Microsimulation Approaches to studying Shocks and Social Protection in Selected Developing

IMA, Vienna, 2024

Kwabena Adu-Ababio

1University of Helsinki

January 10, 2024
Background and Motivation

Background

Interest in consequences of macro shocks due to recent crises.
Social safety nets crucial in helping households cope with shocks.
Greater response margin regarding how developed economies tackle crisis.
How good is social insurance in developing countries?
There is the need for stress testing (Kanbur, 2010)
Background and Motivation

Background

- Interest in consequences of macro shocks due to recent crises.
- Social safety nets crucial in helping households cope with shocks.
- Greater response margin regarding how developed economies tackle crisis.
- How good is social insurance in developing countries?
- There is the need for stress testing (Kanbur, 2010)
Study Objectives

Objectives

Examine using microsimulation techniques policies that cushion households from systemic shocks. Measurement of households risk exposure in crisis scenarios based on GHAMOD, SAMOD, and ECUAMOD.

Given redistributive preferences of policy that existed in 2017, I look at two broad themes:

1. Automatic Stabilization/Fixed government action
2. Discretionary government action based on four case scenarios.

Examine social protection that incorporates a mix of both social protection and insurance policies.
Study Objectives

Objectives

- Examine using microsimulation techniques policies that cushion households from systemic shocks.

- Measurement of households risk exposure in crisis scenarios based on GHAMOD, SAMOD and ECUAMOD.

- Given redistributive preferences of policy that existed in 2017, I look at two broad themes:
Study Objectives

Objectives

- Examine using microsimulation techniques policies that cushion households from systemic shocks.
- Measurement of households risk exposure in crisis scenarios based on GHAMOD, SAMOD and ECUAMOD.
- Given redistributive preferences of policy that existed in 2017, I look at two broad themes:
  1. Automatic Stabilization/ Fixed government action and
  2. Discretionary government action based on four case scenarios.
- Examine social protection that incorporates comprise both social protection and insurance policies.
Relevance of the Study

Contribution to Literature
Relevance of the Study

Contribution to Literature

- First of its kind to study automatic stabilization for developing countries based on income, demand and informality shocks.

- One of the first aside Doorley (2021) to examine poverty and inequality cushioning using poverty stabilization coefficients.

- Establishing of the link between automatic stabilization and consumption expenditure.

- Study how fiscal policies can be reformed to offer more significant income insurance.

- Add to studies that inform on the effects of economic shocks in transitioning economies.
Results summary

Summary Outcomes

Higher coefficients mean stronger stabilization effects. Thus, a % of the shock is absorbed by the fiscal system.

Automatic Stabilization very limited in Ghana.

The level of informality in each country plays a role.

Strong income and demand stabilization as well as fiscal policy impacts in South Africa and Ecuador as compared to Ghana.

Counterfactual policies (CDG and LEAP expansion) in Ghana, improve welfare and policy impacts.
Results summary

Summary Outcomes

- Higher coefficients means stronger stabilization effects. Thus, a % of the shock is absorbed by the fiscal system.

- Automatic Stabilization very limited in Ghana.

- The level of informality in each country plays a role.

- Strong income and demand stabilization as well as fiscal policy impacts in South Africa and Ecuador as compared to Ghana.

- Counterfactual policies (CDG and LEAP expansion) in Ghana, improve welfare and policy impacts.
Macro & Micro Approaches to automatic stabilizers

Previous Research

Most macro approaches to study automatic stabilization study ratios of revenue and expenditure to GDP. (Girouard & Andre, 2006, Devarajan et al., 2013)

For micro approaches, microsimulation modelling is employed. (Auerbach & Feenberg (2000); Kniesner & Ziliak (2002); Doorley et al. (2021)).

Minimal work in developing economies. (Gasior et al. (2022))

Existing studies covering shocks do not cover social protection while those covering social protection are silent on shocks.
Macro & Micro Approaches to automatic stabilizers

Previous Research

- Most macro approaches to study automatic stabilization study ratios of revenue and expenditure to GDP. (Girouard & Andre, 2006, Devarajan et al., 2013)

- For micro approaches, microsimulation modelling is employed. (Auerbach & Feenberg (2000); Kniesner & Ziliak (2002); Doorley et al. (2021)).

