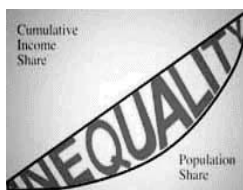


The Development Economics (DEC) Vice Presidency of the World Bank presents
a course on

Poverty and Inequality Analysis



Module 7: Evaluating the Distributional and Poverty Impacts of Economy-Wide Policies

April 28-30, 2009

U3-555

World Bank

Objective

Policy impact analysis entails *an assessment of variations in individual and social welfare attributable to an exogenous shock or the implementation of a policy*. Economic shocks and policies may have at once macroeconomic, structural and distributional implications working through a number of flow-of-funds variables, and a set of market and non-market institutions. This creates a need for an analytical framework that explicitly accounts for the interdependence between these three dimensions. The objective of this module is to provide participants with a sound understanding of the logic of social impact analysis and its application to the evaluation of the distributional and poverty impacts of economy-wide policies. The module focuses on general equilibrium modeling and microsimulation techniques, and presents a variety of case studies to illustrate the application of these methods.

Outline

Tuesday, April 28, 2009

Session I

9:00-10:30 THE LOGIC OF SOCIAL IMPACT ANALYSIS

Presenter: B. Essama-Nssah

Themes: There is an intimate relationship between effective policymaking and social impact assessment. Indeed, the policy objective defines the metric by which to assess its effectiveness, while effective methods of evaluation produce reliable information that can be fed back into policy design or reform. This introductory session expands on this idea, focusing on the fundamental dimensions of an evaluative framework: (1) the

specification of the *focal space* on the basis of the policy objective; (2) the identification of *winners* and *losers* based on variations in individual welfare; (3) *causal inference* to ensure that observed outcomes are indeed attributable to the shock or policy under consideration; and (4) the *ranking of social states* according to some evaluation criterion. These dimensions can also guide the construction of a *policy model* (implicit or explicit) linking policy instruments and socioeconomic outcomes. It is assumed that the observed distribution of living standards (and hence poverty and inequality) in any society depends on individual *behavior* and *endowments*, and the socio-political arrangements that govern socioeconomic *interaction*. A policy model can therefore be thought of in terms of two generic components: (1) a structural model of *individual behavior* and *social interaction* to explain outcomes, and (2) a *social evaluation function* to assess the desirability of such outcomes.

10:30-11:00 Break

Session II

11:00-12:00 EQUALITY OF OPPORTUNITY AS A SOCIAL EVALUATION CRITERION

Presenter: Francisco H. G. Ferreira

Themes: Following the general discussion of social evaluation criteria in Session I, this session introduces *equality of opportunity* as a relevant concept for evaluating different distributional outcomes. The session briefly reviews the intellectual origins of the concept, and focuses on John Roemer's definition of equal opportunities. A class of measures of inequality of opportunity that follows directly from that definition is presented, with empirical examples. The concept of *opportunity deprivation profiles* is introduced, and compared to standard poverty profiles. This leads naturally to the definition of equitable development policy as the set of policies that maximize the future stream of advantage for the least privileged group. We close with a discussion of how these concepts may be used to evaluate counterfactual distributions, such as those discussed in the remainder of this course.

12:00-2:00 Lunch

Session III

2:00-3:30 DISTRIBUTIONAL AND POVERTY IMPACT ANALYSIS WITHIN A GENERAL EQUILIBRIUM FRAMEWORK

Presenter: B. Essama-Nssah

Themes: This session uses a stylized simulation model to illustrate distributional analysis in a general equilibrium framework. The first component is a two-sector computable general equilibrium (CGE) model based on an extension of the generalized Salter-Swan model of international trade. The second component is a poverty module composed of two parameterized Lorenz curves representing the distribution of economic welfare in the rural and urban sectors. It is assumed that the government has three tax instruments available: tariffs on final and intermediate goods and an indirect tax on domestic sales. All government revenue is transferred to two representative households (rural and urban). The framework is used to simulate the social impact of Dutch disease, variations in the terms of trade and fiscal policy reforms.

Wednesday, April 29, 2009

Session IV

9:00-10:30

THE POVERTY IMPACT OF SCALED-UP GOVERNMENT SPENDING: A GENERAL EQUILIBRIUM ANALYSIS

Presenters: Hans Löfgren and Carolina Diaz-Bonilla

Themes: Governments have to make strategic decisions regarding how much to spend, how to finance this spending, and how to allocate it across different areas. The Maquette for MDG Simulations (MAMS), a dynamic-recursive computable general equilibrium (CGE) model that links the provision of social services to outcomes (inter alia in terms of growth, poverty, and human development indicators), is designed to analyze the effects of such decisions. This session introduces MAMS and reviews microsimulation and representative-household approaches to poverty analysis in conjunction with CGE models. In an exercise, the participants analyze the poverty impact of scaled up government spending on infrastructure with and without a parallel increase in foreign aid, drawing on a recent application of MAMS to a developing country.

