent trend.
- The pandemic had a lower effect on Ethiopian economy in 2020, shrinking GDP growth by 3.7 percentage points.

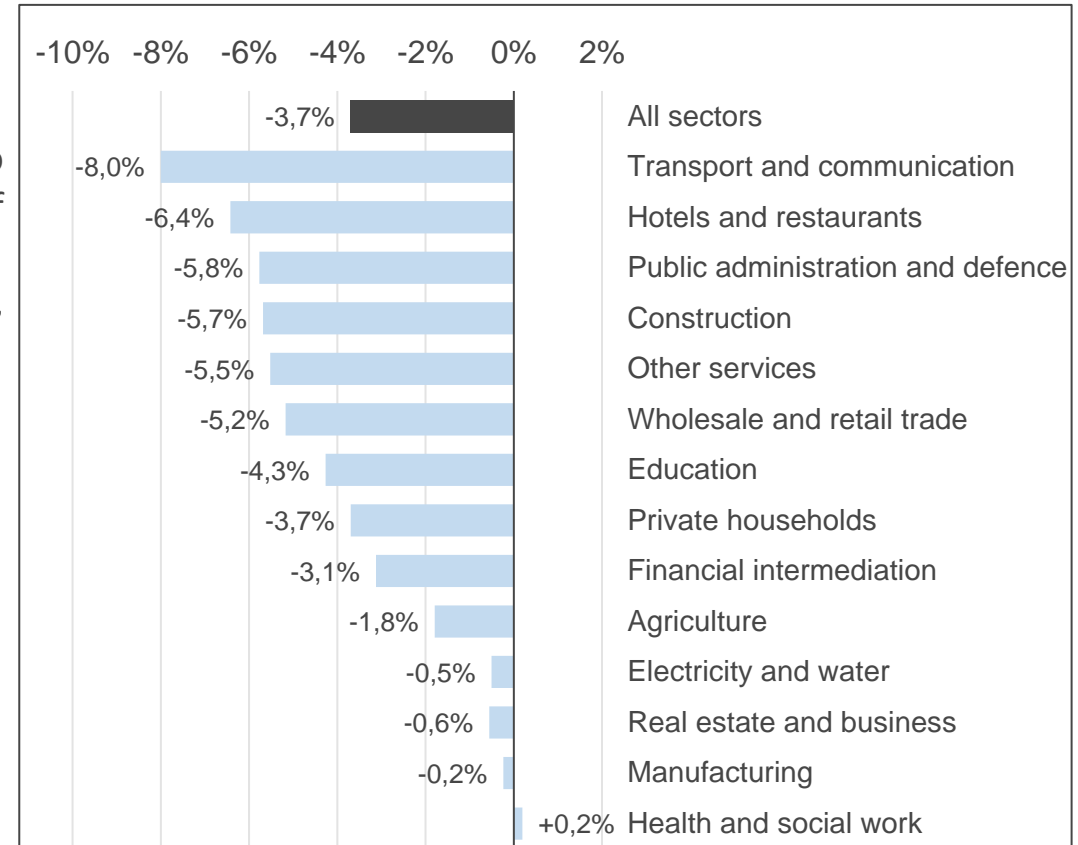
2. Magnified COVID shock

- 5 times higher COVID shock

3. Counterfactual agricultural shock

- 10 % reduction in agricultural income.

Figure 2: Industry-level GDP shocks due to COVID in 2020, Ethiopia



Benefit scenarios

- A. Overall expenditure on social assistance remain the same
 - I. Existing PSNP benefit (PMT)
 - The benefit is provided exclusively to households whose PMT score in pre-crisis period were below the threshold value.
 - II. Categorical benefit (CB)
 - The benefit targets households with more than four children and individuals over 65 years of age.
 - II. Universal basic income (UBI)
 - The system distribute equal benefit amount for all individuals regardless of income or demographic criteria.

Continue...

B. 10 times higher expenditure on social assistance

- Overall budget for the three alternative benefit arraignments increased by equal amount.
- The VAT rate was raised from 15 to 17.8 percent to to ensure benefit expansion maintain budget neutrality condition.
- An income shock is reflected in VAT revenue through modeling a constant budget share assumption.
- Higher benefit scenarios: Higher PMT, Higher CB, and Higher UBI.

