ELSEVIER
www.elsevier.com/locate/worlddev

World Development Vol. 48, pp. 133–155, 2013

0305-750X/$ - see front matter

http://dx.doi.org/10.1016/j.worlddev.2013.03.010

How Effective are Cash Transfers at Improving Nutritional Status?

JAMES MANLEY and SETH GITTER
Towson University, USA

and

VANYA SLAVCHEVSKA *
American University, Washington, USA

Summary. — Cash transfer programs have not always affected children's nutritional status. We reviewed 30,000 articles relating cash transfer programs and height for age, finding 21 papers on 17 programs. Applying meta-analysis we examine the overarching relationship, finding that the programs' average impact on height-for-age is positive, but small and not statistically significant. We evaluate many programs, child and local characteristics' correlation with estimated outcome. Conditional programs statistically accomplish the same as unconditional. However, conditionalities not related to health or education strongly inhibit child growth. We see girls benefiting more than boys and more disadvantaged areas benefiting more.

Key words — cash transfers, social assistance, nutritional status, height for age, multi-country

1. INTRODUCTION

One of the most widely implemented development policies over the past years has been the Cash Transfer (CT) program, implemented in as many as 48 countries as of 2008 (see Barrientos, Niño-Zarazúa, & Maitrot, 2010 for a list). Targeted toward the poor, these programs distribute cash payments. A common variant, the Conditional Cash Transfer program (CCT) distributes cash if recipients meet conditions typically including sending children to school and/or getting regular health care.

CT programs have achieved success on many fronts, such as improving consumption levels, school attendance, and access to health care (particularly preventive health care, such as growth monitoring and vaccinations) while decreasing child labor (Fiszbein & Schady, 2009). However, these programs have not consistently improved recipient children's height for age, a common measure of nutritional status. Sometimes this is a stated objective and sometimes not; still, the question arises of whether the transfers are increasing consumption, and if those consumption gains are translating into improved health for members of the household. Since the health of pregnant women and young children can be seen in young children's nutritional status, a look at height for age shows whether the transfers are achieving improved health for some of the recipients. This paper analyzes the state of the evidence regarding the relationship between cash transfer programs and the nutritional status of children in recipient households. It addresses the question of which intervention and population characteristics facilitate or limit the effects of transfers on nutritional status.

While previous works have mentioned the issue as part of broader surveys of the relationship between CTs and health, none have focused on the issue *per se*, none have included unconditional cash transfer programs as a comparison, and none have looked at anthropometrics beyond five programs in Latin America. This paper accomplishes these aims.

In the next section we discuss our two focal points: cash transfer programs and nutritional status. Following that we review the links between the two, including a short summary of the theoretical relationship. After describing the theory we describe our methodology and then our results, and conclude.

2. LITERATURE REVIEW

CCTs' conditions are designed to incentivize household investment in human capital accumulation. High discount rates or the undervaluing of services such as education or health care are assumed to be keeping the poor from making optimal decisions, and so CCTs set up incentives to get households to properly optimize. Although this paternalistic view may be naïve, positive externalities from education and health care also imply that the socially optimal level of investment may not be chosen by those cognizant only of the private benefits of these services, so subsidies may be socially optimal (Bassett, 2008). Also, conditionality can be an important factor in the political economy surrounding funding the program.

On the other hand, an insistence on conditionalities may be misplaced. A recent book (Hanlon, Barrientos, *et al.*, 2010) questions the importance of conditionalities, citing numerous cases in which unconditional programs improved welfare. For example, in countries lacking sufficient health infrastructure, unconditional transfers may be the only realistic alternative. Fortunately, such programs too can be effective: Duflo

* We would like to thank the Department for International Development (DFID), United Kingdom and 3ie for funding this study and seminar participants at the International Food Policy Research Institute, Midwest International Economic Development Conference, and the American Agricultural Economics Association Meetings. Additionally, we would like to thank Alessandro Romeo, Brad Barham, Hugh Waddington, Jef Leroy, and M. Caridad Araujo for their help. All errors in the paper remain our own and the views expressed in this paper are not necessarily those of DFID. Final revision accepted: March 29, 2013.

(2003) has shown that such transfers have improved child height for age in South Africa.

In an attempt to identify factors that improve the outcomes of any such transfer program, we here consider literature evaluating the impacts of both conditional and unconditional programs. Further, while the typical CCT involves requiring children to attend school or get health checkups, some CCTs involve reaching savings goals or working outside the home. We are investigating whether cash transfers result in improved nutritional status among children, and so in this section we take from the literature on all types of transfers.

To maximize the effectiveness and efficiency of investments in child development, aid organizations need to know the factors conditioning cash transfers' success or failure in improving the nutritional status of children. The importance of conditionality is a main "knowledge gap" as in most cases the effects of conditionalities cannot be separated from the effects of the rest of the intervention.

(a) *Cash transfer programs*

CTs are targeted interventions providing cash to selected beneficiaries, and they have become quite widespread. Mexico and Brazil established CCTs in the late 1990s, but programs are now found in many countries. Programs in Mexico and Ecuador provide income to 25% and 40% of the countries' populations respectively while Brazil's Bolsa Família covers about 46 million people, or 24% of that country (Fiszbein & Schady, 2009). Many states within the United States have begun implementing CCTs in an attempt to improve educational outcomes (Bassett, 2008; Fryer, 2010).

