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Who gets the goods? A general equilibrium perspective on food aid in Mozambique

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Abstract

We employ a computable general equilibrium approach to examine the effects of alternative food aid distribution schemes for drought-response food aid to Mozambique. Alternative schemes have very distinct impacts on household welfare and prices. Compared with monetization of food aid by government, direct distribution to households (by population shares) strongly benefits rural households. Even assuming that government cannot target food aid strictly at drought-stricken rural people, our results indicate that, when improving household welfare is the primary goal of the food aid, direct distribution of food aid to households is preferred.

Keywords: Food aid; General equilibrium modelling; Mozambique

Introduction

Even though food aid (surveyed by Maxwell and Singer, 1979) has progressively declined as a share of total official development assistance from more than 15% in the early 1970s to less than 5% in the 1990s food aid has always been a controversial form of aid. It has generated debate, and volumes have been written. Much of this literature focuses on the political economy of food aid and whether food aid is 'additional' (e.g., Colding and Pinstrup-Andersen, 2000; Ruttan, 1993); the impacts of food aid on agricultural production in the recipient country (e.g., Barrett, 1998; Isenman and Singer, 1993); and the real cost of food aid relative to other forms of

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development assistance (e.g., Clay et al., 1996). A second strand of literature examines monetization — whether food aid, particularly project or emergency, should be sold or distributed to consumers directly (e.g., Dorosh and Haggblade, 1997; Maxwell and Templer, 1994; Reutlinger, 1984).

Questions regarding the impact of food aid are typically, and appropriately, posed and analyzed in a partial equilibrium context. Nevertheless, general equilibrium effects of food aid are widely acknowledged to exist and to be important. The analytics of food aid in general equilibrium have, for example, been traced out by Bhagwati (1985). However, despite vastly increased capacity to conduct applied or computable general equilibrium (CGE) analysis in recent years, relatively little CGE analysis has been conducted on food aid issues. The CGE analyses conducted to date have generally focused on assessment of food aid needs (Riaz, 1992; Sadoulet and de Janvry, 1992). The present article seeks to contribute to the debate regarding monetization of food aid using a general equilibrium approach. Specifically, the general equilibrium effects of alternative distribution schemes for food aid following a drought are examined for the case of Mozambique. We find that different distribution schemes (e.g., who takes possession of the food for either direct consumption or resale) have very distinct general equilibrium effects.

The remainder of this paper is structured as followed. Section 2 provides background on food aid to Mozambique. Section 3 presents the CGE model employed with special attention to unique features of the model and the treatment of food aid. Section 4 discusses simulations and results. A final section concludes.

Background on Mozambique

The population of Mozambique is predominantly rural and overwhelmingly poor. Analysis of data from the 1996–1997 marketing year (a good production year) revealed that 64% of the rural population had insufficient calories available to meet the requirements of household members (MPF/UEM/IFPRI, 1998). Primary agriculture accounts for about 25% of gross domestic product (GDP) (NIS, 1998), rural households are heavily dependent on agriculture for income (Benfica, 1998), and home consumption of own agricultural production accounts for 40% of total expenditure by rural households (Arndt et al., forthcoming). In addition, climate induced variability in agricultural production can be large (Rojas and Amade, 1997).

In this environment, the economic impacts of drought can be substantial; and food aid can play a significant role in palliating the negative effects of drought. To give an extreme example, due to the combined effects of war and drought, the Mozambican population essentially subsisted on food aid in 1992 (Tschirley et al., 1996). Since that time, the return of peace and good rains have helped to dramatically increase agricultural production and reduce food imports. Trends in production and imports of maize are shown in Fig. 1. Import data are not yet available for 1998 and 1999. However, the Southern African Development Community Food Security Unit pro-