

# Collaborative Modeling Efforts Between the U.S. and Mexican Governments

Comments by an interested spectator  
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May 23, 2008



# Why build the model in the first place?

- Who are your clients?
  - Intergovernmental cooperation to foster mutual capacity building
- What do policy makers want?
  - Growth through non-traditional agriculture
    - biofuels (properly modeling bi-products)
    - industrialization of agriculture minimizes the role of price as an organizing activity which makes life difficult for modeler
  - Food processing and other post farm activities
    - data availability issues
  - Growth of agriculture through trade:
    - this growth is increasingly coming from two-way trade in processed non-bulk commodities
  - Aggregate measures of the welfare of the industry
- Policy Analysis
  - Brings out the unintended consequences (Mexico GTAP: wheat)

# Six Issues for Constructing Relevant Policy Models

- 1) Defining the commodity space with heterogeneous products
  - What is the relevant market? Is it sufficient to model the existing market with a premium or do we need to model a new market (yellow corn w/ premium or white corn model)
    - Data limitations with respect to measuring the appropriate premium or with acquiring the data for the new market
- 2) The Role of Vertical Relationships
  - It is as important to study vertical relationships as it is to study cross commodity effects
  - A complete modeling approach such as a computable general equilibrium (CGE) accounts for supply and demand in input mkts
    - Mexico – GTAP: 17% ↑ in land values for price shock

# Six Issues for Constructing Relevant Policy Models

## 3) Assessing Market Power

- What is the nature of the conduct- oligopoly, oligopsony or both? Who holds the market power – processors, retailers?
- “New-Empirical-Industrial-Organization” (NEIO) versus Structure/Conduct/Performance approach
  - Mexican tortilla market (two largest companies--GIMSA and MINSA--account for 70% and 27% of the market)

## 4) The Changing Nature of Government Support

- Method of support has changed to direct payments
  - Indirect effects versus price subsidies
  - PROCAMPO direct payments (Burfisher, Robinson, Thierfelder 2000)

# Six Issues for Constructing Relevant Policy Models

## 5) Trade Policy

- How do you account for intra-industry trade?
- Many policy disputes are bilateral
  - Preferential access (RTAs)
  - Applied versus bound tariffs
  - Tariff rate quotas (Mexican corn TRQ)
  - Foreign direct investment

## 6) Data Requirements

- Determined by the level of disaggregation and theoretical structure of the model
- Insufficient data to model new markets
- Calibrated models have the advantage that they are not as data intensive, but they need up-to-date parameters

# Principles for Model Development and Maintenance

(Antle, Meilke, Pope, and Vogel)

- All models should be documented, validated, and subject to peer review
- Models should meet the following performance standards:
  - models should be parsimonious
  - models should be consistent with economic theory
  - models should be validated by conducting sensitivity analysis with respect to key parameters and variables
- Different tasks will generally require different models – there is no general purpose model that will adequately meet all research needs
- All models, data and documentation should be publicly accessible to all researchers, preferably over the internet