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Does food aid have disincentive effects on local production? A general equilibrium perspective on food aid in Ethiopia

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Abstract

This paper examined impacts of food aid on domestic food production employing a computable general equilibrium modelling technique and using data from Ethiopia. The simulation experiments have shown that food aid has unambiguous disincentive effects on domestic food production. The removal of food aid caused a modest increase in food prices but this stimulated food production. Employment and income generation effects of the latter outweighed the adverse effect of the former. Consequently, the removal of food aid led to improvements in aggregate household welfare. Contrary to some concerns in the food aid literature that any reduction in food aid would hurt the poor, the simulation experiments suggested that actually poor rural households and urban wage earners are the ones who benefit most in absence of food aid but entrepreneurs are more likely to encounter a marginal welfare decline. We have distinguished between in-kind food aid and cash equivalent transfers in order to isolate the disincentives that in-kind transfers would make to domestic production from those that are related to household purchasing power problem. The expansionary effect of removing food aid becomes significantly larger when it is accompanied by cash equivalent payments because the latter would provide demand side stimulus to agriculture while the removal of in-kind transfers would stimulate supply side, with the supply and demand side effects reinforcing each other. In our modelling framework, the only adverse effect would be a modest deterioration in the external current account, because the expansionary effects of food aid would cause imports to rise but exports to fall.

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Introduction

There has been a growing need to explain the role of food aid in alleviating poverty in less developed countries. Many researchers have critically examined associations between the level of food aid and rising level of poverty in the recipient countries. Although food aid has been a heavily researched topic, most studies have assessed only one aspect of the transfer such as: food aid's impact on domestic agricultural production (Schultz, 1960); domestic price (Gabre-Madhin et al., 2003; Barrett, 2003; Barrett et al., 1999), factor supply (Barrett and Clay, 2003; von Braun et al., 1999; Holden et al., 2003; Bezuneh et al., 1988) relative efficiency of in-kind food aid and cash payments (Sen, 1986; Coate, 1989; Basu, 1996; Faminow, 1995); and whether or not food aid reaches target households (Clay et al., 1999; Jayne et al., 2001).

The impact of food aid on domestic economy in the recipient country are mostly analysed in a partial equilibrium context. However, the existence and importance of system-wide effects of food aid are widely acknowledged in the literature. In spite of some attempts at developing some analytical frameworks tracing general equilibrium effects of food aid as early as 1980s (Bhagwati, 1985), general equilibrium analysis has rarely been applied to food aid issues. This is despite the fact that there has been vastly increased application of computable general equilibrium (CGE) on a wide range of policy analysis in LDCs in recent years. Few existing CGE applications on this subject so far have generally focused more on assessment of general food aid requirements (Wobst, 2001; Fontana et al., 2005) or specific food aid targeting (Arndt and Tarp, 2001) than disincentive of food aid on domestic food production and the feed-back effects of this on the rest of the economy.

This paper would make a modest attempt to fill this gap in the literature. We concentrate on the disincentive of food aid on food production in Ethiopia and employ a computable general equilibrium modelling approach, relying on a social accounting matrix and associated database created recently for Ethiopia through a project sponsored by the World Bank. More specifically, the general equilibrium analysis focuses on differential impacts of in-kind transfers and cash equivalent payments. It is found that cash payment is by far the most effective form of aid because it simulates domestic production, factor employment and household welfare.

The paper is structured as follows. The first section provides an overview of food aid to Ethiopia. The second section highlights key features of the CGE model developed for this study with a focus on the specification of food aid. Section Simulation results are discussed the third section. Concluding remarks are made in a final section.

Overview of food aid in Ethiopia

Ethiopia is one of the least-developed countries in the world; predominantly an agrarian economy with about 85% of the population living in rural areas. Subsistence agriculture is the mainstay of the Ethiopian economy accounting for about 42% in 2003 of the