

Regional effect of energy reform in Mexico: a computable general equilibrium model for Tabasco

Topic: (6.4) CGE Modelling (3)

Author: AÁ-da B. Armenta

Co-Authors: Bill Gibson, Diane Flaherty, Jorge Salazar-Carrillo

This paper presents a dynamic compact computable general equilibrium for the state of Tabasco, Mexico. The data used for the exercise is a social accounting matrix for Tabasco, developed by one of the authors. The simulations are original and address pressing policy problems faced by Mexico as it undergoes constitutional reform in the context of sharply lower world prices for petroleum. The research question is whether the region would be better off with one of two strategies:

- 1) developing its deepwater oil reserves, in which significant resources would have to be devoted to increasing the supply of highly trained and specialized skilled labor for the petroleum sector or
- 2) pursuing a educational strategy that does not prioritize the petroleum sector, but rather offers advanced education more broadly.

In either case, Tabasco will have to increase the flow of benefits from the petroleum sector that historically have been controlled by the state and PEMEX. This has been nearly impossible in the past, but the petroleum reform offers new opportunities, however, since regions can potentially tap resources of private sector entities for the purpose of local infrastructural investment.

The costs and benefits of different approaches to reform are explored through numerical simulations. On one hand, "aguas profundas" is a more profitable path that causes faster growth, but does not break with the traditional resource curse that has plagued Mexico and many other countries. On the other hand, local universities, through enlightened leadership and development, would aggressively respond to the demand for education in a range of critical fields, such as medicine, agricultural and industrial engineering and legal services. The effects from directing the benefits of petroleum sector reform toward these fields are shown in a second simulation. This strategy, "la reforma", confers benefits that are almost as large but carries less risk than the specialization implied by "aguas profundas". The paper is agnostic about which approach should be chosen, but clearly identifies relative costs and benefits as a guide to policymakers making the choice. It is concluded that Tabasco must continue to respond both to the "race between technology and education" and to "the interminable dance between progress and inequality."