

2. Implications of biofuels on food and fuel consumers and producers

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Governments have promoted the production of ethanol and biodiesel out of concern for climate change and energy security, and from the desire to find another mechanism for supporting their agricultural sectors. Biofuel policies, which guarantee markets and provide incentives to producers and consumers, have cost billions of dollars per year. The current global food crisis and the questionable greenhouse gas savings of the current generation of biofuels have led governments to re-examine policies that promote a technology that diverts land from its two predominant uses — food production and environmental preservation.

The effect of biofuels on the world's poor may differ considerably in the short and the medium run. Developing countries likely do not have a comparative advantage in corn production, and food importers are harmed by higher corn prices. However, several developing countries do have a comparative advantage in sugarcane, the most efficient feedstock used today in ethanol production. The next generation of biofuels will use other feedstocks, including Miscanthus, switchgrass, and Jatropha, which can be grown on marginal land and irrigated with saline water and still yield greater ethanol per acre than existing feedstocks. Developing countries are likely to have a comparative advantage in some of these crops. For example, India may have substantial acreage that can be used for Jatropha. South American countries and sub-Saharan Africa could significantly expand their agricultural land base to accommodate bioenergy crop production.

The expansion of biofuels benefits energy consumers by lowering gasoline prices and hurts consumers of food, particularly the poor who devote a large share of their incomes to food. We will use a range of demand and supply elasticity estimates to approximate the short run welfare effects, in the United States and in the Rest of World, of ethanol production. Initial results show that the world (excluding oil exporters) aggregate net benefit of ethanol is substantial under the most optimistic elasticity assumptions. In all cases, however, food consumers lose. In more pessimistic scenarios,

the losses to food consumers are greater than the gain to gasoline consumers, leading to net welfare losses.