Findings: Actual COVID shock

Table 1: Change in poverty due to COVID 19 with and without benefit

No benefits	With benefits
0.47	0.37

- The pandemic ended up less severe than what was forecast
- Existing benefit system has insignificant coverage and lower role in reducing poverty both in normal times and crisis.

Table 2: Poverty rate for baseline and COVID-19 crisis, under different benefit scenarios

Indicators	<u>PMT</u>		<u>Higher PMT</u>		<u>CB</u>		<u>Higher CB</u>		<u>UBI</u>		<u>Higher UBI</u>	
	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis
Poverty rate	43.36	43.83	41.45	41.92	43.35	43.82	42.73	43.20	43.42	43.89	43.13	43.62
Difference in poverty rate between baseline and crisis	0.47		0.47		0.47		0.47		0.47		0.49	

- A CB system would lead to a slightly lower poverty headcount in both the baseline and the crisis situation.
- Poverty would be higher under UBI .
- With small budget, the difference in poverty reduction across benefit systems is trivial.
- PMT perform better with higher budget.

Table 3: Poverty gaps for baseline and COVID-19 crisis, under different benefit scenarios

Indicators	PMT		Higher PMT		CB		Higher CB		UBI		Higher UBI	
	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis
Poverty gap	0.236	0.241	0.223	0.227	0.238	0.243	0.231	0.236	0.238	0.243	0.235	0.239
Difference in poverty gap between the baseline and crisis	0.005		0.005		0.005		0.004		0.005		0.005	

- PMT is best in targeting the poor, resulting a lower poverty gapes both at baseline and higher budget scenario.

Table 4: Mean monthly benefit, by quintiles of consumption expenditure

Quintiles	PMT	Higher PMT	CB	Higher CB	UBI	Higher UBI
1	11.82	118.19	3.16	31.6	2.05	20.48
2	2.65	26.54	2.79	27.89	2.38	23.82
3	-	-	2.82	28.24	2.56	25.57
4	-	-	2.65	26.53	2.96	29.64
5	-	-	2.69	26.89	3.99	39.89

Findings: Magnified COVID shock

Table 5: Poverty rate for baseline and magnified COVID-19 crisis, under different benefit scenarios

Indicators	<u>PMT</u>		<u>Higher PMT</u>		<u>CB</u>		<u>Higher CB</u>		<u>UBI</u>		<u>Higher UBI</u>	
	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis
Poverty rate	43.36	45.99	41.45	43.97	43.35	45.97	42.73	45.32	43.42	46.05	43.13	45.64
Difference in poverty rate between baseline and crisis	2.63		2.52		2.63		2.58		2.63		2.51	

- Since the incidence of job loss is higher for the non-poor in the baseline, UBI with higher budget results in a smaller increase in the poverty rate.

Findings: agricultural shock

Table 6: Poverty rates for baseline and agricultural crisis, under different benefit scenarios

Indicators	<u>PMT</u>		<u>Higher PMT</u>		<u>CB</u>		<u>Higher CB</u>		<u>UBI</u>		<u>Higher UBI</u>	
	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis
Poverty rate	43.36	46.29	41.45	44.40	43.35	46.26	42.73	45.68	43.42	46.33	43.13	46.07
Difference in poverty rate between baseline and crisis	2.93		2.95		2.92		2.95		2.91		2.94	

- Like the COVID-19 crisis, CB deliver the lowest headcount poverty rate under the baseline budget.
- With higher budget:
 - Headcount poverty is lower with PMT system
 - UBI offers the smallest increase in poverty rate due to agricultural shock.

Table 7: Poverty gaps for baseline and agricultural crisis, under different benefit scenarios

Indicators	<u>PMT</u>		<u>Higher PMT</u>		<u>CB</u>		<u>Higher CB</u>		<u>UBI</u>		<u>Higher UBI</u>	
	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis	Base	Crisis
Poverty gap	0.236	0.276	0.223	0.262	0.238	0.278	0.231	0.271	0.238	0.279	0.235	0.275
Difference in poverty gap between the baseline and crisis	0.040		0.039		0.040		0.040		0.040		0.040	