- Minimal work in developing economies. (Gasior et al. (2022))

- Existing studies covering shocks do no cover social protection whiles those covering social protection are silent on shocks.
Automatic stabilizers

Deriving Automatic Stabilizers

Based on Dolls, Fuest, & Peichl (2012); Dolls et al. (2020) and Doorley et al (2021). Impact on shocks depends on cushioning impacts and income links to consumption demand.

Define automatic stabilization in three ways.

1. The stabilization of disposable income
   \[ \tau_I = \text{Gross income and Informality shock} \]

2. The stabilization of demand
   \[ \tau_C = \text{Consumption shock and Liquidity constraints} \]

3. The stabilization of poverty/inequality
   \[ \tau_P = \text{Gross income and Informality shock} \]
Automatic stabilizers

Deriving Automatic Stabilizers

- Based on Dolls, Fuest, & Peichl (2012); Dolls et al. (2020) and Doorley et al (2021). Impact on shocks depends on cushioning impacts and income links to consumption demand.

- Define automatic stabilization in three ways.

1. The stabilization of disposable income \( (\tau^I) \Rightarrow (\text{Gross income and Informality shock}) \)

2. The stabilization of demand \( (\tau^C) \Rightarrow (\text{Consumption shock and Liquidity constraints}) \)

3. The stabilization of poverty/inequality \( (\tau^P) \Rightarrow (\text{Gross income and Informality shock}) \)
Automatic stabilizers

Formulas

\[ \tau_I = 1 - P_i \Delta Y_D i \]

\[ \tau_C = 1 - P_i \Delta L_{CH} i \]

\[ \tau_P = 1 - \Delta P_i Y_D \Delta P_i (Y_M) \]

Post-fiscal welfare used metric can be income or consumption based.
Automatic stabilizers

Formulas

- **Income Stabilization Coefficient**
  \[
  \tau^I = 1 - \frac{\sum_i \Delta Y_i^D}{\sum_i \Delta Y_i^M} = \frac{\sum_i (\Delta Y_i^M - \Delta Y_i^D)}{\sum_i \Delta Y_i^M} = \frac{\sum_i \Delta G_i}{\sum_i \Delta Y_i^M}
  \]  
  (1)

- **Demand Stabilization Coefficient**
  \[
  \tau^C = 1 - \frac{\sum_i \Delta L_i^{CH}}{\sum_i \Delta Y_i^M}
  \]  
  (2)

- **Poverty Stabilization Coefficient**
  \[
  \tau^P = 1 - \frac{\Delta P_i (Y^D)}{\Delta P_i (Y^M)}
  \]  
  (3)

- Post-fiscal welfare used metric can be income or consumption based.
Automatic stabilizers

Discretionary Action

Four scenarios to consider when there is an income or demand shock amid existence or absence of tax-benefit policies.

1. With/Without government intervention in status quo and
2. With/Without government intervention in crisis.

These scenarios reveal the policy impacts within each country. If a country does not perform with existing policies, counterfactual policies are introduced.
Automatic stabilizers

Discretionary Action

- Four scenarios to consider when there is an income or demand shock amid existence or absence of tax-benefit policies.
  1. With/Without government intervention in status quo and
  2. With/Without government intervention in crisis.

- These scenarios reveal the policy impacts within each country.

- If a country does not perform with existing policies, counterfactual policies are introduced.
## Results

### Income, Demand & Poverty Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Ghana</th>
<th>South Africa</th>
<th>Ecuador</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.012</td>
<td>0.220</td>
<td>0.103</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.036</td>
<td>0.083</td>
<td>0.117</td>
</tr>
<tr>
<td><strong>Demand stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption expenditure shock</td>
<td>0.049</td>
<td>-0.050</td>
<td></td>
</tr>
<tr>
<td>Housing liquidity constraint</td>
<td>0.038</td>
<td>0.249</td>
<td>0.011</td>
</tr>
<tr>
<td>Credit-liquidity constraints</td>
<td>0.00</td>
<td>0.251</td>
<td>0.045</td>
</tr>
<tr>
<td><strong>Poverty stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.008</td>
<td>0.478</td>
<td>0.464</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.00</td>
<td>0.143</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Source: author’s computation based on GHAMOD, SAMOD, and ECUAMOD 2023.*

