

How much food aid is enough? Insights for WTO rulemaking

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Abstract

Discipline on food aid has become a contentious international trade issue. Some WTO members worry that food aid can circumvent the elimination of export subsidies. A major shift in focus is required to find a solution that is in the best interest of both potential recipient and donor countries. A dynamic optimal control model is developed and used to simulate the delivery of food aid under a number of potential WTO disciplines. The results indicate that some levels of food aid produce adverse effects and determining an optimal quantity of food aid in trade agreements presents a considerable challenge.

Keywords: agriculture, developing countries, food aid, WTO

JEL: O13, Q17, Q18

1. Introduction

The Doha Round of World Trade Organization (WTO) negotiations have become bogged down over a number of apparently intractable issues pertaining to trade in agricultural products. Discipline for food aid is one of those issues. It falls under the export subsidy pillar of the agricultural negotiations and the need for WTO disciplines arises from food aid's potential use in circumventing commitments on the elimination of export subsidies and disciplines on export credit guarantees. As yet, proposed disciplines remain poorly defined and *ad hoc* – they lack a sound theoretical basis. The central question that WTO members have failed to address is: 'What quantity of aid should be delivered?' If too little is delivered, then hunger and malnutrition will persist. If too much is delivered, farmers may face prices that act as disincentives to production and lead to ongoing food supply shortfalls. Hence, WTO disciplines on food aid must be devised in a dynamic context that is consistent with sustainable agriculture in developing countries. Although the motivation for delivering an ideal quantity of aid to prevent disincentive effects is markedly different from the motivation

for doing so to prevent surplus disposal, both food aid proponents and competing agricultural exporters could benefit from the identification of an *optimal* quantity of food aid. This paper develops an optimal control model that generates a definition of optimal emergency food aid and simulates the effects of a range of aid paths on food production in a recipient region.

The paper begins with a discussion of the theory and evidence for disincentive effects and the trade policy environment within which food aid is delivered. A formal model is then introduced and simulated along a range of food aid paths. Discussions of the insights gained are followed by conclusions.

2. Food aid, production disincentives and trade rules

On one level there is an inherent conflict between guidelines that ensure the viability of food aid and the development of multilateral trade rules that discipline aid shipments. Humanitarian advocates seek food aid guidelines that ensure delivery of adequate and beneficial shipments, while policy makers from competing agricultural exporting countries seek to discipline the use of food aid as an avenue for circumventing export competition disciplines. Closer examination reveals that there may be a mutually beneficial connection between the objectives of the two groups. More food aid is not always better from a recipient's perspective, a premise upon which rules on allowable food aid could be built into the WTO Agreement on Agriculture. There exists a fine line between an *optimal* quantity of food aid that provides sufficient aid to meet nutritional shortfalls while not flooding the recipient market so as to depress local prices. If an *optimal* quantity of food aid could be identified from the recipient's perspective, then such a quantity could form the basis of WTO rules on allowable food aid.

2.1 Schultzian disincentive effects

Production disincentive effects were first analysed in the seminal article by THEODORE SCHULTZ (1960) that assessed the implications of US food aid shipments. Schultz asserted that aid shipments into a recipient country act as an instantaneous supply shock and have a negative impact on domestic price. Recipient-country production declines according to supply elasticities.

The analysis of food aid's disincentive effects can also be extended to consider long-term consequences. First, if there is a short-term decline in agricultural production, then physical capital may depreciate and labour may relocate away from farms. If this capital and labour is not replaced, then long-term production may not recover. Further, food aid may take the pressure off of recipient-country governments to invest in, and

pursue, policies to encourage sustainable agricultural production (ROTHSCHILD, 1993). Politicians may feel that food aid provides an opportunity to focus policies on urban and industrial development at the expense of domestic agriculture.

The analysis of the effects of food aid can be broadly grouped into two categories. The first category employs comparative statics that trace the effects of aid on recipient-country food supply. FISHER (1963) and SRINIVASAN (1989) demonstrate how a positive food aid shock could reduce recipient-country food prices and subsequently local food production. These effects have been quantified by MANN (1968) and by ROGERS et al. (1972) – both studies find that aid deliveries have a concurrent depressing effect on domestic price and a negative two-period lagged effect on domestic output.