The logic behind the CCTs' sending children for check-ups and to school is that investing in all three at once ought to yield greater benefits for the poor and for society. It also grew out of the assumption that poor households might have incomplete information about the value of investments such as education. Thus, CCTs may not be best in circumstances in which access to schools or health clinics is poor, or where verification of participation is difficult.

CTs have expanded in part because they improved recipients' consumption level. Fiszbein and Schady (2009) show that in each of four Latin American countries (Colombia, Mexico, Honduras, and Nicaragua) CTs have made a statistically significant impact on poverty according to the three indices that comprise the Foster–Greer–Thorbecke measure. Studies also show clear impacts on educational enrollments (Schultz, 2004; Skoufias & McClafferty, 2001) and a few show positive effects on cognitive development in early childhood (Fernald *et al*., 2008, 2009; Macours, Schady, & Vakis, 2008; Paxson & Schady, 2007).

We group the programs for which we found data into four types (see Table 1). The first type, for which Mexico's PROGRESA/Oportunidades is a reference point, features cash transfers conditional on health-seeking behavior and/or child participation in education. Similar programs have been implemented in Brazil (Bolsa Alimentação), Colombia (Familias en Acción), Honduras (PRAF II), Nicaragua (Atención a Crisis and RPS), Paraguay (Tekopora), and Peru (Juntos). The second type is the unconditional cash transfer, of which the best known is perhaps South Africa's Old Age Pension program, detailed by Case (2001) and Duflo (2003); other programs in this category were established in Ecuador (BDH and Bono Solidario) and Malawi (Social Cash Transfer). The next group consists of cash transfers conditional on other behavior. Several interventions in Bangladesh (FSVGD, FFA, and RMP) and Sri Lanka's Samurdhi were conditional on savings behavior or work outside the home. Finally, we separate two other somewhat idiosyncratic programs. India's Apni Beti Apna Dhan provided households with a transfer on giving birth to a girl and again when the girl reached age 18, provided that she was unmarried. Bangladesh's Primary Education Stipend was awarded to encourage school-age children to attend school, so the families in focus were those with children older than those in the other CCTs.

(b) *Nutritional status*

Though social assistance programs seek to achieve a number of ends, nutritional status is a crucial, summary measure of overall child health and development potential: "Stunting or chronic malnutrition is . . . a strong indicator of a broad number of factors leading to child mortality" (Yablonski & O'Donnell, 2009). Black, Allen, *et al*. (2008) ascribe to undernutrition as many as 3.5 million deaths and 35% of the disease burden in children under 5 years. "Malnutrition's economic costs are substantial: productivity losses to individuals are estimated at more than 10% of lifetime earnings, and gross domestic product (GDP) lost to malnutrition runs as high as 2% or 3%" (Shekar, Heaver, *et al*., 2006).

Many of the programs we consider specifically list improving food consumption and thereby nutritional status as an outcome of interest (Barrientos & Nino-Zarazua, 2010). The Mexican CCT PROGRESA (now called Oportunidades) explicitly aimed to improve the nutritional status of poor children (Behrman & Hoddinott, 2005). The Nicaraguan *Red de Protección Social* listed increasing the health and nutritional status of children under 5 as an objective (Maluccio, 2009). Malawi's Mchinji Social Cash Transfer Pilot Scheme was designed in part to reduce malnutrition as well (Miller *et al*., 2008).

The primary outcome of interest in this paper is height for age, a main indicator of nutritional status. Growth patterns of children under age 5 are similar for all ethnic groups (WHO, 1995, 2006) and growth charts allow the conversion of child height into *z*-scores (HAZ) based on observed means and standard deviations for children of a given age and sex. These scores reflect long-term health (Strauss & Thomas, 1998; Waterlow, Buzina, *et al*., 1977). Children showing lower levels of physical development for their age are often delayed mentally as well (Grantham-McGregor, Cheung, *et al*., 2007; Hoddinott & Kinsey, 2001). Many studies have used HAZ to estimate the health effects of natural disasters and various policy interventions, (see e.g., Balk, Storeygard, *et al*., 2005; Goncalves-Silva, Valente, *et al*., 2005; Hoddinott & Kinsey, 2001). One study concludes "Height for age at 2 years was the best predictor of human capital. . .." (Victora, Adair, *et al*., 2008).

(c) *Theories linking CTs to nutritional status*

Nutritional status, including height for age and weight for age, directly depends on two factors: sufficient nutrition and the body's ability to absorb it (Agüero, Carter, *et al*., 2007). In other words, it depends on the quantity and quality of food coupled with the health status of the person consuming it. The basic idea of a cash transfer is to improve people's consumption levels and thereby nutritional status, but the relationship is not so simple.

Diagrams in Leroy, Ruel, and Verhofstadt (2009) and Gaarder, Glassman, *et al*. (2010) show a total of 26 mediating pathways linking CCTs to health including parental education, feeding care and practices, supply of health services, and cash. Nutritionists note that in addition to needs for calories and