Applied General Equilibrium Models

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Course objective:
Applied General Equilibrium (AGE) models are widely used for analysing economy-wide effects of various policies, such as, tax reforms, trade liberalisation, distribution policies, energy and environmental issues, etc. These models are useful for analysing issues where inter-sectoral and inter-agent linkages are crucial. This course is intended as an introduction to AGE models.

The course lays emphasis on model building and application in the areas of students’ interest.

Pre-requisites:
Microeconomics-II offered in IGIDR covering General Equilibrium Theory, including its assumptions, proof of existence, welfare properties, etc. This course WILL NOT cover the theory.

Grading:
Term paper based on computer application (50%) + Final written exam (50%).

Course rules:
Students are expected to meet the Institute norms on class attendance. Dateline for various course milestones will be given in the first class. Requests for extensions will NOT be entertained.

Course outline:
- **Introduction:** Introduction to AGE models, its features & uses; A simple 2 x 2 x 2 AGE model by Shovan & Whalley;
- **GAMS software:** Introduction to GAMS programming language; Demonstration using the Shovan & Whalley model;
- **Database for AGE models:** Input-Output tables; Social Accounting Matrix (SAM);
- **AGE model formulation and numerical solution methods:** Input-Output models; Walras-Cassel model; Linear programming approach; CGE format; Excess-demand format;
- **Implementation aspects:** Closure rules; Scenario development; Welfare comparisons of policy alternatives;
- **Some existing applications:** Armington assumption and trade focused models; trade liberalization applications; agricultural trade; price policies; distributional analysis; environmental applications;
- **Global modelling:** Data base and modelling issues; Introduction to the GTAP model;
- **Term paper using prototype model:** Prototype model – structure and GAMS code;
References

A) Essential readings


B) Advanced readings


C) Applications


D) GAMS software