For gross income shocks, income stabilization is best in SA (22%). The impacts on informality is evident. When dominant, income stabilization rises (Ghana-3.6% and Ecuador-12%). When subservient, income stabilization falls (South Africa-8.3%).
## Results

### Income, Demand & Poverty Coefficients

#### Table: Income, Demand and Poverty Stabilization Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Ghana</th>
<th>South Africa</th>
<th>Ecuador</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.012</td>
<td>0.220</td>
<td>0.103</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.036</td>
<td>0.083</td>
<td>0.117</td>
</tr>
<tr>
<td><strong>Demand stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption expenditure shock</td>
<td>0.049</td>
<td>-</td>
<td>0.050</td>
</tr>
<tr>
<td>Housing liquidity constraint</td>
<td>0.038</td>
<td>0.249</td>
<td>0.011</td>
</tr>
<tr>
<td>Credit-liquidity constraints</td>
<td>0.00</td>
<td>0.251</td>
<td>0.045</td>
</tr>
<tr>
<td><strong>Poverty stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.008</td>
<td>0.478</td>
<td>0.464</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.00</td>
<td>0.143</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: author’s computation based on GHAMOD, SAMOD, and ECUAMOD 2023.
Results
Income, Demand & Poverty Coefficients

Table: Income, Demand and Poverty Stabilization Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Ghana</th>
<th>South Africa</th>
<th>Ecuador</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.012</td>
<td>0.220</td>
<td>0.103</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.036</td>
<td>0.083</td>
<td>0.117</td>
</tr>
<tr>
<td><strong>Demand stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption expenditure shock</td>
<td>0.049</td>
<td>-</td>
<td>0.050</td>
</tr>
<tr>
<td>Housing liquidity constraint</td>
<td>0.038</td>
<td>0.249</td>
<td>0.011</td>
</tr>
<tr>
<td>Credit-liquidity constraints</td>
<td>0.00</td>
<td>0.251</td>
<td>0.045</td>
</tr>
<tr>
<td><strong>Poverty stabilization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income shock</td>
<td>0.008</td>
<td>0.478</td>
<td>0.464</td>
</tr>
<tr>
<td>Informality shock</td>
<td>0.00</td>
<td>0.143</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: author’s computation based on GHAMOD, SAMOD, and ECUAMOD 2023.

- For gross income shocks, income stabilization is best in SA (22%).
- The impacts on informality is evident. When dominant, income stabilization rises (Ghana-3.6% and Ecuador-12%). When subservient, income stabilization falls (South Africa-8.3%).
Results

Results on Discretionary Action for Ghana

<table>
<thead>
<tr>
<th>Scenarios Switch Baseline Income shock</th>
<th>∆Pi(Yj)</th>
<th>Fiscal On</th>
<th>55.86</th>
<th>57.03</th>
<th>1.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Off</td>
<td></td>
<td></td>
<td>55.34</td>
<td>56.52</td>
<td>1.18</td>
</tr>
</tbody>
</table>

Policy impact (τp) 0.01

Source: author’s computation based on GHAMOD 2023.

Post-fiscal poverty headcount increases amid shocks. Results show that existing policies in Ghana cushion only a 1% income shock. Increase in vulnerability when there is a shock. Fiscal impoverishment evident for market incomes. Counterfactual policies improve the coefficients.
Results

Results on Discretionary Action for Ghana

Table: Income stress test redistributive results for Ghana

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Switch</th>
<th>Baseline</th>
<th>Income shock</th>
<th>$\Delta P_i(Y^j)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal</td>
<td>On</td>
<td>55.86</td>
<td>57.03</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>55.34</td>
<td>56.52</td>
<td>1.18</td>
</tr>
</tbody>
</table>

Source: author’s computation based on GHAMOD 2023.

