

# Microsimulation Approaches To Studying Shocks And Social Protection In Selected Developing Economies

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## OBJECTIVES

- Policy approaches that can limit the impact of shock.
- Calculate income, demand, and poverty stabilization coefficients.
- How can safety nets improve current income insurance?
- Compare results to stabilization in developed countries.

## SHOCK AND MODEL SCENARIOS

- 5% Income Shock causes a fall in income or a shift to informality.
- 5% demand shock causes a fall in consumption from housing or credit liquidity constraints.
- Four Model scenarios to examine interrelations between the impact of tax benefit policies and shocks.

## COMPARING COEFFICIENTS

Income and Demand stabilization coefficients

	$\tau_{Hs}^C$	$\tau_{Cr}^C$	$\tau_F^I$	$\tau_G^I$
GH	0.038	0.00	0.036	0.012
SA	0.249	0.251	0.083	0.220
EC	0.011	0.045	0.117	0.103
EU	0.124	0.041	0.469	0.378
US	0.058	0.056	0.071	0.388

- South Africa's coefficients compare favorably to the EU and US.
- We compare coefficients for unemployment shocks in developed countries to informality shocks in developing countries.
- More efforts are needed to improve safety nets in developing countries.

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## DATA & METHODS

- Household data based on input data from selected SOUTHMOD countries.
- ECUAMOD-EIGHUR; GHAMOD-GLSS7; SAMOD-LCS 7
- Static microsimulation models for Ecuador, Ghana, and South Africa to calculate *Automatic Stabilization coefficients*.
- Introduces counterfactual policies for countries with the least automatic stabilization.

## SOUTHMOD project

- ECUAMOD, GHAMOD, and SAMOD are part of the SOUTHMOD project.
- Collaboration between the EUROMOD team, UNU-WIDER, SASPRI
- Uses EUROMOD as a platform for comparable models for the three selected developing countries.
- Models are available free of charge and used to simulate similar policies in these countries.

## RESULTS

	GHANA	SOUTH AFRICA	ECUADOR
<b>Income stabilization (<math>\tau^I</math>)</b>			
Gross income	0.012	0.220	0.103
Informality	0.036	0.083	0.117
<b>Demand stabilization (<math>\tau^C</math>)</b>			
Consumption	0.049	-	0.050
Housing constraint	0.038	0.249	0.011
Credit constraint	0.00	0.251	0.045
<b>Poverty stabilization (<math>\tau^P</math>)</b>			
Gross income	0.008	0.478	0.464
Informality	0.00	0.143	0.00

- Income stabilization is best in South Africa.
- Demand stabilization is high for South Africa as compared to Ghana and Ecuador.
- The degree of formalization in each economy reflects the stabilization among liquidity-constrained households.
- Ghana fails stress tests.

## IMPROVING THE GHANA CASE

Scenarios	Switch	Baseline	Inc shock	$\Delta P_i(Y^j)$
Benefits	On	52.35	53.34	0.99
	Off	55.34	56.52	1.18
Impact ( $\tau^P$ )			0.16	

- By introducing a new child grant and a universal pension, income insurance improves by 0.16 in Ghana.
- Similar improvements (0,19) when there is a demand shock.