



Does nutrition-sensitive aid reduce the prevalence of undernourishment? [☆]

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ABSTRACT

This paper examines the impacts of nutrition-sensitive sector aid inflows on the prevalence of undernourishment. We find nutrition-sensitive aid can reduce undernourishment. Estimates suggest that a 10% increase in overall nutrition-sensitive aid would approximately decrease hunger by 1.1% 2 years later on average. Among nutrition-sensitive aid inflows, we find that emergency food aid reduces hunger a year later and that food aid is more effective than emergency food aid at reducing medium-term hunger. A 10% increase in food aid per capita would result in a 1.3% decrease in hunger 3 years later on average, against 1% for a similar increase in emergency food aid per capita. Generally, the size of the aid effects on hunger depend on the time horizon considered in the empirical analysis. Our findings provide supporting evidence for the prioritization of specific nutrition-sensitive investments within the SDG agenda, while simultaneously challenging the relative reallocation of nutrition-sensitive aid that has reduced the role of food and emergency food aid inflows.

1. Introduction

A majority of the aid literature has concentrated on the impacts of foreign aid on economic growth (e.g. Burnside and Dollar, 2000; Easterly et al., 2004; Rajan and Subramanian, 2008; Arndt et al., 2010). Yet, little is known of the relationship between aid and hunger. Does foreign aid reduce hunger? Does the sector composition of aid matter for hunger reductions? This paper especially analyses whether nutrition-sensitive aid reduces hunger. Given the Sustainable Development Goals (SDG) agenda that has vowed to end all forms of malnutrition by 2030, the need for answers is especially high.

Ensuring households' access to food through sustainable incomes is traditionally a key component of food security strategies. Increased economic growth, however, may not always be associated with improvements in the hunger situation of developing countries (e.g. Subramanyam et al., 2011). Food security strategies may indeed be unsuccessful if they fail to recognize the complex and idiosyncratic socio-economic causes of hunger, which extend far beyond demand-driven issues.

Hunger is a challenge faced by nearly 800 million people in the world (FAO et al., 2014), with well-established long-run consequences on economic growth, poverty, and child mortality (e.g. Black et al.,

2008). There has been some progress in recent years as the prevalence of undernourishment in developing regions has decreased from 23.4% to 13.5% between 1990 and 2014. This apparent success, however, must be weighed against the very high number of undernourished people in the world (more than 10% of the planet) and the prolonged existence of regional hunger hotspots.¹

In the face of this human tragedy policymakers have recognized the need for a multi-sectoral approach that addresses the multiple dimensions of undernourishment. On one hand, nutrition-specific actions target the immediate causes of undernutrition, such as inadequate dietary intake, feeding practices, or access to food. These actions, including the promotion of breastfeeding and the implementation of micronutrient programmes, have generally been recognized to be effective in the fight against hunger (Bhutta et al., 2008) and they are the cornerstone of food security strategies. On the other hand, nutrition-sensitive investments, which incorporate nutrition goals and actions from a wide range of sectors such as health, agriculture or food security, address some of the underlying causes of fetal and child undernutrition and development (Ruel et al., 2013).

In recent years there has been an increasing awareness of the role of nutrition-sensitive investments and interventions (e.g. Scaling Up Nutrition, <http://scalingupnutrition.org>), particularly because they are

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¹ Those are mainly concentrated in Sub-Saharan Africa where about one in four people remain undernourished.

expected to be more effective in the long-run when they are complemented with improvements in the underlying determinants of undernutrition. This impetus has been, at least partially, supported by increased Overseas Development Assistance (ODA) inflows. Yet, it is unclear how nutrition-sensitive aid has contributed towards hunger reduction and which type of sector aid is most effective. This paper addresses the gap in the literature.

Using annual data from 2002 to 2015 for a sample of 95 developing countries, this paper assesses the aggregate impacts of nutrition-sensitive foreign aid on extreme hunger, with particular attention to food and emergency food aid inflows, using dynamic panel data models accounting for time-invariant and time-varying omitted variables and (aid) endogeneity. The focus on the aggregate impacts of aid aims to sidestep concerns over the cumulative and long-lasting efficiency of aid at the micro-level and, at times, the absence of a consistent micro-economic evidence base for sectoral interventions (e.g. agriculture interventions and nutrition, see [Webb and Kennedy, 2014](#); [DFID, 2014](#)).

Moreover, the dramatic relative reallocation of nutrition-sensitive aid that has taken place in the last fifteen years justifies the examination of food and emergency food aid inflows. In 2003 food aid was the largest component of nutrition-sensitive aid² at 21%, followed by food emergency aid, representing 17% of nutrition-sensitive aid. By 2015, their relative shares had respectively decreased to 6% and 11%. This may have resulted from policymakers' diminishing confidence in the capacity of food aid and related assistance to substantially reduce hunger. While food aid has long been criticized for having adverse effects ([Schultz, 1960](#); [Stevens, 1978](#); [Barrett, 2006](#)), there is mixed evidence on the overall impacts of food aid on nutrition ([Awokuse, 2011](#)) and it is not clear whether this relative reallocation has been an effective strategy.