- Post-fiscal poverty headcount increases amid shocks.
- Results show that existing policies in Ghana cushion only a 1% income shock.
- Increase in vulnerability when there is a shock.
- Fiscal impoverishment evident for market incomes.
- Counterfactual policies improve the coefficients.
Results

Results on Discretionary Action for South Africa

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Switch</th>
<th>Baseline</th>
<th>Income shock</th>
<th>$\Delta P_i (Y_j)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal On</td>
<td>33.67</td>
<td>34.25</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>Fiscal Off</td>
<td>46.40</td>
<td>47.51</td>
<td>1.11</td>
<td></td>
</tr>
</tbody>
</table>

Policy impact $\tau_p = 0.48$

Source: author's computation based on SAMOD 2023.

There is an increase in poverty headcount due to shock to employment income.

Counterfactual government action has a bigger effect on the reducing impact of the shock.

No fiscal impoverishment as vulnerability is higher with no tax-benefit policies.

48% cushioning effect of overall shock.
## Results

### Results on Discretionary Action for South Africa

<table>
<thead>
<tr>
<th>Table: Income stress test redistributive results for South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenarios</strong></td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Fiscal</td>
</tr>
<tr>
<td>On</td>
</tr>
<tr>
<td>Off</td>
</tr>
<tr>
<td>Policy impact (τ^P)</td>
</tr>
</tbody>
</table>

Source: author’s computation based on SAMOD 2023.

- There is increase in poverty headcount due to shock to employment income.
- Counterfactual government action has a bigger effect on the reducing impact of the shock.
- No fiscal impoverishment as vulnerability is higher with no tax-benefit policies.
- 48% cushioning effect of overall shock.
Results

Results on Discretionary Action for Ecuador

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Baseline</th>
<th>Income shock</th>
<th>∆P_i(Y_j)</th>
<th>Fiscal On</th>
<th>14.26</th>
<th>15.38</th>
<th>1.12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Off</td>
<td>12.84</td>
<td>14.93</td>
<td>2.09</td>
</tr>
</tbody>
</table>

Policy impact (τ_p) 0.46

Source: author’s computation based on ECUAMOD 2023.

Social assistance is relatively effective. Counterfactual government action has a better effect on reducing the impact of the shock than in Ghana. Fiscal impoverishment as vulnerability is lower with no tax-benefit policies. 46% cushioning effect of overall shock.
Results

Results on Discretionary Action for Ecuador

Table: Income stress test redistributive results for Ecuador

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Switch</th>
<th>Baseline</th>
<th>Income shock</th>
<th>$\Delta P_i(Y^j)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal</td>
<td>On</td>
<td>14.26</td>
<td>15.38</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>12.84</td>
<td>14.93</td>
<td>2.09</td>
</tr>
<tr>
<td>Policy impact ($\tau^P$)</td>
<td></td>
<td></td>
<td></td>
<td>0.46</td>
</tr>
</tbody>
</table>

Source: author’s computation based on ECUAMOD 2023.

- Social assistance is relatively effective.
- Counterfactual government action has a better effect on the reducing impact of the shock than in Ghana.
- Fiscal impoverishment as vulnerability is lower with no tax-benefit policies.
- 46% cushioning effect of overall shock.
Discussion

Results Discussion

The study compares coefficients from gross income shocks to the EU and US. SA’s social protection stabilization compares favorably to developed countries amid shocks to gross incomes. In all economies, taxes and social security contributions carry much weight than benefits (except SA). Although not close to EU and US, stabilization from benefits for GH and EC improve when shocks are informality related. 3.6% & 12%.

The cost of improving the Ghana inform the size of overhaul needed to restructure tax-benefit policies in the country.
Discussion

The study compares coefficients from gross income shocks to the EU and US.

SA’s social protection stabilization compares favorably to developed countries amid shocks to gross incomes.

In all economies taxes and social security contributions carry much weight than benefits (except SA).

Although not close to EU and US, stabilization from benefits for GH and EC improve when shocks are informality related. 3.6% & 12%.

The cost of improving the Ghana inform the size of overhaul needed to restructure tax-benefit policies in the country.
Conclusions

Conclusions and Policy Recommendations

Automatic stabilization varies and the size of informality plays a role for developing economies.

Income and demand stabilization continues to remain high for SA.

