Compact CGE models of employment: Application for Honduras and Guatemala

Bill Gibson (University of Vermont, USA)
Diane Flaherty (UMass, Amherst)
Maynor Cabrera (Guatemala)

STRENGTHEN: Global Knowledge Sharing Workshop

How has it been used in the project

Guatemala and Honduras

- Analysis of impacts of
  - Infrastructure projects
  - Fall in coffee prices

Other Central American Countries

- Think thank (ICEFI) performed an analysis of impacts of public expenditure increasing

How has it been used in the project

- Coffee has been the main export product of Guatemala and Honduras during 20th century
- Even though is not as important in GDP or exports in 21st century, it still an important source of employment
- We analyzed the fall in 10% of international coffee prices and we identified relatively small effects in economic growth (0.4% in Guatemala) but huge impact in unskilled wages and jobs and a fall of 6% in poor households income

How has it been used in the project

- Guatemala and Honduras have great challenges in terms of competitiveness
- Honduras investment has been channeled though public private partnerships.
- Guatemala has the lowest ratio to GDP in public investment in Latin America during last 5 years.
- We analyze the impact of increasing public investment in infrastructure (1% of GDP).
- Besides boosting economic growth (+0.5%)
- We observed
  - better performance in wages and employment (specially in unskilled)
  - With a worsening of public accounts (0.8% in deficit increase).

How adaptable is to different country contexts/ sectors

Information constraints

- No official SAM or not suitable SAM
- Agricultura sector national accounts too aggregated

Demand for CGE models

- Only Central Banks use CGE models
- Evidence-based policies or discussion is not the norm
- Government interest is increasing

Skills of users

- Knowledge of CGE is limited and cost of opportunity of buying software for CGE (GAMS) is high
- Excel was welcomed by users

What are the limits of the method?

- Compact CGE is an upgrade compared with IO/SAM based models
  - Model specification could be more detailed in a transparent way
  - Dynamic-recursive analysis
  - Identifying impacts on household income, fiscal accounts & external accounts
  - Answer more questions still using Excel
- Compared with full CGE
  - Easier to calibrate and adapt for local actors
- Limited number of sectors analyzed (up to 3)
- Does not allow to analyze different interactions between economic activities
- Current version does not analyze effects on informal markets (but can be added…)
- Easy to use, less easy to adapt
- Complex questions could not be answered by Compact CGE models, but it could answer more question compared to IO/SAM based analysis

Next steps

- The reason to project embarked on this, was to try and move beyond just IO/SAM based analysis- but recognizing that going to a full CGE was not feasible
- Using a compact model you can prepare future users of more complex models, including full CGE