Perhaps, more fundamentally, this question is important because of the current political context. With the end of the MDG era in 2015, impact assessments are necessary to review the efficiency of previous nutrition-sensitive investments. Similarly, any evidence on nutrition aid effectiveness may be equally valuable for designing interventions within the SDG agenda. Particularly, determining which (nutrition-sensitive) sector(s) should be prioritized is important and highly debated in policy circles. While there are existing studies to support the prioritization of specific sectors (e.g. [Smith and Haddad, 2015](#); [Soriano and Garrido, 2016](#)), they do not allow for a comparison of relative costs implied by increased sectoral investments. By contrast this paper accounts for monetary inflows associated with sectoral investments and therefore for the costs of investing in particular nutrition-sensitive sectors and provides answers with respect to the prioritisation of aid in the fight against hunger.

The paper is organized as follows. Section 2 discusses the background on nutrition-sensitive aid with a focus on food aid. Section 3 presents the data. Section 4 describes the modelling and estimation strategy. Section 5 analyses the results. Section 6 concludes.

2. Background

From an analytical perspective, one can logically expect that foreign aid specifically targeting hunger through the provision of food and related assistance may help in alleviating hunger, though a distinction is needed between food aid and emergency food aid. Food aid aimed at tackling longer term hunger and achieving food security includes “the supply of edible human food under national or international programmes including transport costs, cash payments made for food supplies or food aid for market sales” ([OECD, 2016](#)). For example, food aid shipments (or in-kind aid) may have a direct effect on undernourished people as long as several conditions are met. First, aid should benefit

those who actually need it, that is, food insecure people ([Lentz and Barrett, 2008](#)). If in-kind aid is poorly targeted, recipient households are more likely to trade the additional food on the markets, thus creating ripple effects on local markets. Second, the timing of food aid delivery is critical. In-kind aid is more likely to be (in)effective if it is provided during the lean (harvest) season or during local production shortfalls. Third, the size of food aid shipments should be limited as large inflows are more likely to disrupt local markets ([Tadesse and Shively, 2009](#)).

The modality of aid, that is, in-kind versus cash, may also be an important factor of aid effectiveness. At the household level, if aid is monetized (that is, if the household sells the food, rather than consuming it), it provides additional finance to the recipient, therefore relaxing its budget constraint and preventing the sale of assets, such as livestock or land, during crises. Conversely, (fixed) cash payments do not allow households to buy the same quantity of food in an environment of increasing food prices. At the national level, if monetized aid results in fewer taxes, more investment, or lesser food imports,³ it may arguably support hunger reductions. In most developing countries, however, mismanagement is more likely to prevail given the rampant corruption and the lack of strong institutions. Last, there are several operational factors that may be essential for maximizing food aid impacts, some of which include, transport, administration and delivery costs, nutritional quality of food shipments or local market integration ([Barrett, 2006](#)).

Concerns have thus been raised regarding the efficiency of food aid in the presence of poor targeting, market disruptions or high administration costs. [Schultz \(1960\)](#) illustrates that the additional food supply resulting from food aid shipments may have indirect effects since it depresses local producer prices and therefore creates disincentives for local agricultural production. This may in turn delay or limit further private investments in improved agricultural technologies, storage and transport capacities. It also can reduce the need for productivity-enhancing policy reforms and public investments, hampering food security for many in the medium run ([Awokuse, 2011](#)). However, [Mohapatra et al. \(1999\)](#) show that the effect of food aid on agricultural production is analytically ambiguous in low-income economies with high-transaction costs because of the existence of offsetting factor market effects. The extent to which depressed output prices may be compensated by the latter determines the net impact on farm output in the presence of market failures.

On the other hand, emergency food aid is aimed at sustaining short-term nutrition security. It includes “general free distribution or special supplementary feeding programmes as well as short-term relief to targeted population groups affected by emergency situations” ([OECD, 2016](#)). It is widely recognized that this type of food aid has been effective in protecting millions of people over several decades ([Barrett, 2006](#)). The lack of timeliness and high costs of delivery may, however, reduce the effectiveness of short-term food relief, in line with the issues relative to food aid discussed above. Targeting issues may particularly be exacerbated with emergency food aid. In civil conflicts or in war zones, food can be used as a weapon or payment for political support, and as a result, food aid may not reach the populations at risk.

From an empirical perspective, a recent literature review by [Awokuse \(2011\)](#) suggests that no clear consensus exists on whether food aid has positive nutritional effects for food insecure households, or whether it results in lower agricultural production in recipient countries. For example, [Gelan \(2007\)](#) finds that food aid has very clear, unambiguous disincentive effects in Ethiopia. Earlier, [Barrett et al. \(1999\)](#) examine the impact of US food aid using a sample of 18

² This calculation is based on our measurement of nutrition-sensitive aid that we explain in the data section.

³ In this context, monetized aid implies that the recipient government sells the in-kind aid to producers who turn around and sell the agricultural commodities on local markets. While the government may use the proceeds towards relevant pro-business and/or social policies (e.g. lesser taxes or higher investments), the added output on local markets lessens the need for food imports overall.

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