

Technical merits of using CGE analysis to evaluate costs, benefits and impacts of air quality regulations¹

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CGE and PE analysis are complements

- I want to speak up in defense of PE models. I'm a big fan of PE models! Can be just as rigorous as GE models with domain of applicability**
- PE outputs as inputs to CGE: both costs and benefits sides**
- CGE outputs as inputs to PE post-simulation impact analysis (e.g. hhld impacts)**
- PE model as a source of parameters**
- PE model as 'sanity check' on CGE results**
- PE models remain essential component of analysis**

Four *additional reasons* to undertake CGE analysis of air quality regulations (beyond capturing GE effects)

- **Excellent reminder of basic economics and economywide accounting – if employ labor in one sector, can't be used elsewhere; if release labor it may well be reemployed elsewhere; subsidies must be paid for, etc.**
- **Welfare measures in CGE are clear-cut**
- **It is often hard to know where to draw the inter-sectoral boundaries in PE analysis – e.g., environmental impacts of biofuels spillover into livestock, forestry, petroleum**
- **Tracks earnings sources which are critical in impact analysis**
- **Walras Law offers a definitive check for missing flows (easy to lose track of hundreds of millions in a multi-trillion \$ economy!)**

Criteria to choose amongst CGE models

- **Appropriate features for the problem at hand (Rob's point)**
- **Tools for analysis/clarity of exposition (Rob Williams)**
- **Public availability/replicability**
- **Micro-foundations and peer review of component parts**
- **Ease of modification**
- **Thoughtful parameterization – capability to reproduce stylized facts pertinent to the problem at hand – validation of a sort**