Consumption based welfare measures show how noisy income data can be in developing economies.

Social protection policy swaps and expansion improves the Ghana case but at a high cost.
Conclusions

Conclusions and Policy Recommendations

- Automatic stabilization varies and the size of informality plays a role for developing economies.

- Income and demand stabilization continues to remain high for SA.

- Consumption based welfare measures show how noisy income data can be in developing economies.

- Social protection policy swaps and expansion improves the Ghana case but at a high cost.
Conclusions

Appreciation

Many thanks for your attention.

Questions, Comments welcome:

kwabena.adu-ababio@helsinki.fi
## Summary of Models

### Table: GH, SA & EC Microsimulation Models

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>(1) GHAMOD v.2.4</th>
<th>(2) SAMOD v.7.0</th>
<th>(3) ECUAMOD v.1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input data</td>
<td>GLSS-7*</td>
<td>LCS-7**</td>
<td>EIGHUR</td>
</tr>
<tr>
<td>Input data source</td>
<td>Ghana Statistical Service</td>
<td>Statistics SA</td>
<td>Instituto Nacional de Estadísticas y Censos</td>
</tr>
<tr>
<td>Welfare metric</td>
<td>Consumption based</td>
<td>Income based</td>
<td>Consumption based</td>
</tr>
<tr>
<td>Safety nets</td>
<td>LEAP, School Capitation Grant, Free SHS Grant</td>
<td>Care Dependency, Grant in Aid, Child Support Grant, Foster Child Grant, Old Age Grant, Disability Grant</td>
<td>Human Development Transfer, Joaquín Gallegos Lara Transfer, Housing Grant</td>
</tr>
<tr>
<td>Sample</td>
<td>58,864 individuals</td>
<td>88,906 individuals</td>
<td>153,341 individuals</td>
</tr>
<tr>
<td>Households</td>
<td>14,009</td>
<td>23,380</td>
<td>39,617</td>
</tr>
</tbody>
</table>


Source: author's compilation.
Improving the Ghana Case

### Table: Discretionary action to improve income shock cushioning

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Switch</th>
<th>Baseline</th>
<th>Income shock</th>
<th>$\Delta P_i(Y^j)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal</td>
<td>On</td>
<td>52.35</td>
<td>53.34</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>55.34</td>
<td>56.52</td>
<td>1.18</td>
</tr>
<tr>
<td>Policy impact ($\tau^p$)</td>
<td></td>
<td></td>
<td></td>
<td>0.16</td>
</tr>
</tbody>
</table>

Source: author’s computation based on GHAMOD 2023.

- By introducing additional policies, the study improves the income cushion in Ghana.
- Additional safety nets reduce income poverty by 3.5% without shocks and 3.7% amid shocks.
- 16% cushioning effect of overall income shock (19% for demand shock).
- Increased budget expenditure of GHS3,667 ($460) million is about 1.8% of nominal GDP (11% of total tax revenue).
Mathias Dolls, Clemens Fuest, and Andreas Peichl.
Automatic stabilizers and economic crisis: Us vs. europe. 

Mathias Dolls, Clemens Fuest, Andreas Peichl, and Christian Wittneben.
Fiscal consolidation and automatic stabilization: New results. 

Olivier Bargain.
Decomposition analysis of distributive policies using behavioural simulations. 
Ravi Kanbur.
Protecting the poor against the next crisis.

Gemma Wright, Michael Noble, Helen Barnes, David McLennan, and Michell Mpike.
Samod, a south african tax-benefit microsimulation model: recent developments.
References III


Vidar Christiansen, Zhiyang Jia, and Thor O Thoresen.
Assessing income tax perturbations.

Nathalie Girouard and Christophe André.
Measuring cyclically-adjusted budget balances for oecd countries.
Available at SSRN 2005002, 2006.
World Bank.
Sub-saharan africa macro poverty outlook.

World Bank.
Macro poverty outlook for south africa.
2017.

LA Kasekende, Léonce Ndikumana, and Taoufik Rajhi.
Impact of the global financial and economic crisis on Africa.
References V

Alan J Auerbach and Daniel R Feenberg. 
The significance of federal taxes as automatic stabilizers. 