10:30-11:00 Break

Session V

11:00-12:00

MICROSIMULATION APPROACH TO POLICY EVALUATION

Presenter: B. Essama-Nssah

Themes: Policymaking is fundamentally a political process to the extent that it involves strategic interaction among socioeconomic agents subject to potential conflict stemming from *heterogeneity of interests*. Such heterogeneity may reflect differences in tastes, resource endowments or other socio-demographic characteristics. The microsimulation approach

generally relies on a microeconomic model to simulate the consequences of a policy reform on the level of activity or welfare for each individual in a representative sample for the whole population. It thus provides a more precise way of identifying likely *winners* and *losers* from a policy reform. This approach also improves accuracy in evaluating the impact of a policy on the government budget. This session focuses on both the *envelope* and *discrete choice* frameworks guiding the design and implementation of microsimulation models on the basis of the assumed behavior of economic agents. Examples of applications to the analysis of the welfare effects of changes in the tax-benefit system will also be discussed.

12:00-2:00 Lunch

Session VI
2:00-3:30

AID, PUBLIC INVESTMENT, GROWTH AND THE MDGs: A
QUANTITATIVE ANALYSIS USING THE SPAHD MODEL

Presenter: Emmanuel Pinto Moreira

Themes: In a number of low income countries (LICs), Poverty Reduction Strategy Papers (PRSPs) have become a strategic framework for designing policies and actions to fight poverty. They also help to anchor and frame donor assistance to LICs. However, many existing PRSPs suffer from the lack of a quantitative analytical framework to assess the effects of poverty reduction strategies and evaluate progress in their implementation. More importantly most PRSP documents do not contain a quantitative analysis of the linkages between foreign aid, public investment, growth, and human development.

This session will present a model called “Strategy Paper for Human Development” (SPAHD), which captures the links between foreign aid, the level and composition of public investment, the supply-side effects of public capital, growth and poverty in the context of a “typical” low-income country. It focuses on the fiscal and supply-side effects of aid, as well as the stock and flow effects of public investment---which is disaggregated into education, infrastructure, and health -- while accounting at the same time for potential congestion effects associated with the use of public services. It is designed to examine how debt relief, as well as increased aid and aid-funded levels of public investment, coupled with changes in the allocation of public expenditure can stimulate growth and lead to sustained poverty reduction.

An application of a SPAHD model will be presented using the case of Niger.

Thursday, April 30, 2009

Session VII.

9:00-10:30 SIMULATING THE DISTRIBUTIONAL IMPACTS OF THE 1998
DEVALUATION OF THE BRAZILIAN REAL

Presenter: Francisco H. G. Ferreira

Themes: As an additional example of techniques used to investigate the poverty impact of economy-wide policies (or shocks), this session introduces a macro-micro model that relies on an econometrically-estimated augmented IS-LM model on “top”, linked to a set of simple behavioral models estimated on a household survey at the “bottom”. Unlike in general equilibrium modeling, no calibration is involved: All structural relationships are estimated from time-series or cross-section data. The macro and micro modules are linked by a set of meso-level wage rates, prices, and employment demand levels, known collectively as “linkage aggregated variables” (LAVs). A convergence algorithm is used to simulate changes in household level occupations and incomes that are ultimately consistent with the aggregated changes predicted by the macro module. The tool is applied to the study of a large devaluation of the Brazilian Real, in 1998-99, and the performance of the model is assessed by comparison with real ex-post data.

Session VIII.

11:00-12:30 ECONOMY-WIDE AND DISTRIBUTIONAL IMPACTS OF AN OIL
PRICE SHOCK ON THE SOUTH AFRICAN ECONOMY

Presenter: Delfin S. Go

Themes: An increase in crude oil prices is bound to fuel concern about the impact of external shocks on growth and poverty in developing countries. This final session uses a CGE-microsimulation framework to analyze the structural and distributional consequences of a significant increase in the world price of oil on the South African Economy. The microsimulation component is framed within the logic of Roy (1951) occupational choice model. It is found that the oil price shock tends to increase the disparity between rich and poor. Furthermore, unemployment hits mostly low and medium-skilled workers in the service sector. High-skilled workers are the most likely winners from the oil price shock.