More recent studies have yielded mixed results on the effects of food aid on recipient-region production. DONOVAN et al. (1999) use VAR estimation to simulate the effects of food aid on maize prices in Mozambique. Their simulations show that maize prices would have been higher in Mozambique in the absence of food aid shipments and that “a disincentive effect on domestic production and marketing cannot be ruled out in the longer run” (pp. 347). BARRETT et al. (1999) also use VAR estimation and find that “the data support the SCHULTZIAN critique that food aid discourages recipient country production in the short run” (pp. 655). GELAN (2007) uses a computable general equilibrium model to identify significant disincentive effects in simulations using Ethiopian data. A recent study by KIRWAN and MCMILLAN (2007) analyses the effects of food aid shipments in Ethiopia and finds “the significant potential for wheat food aid to affect producer prices and incentives to invest in wheat”. The authors also suggest that food aid deliveries may have contributed to an increased reliance on food aid in the long run. Recent studies by ABDULAI et al. (2005) and by LOWDER (2004) did not, however, identify significant disincentive effects. The former finds that food aid does not create disincentive effects, while the latter observes that food aid displaces imports, but does not deter local production.

Given the mixed empirical evidence of disincentive effects, one must not presume that food aid will necessarily generate negative price and production effects. The detection of such effects seems to depend on both the case that is being analysed and the modelling technique. Also, the effects of food aid on local production depend on the level of targeting and the delivery mechanisms. Untargeted aid that results in “inclusion errors” (BARRETT and MAXWELL, 2005) and monetised aid is more likely to generate such negative effects. However, the strong theoretical basis and existing empirical evidence of disincentive effects warrants investigation into the identification of an optimal quantity of aid.

2.2 Food aid and the WTO

The first appearance of food aid in a specific WTO agreement is Article 10 of the WTO's Uruguay Round Agreement on Agriculture (URAA). Article 10 provides guidelines that signatory donor countries are to follow to prevent the circumvention of export subsidy commitments. The first of these guidelines calls for food aid to be untied; that is, aid should not be dependent on procurement from a specific country (usually the donor) or group of countries. This guideline has been widely flouted by donor countries. A mere 12-15% of food aid is untied compared to 67% of non-food aid (CLAY, 2006).

The second guideline to emerge from the URAA defers to the FAO's "Principles of Surplus Disposal and Consultative Obligations" as outlined by the Consultative Subcommittee on Surplus Disposal. This guideline calls for the maintenance of Usual Marketing Requirements¹ and the reporting of aid shipments. The maintenance of Usual Marketing Requirements and aid reporting are not enforced by the WTO, and are widely flouted by donor countries (for example, the share of aid reported has trended down since 1991 (FAO, 2003)). The Principles also call for food aid to be provided in grant form, as opposed to sold under credit or subsidy arrangements. Most donors comply with this guideline with the notable exception of the US, which provides up to 20% of its food aid as concessional sales (YOUNG, 2002).

Despite the growing emphasis on food aid in trade negotiations, it is WTO rules on export competition that might have the most significant effects on food aid shipments. Stricter trade rules that reduce the quantity of commodities that are shipped under export credit guarantees and export subsidies might increase the pressure for disposal of domestic surpluses through other channels, i.e. food aid. The URAA negotiations produced disciplines on agricultural export subsidies, but export credits remain undisciplined. Hence, there remains undisciplined access to three primary outlets for domestic agricultural surplus (export credits, food aid and storage) under the current agreement. The emergence of food aid as an issue in DDA negotiations is largely the result of tensions between the European Union (EU) and the US. EU negotiators view US food aid policy as a form of export competition, and are seeking constraints on US aid shipments in reciprocity for reductions in their own export subsidies. The US is increasingly isolated in its insistence on sourcing food aid domestically, as most other large donors make use of local and triangular purchases (most European Commission food aid shipments are sourced outside the EU and Canada has recently announced that all future food aid procurement will be untied from domestic sourcing).

¹ Usual Marketing Requirements are an attempt to ensure that food aid provides wholly additional consumption; food aid should not displace commercial imports.