Tessa Bold, Kayuki C Kaizzi, Jakob Svensson, and David Yanagizawa-Drott. 
Lemon technologies and adoption: measurement, theory and evidence from agricultural markets in uganda. 

GSS. 


References IX

Javier Andrés, Rafael Doménech, and Antonio Fatás.
The stabilizing role of government size.

Alan J Auerbach.
Implementing the new fiscal policy activism.

Deborah Mabbett and Waltraud Schelkle.
Bringing macroeconomics back into the political economy of reform: the lisbon agenda and the ‘fiscal philosophy’of emu.


IMF.  
World economic outlook database.  

CIA.  
CIA.

CIA.
References XIII

Kehinde Oluwaseun Omotoso and Steven F Koch.
Exploring child poverty and inequality in post-apartheid south africa: a multidimensional perspective.

François Bourguignon and Amedeo Spadaro.
Microsimulation as a tool for evaluating redistribution policies.

Tullio Jappelli and Luigi Pistaferri.
The consumption response to income changes.
References XIV

Tullio Jappelli, Jörn-Steffen Pischke, and Nicholas S Souleles.
Testing for liquidity constraints in euler equations with complementary data sources.

Markus Jäntti, Jukka Pirttilä, and Risto Rönkkö.
The determinants of redistribution around the world.

Katrin Gasior, Chrysa Leventi, Michael Noble, Gemma Wright, and Helen Barnes.
The distributional impact of tax and benefit systems in five african countries.
Nora Lustig.
Commitment to equity handbook: Estimating the impact of fiscal policy on inequality and poverty.

H. Xavier Jara and Lourdes Montesdeoca.

Philipp Horn and Jean Grugel.
The sdgs in middle-income countries: Setting or serving domestic development agendas? evidence from ecuador.
Olaniyi Evans.  
Connecting the poor: the internet, mobile phones and financial inclusion in africa.  

Carla Canelas.  
Informality and poverty in ecuador.  

Carla Canelas.  
Minimum wage and informality in ecuador.  
Tim Goedemé, Karel Van den Bosch, Lina Salanauskaite, and Gerlinde Verbist.

Testing the statistical significance of microsimulation results: A plea.  

Martin Biewen and Stephen P Jenkins.

Variance estimation for generalized entropy and atkinson inequality indices: the complex survey data case.  


References XX

Peter Spahn.

Hilary Hoynes and Jesse Rothstein.

Dennis Egger, Johannes Haushofer, Edward Miguel, Paul Niehaus, and Michael W Walker.
Serhat Yüksel.
Determinants of the credit risk in developing countries after economic crisis: A case of turkish banking sector.

Abdul-Gafaru Abdulai, Abdul-Bassit Abubakari, and Jude Martey.
Is social protection in ghana a right?

Miguel Niño-Zarazúa, Armando Barrientos, Samuel Hickey, and David Hulme.
Social protection in sub-saharan africa: Getting the politics right.
References XXII

Eric W Bond, James Tybout, and Hale Utar.
Credit rationing, risk aversion, and industrial evolution in developing countries.

Abhijit V Banerjee.
Contracting constraints, credit markets and economic development.

Pascaline Dupas, Anthony Keats, and Jonathan Robinson.
The effect of savings accounts on interpersonal financial relationships: Evidence from a field experiment in rural kenya.

References XXIV

Maria Jouste and Pia Rattenhuber.
A role for universal pension? simulating universal pensions in ecuador, ghana, tanzania, and south africa.

Olivier Bargain and Tim Callan.
Analysing the effects of tax-benefit reforms on income distribution: a decomposition approach.

H Xavier Jara and Marcelo Varelas.
Tax-benefit microsimulation and income redistribution in ecuador.
References XXV

Audrey Berry.
The distributional effects of a carbon tax and its impact on fuel poverty: A microsimulation study in the french context.

Jekaterina Navicke.
Factors of the income inequality in the baltics: Income, policy, demography.

Manuel Schechtl and Rourke L O’Brien.
Fiscal impoverishment in rich democracies.
Sean Higgins and Nora Lustig.
Can a poverty-reducing and progressive tax and transfer system hurt the poor?