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Household capacities, vulnerabilities and food insecurity: Shifts in food insecurity in urban and rural Ethiopia during the 2008 food crisis

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ABSTRACT

The global food crisis of 2008 led to renewed interest in global food insecurity and how macro-level food prices impact household and individual level wellbeing. There is debate over the extent to which food price increases in 2008 eroded food security, the extent to which this effect was distributed across rural and urban locales, and the extent to which rural farmers might have benefited. Ethiopia's food prices increased particularly dramatically between 2005 and 2008 and here we ask whether there was a concomitant increase in household food insecurity, whether this decline was distributed equally across rural, urban, and semi-urban locales, and to what extent pre-crisis household capacities and vulnerabilities impacted 2008 household food insecurity levels. Data are drawn from a random sample of 2610 households in Southwest Ethiopia surveyed 2005/6 and again in mid to late 2008. Results show broad deterioration of household food insecurity relative to baseline but declines were most pronounced in the rural areas. Wealthier households and those that were relatively more food secure in 2005/6 tended to be more food secure in 2008, net of other factors, and these effects were most pronounced in urban areas. External shocks, such as a job loss or loss of crops, experienced by households were also associated with worse food insecurity in 2008 but few other household variables were associated with 2008 food insecurity. Our results also showed that rural farmers tended to produce small amounts for sale on markets, and thus were not able to enjoy the potential benefits that come from greater crop prices. We conclude that poverty, and not urban/rural difference, is the important variable for understanding the risk of food insecurity during a food crisis and that many rural farmers are too poor to take advantage of rapid rises in food prices.

Introduction

Beginning in 2007 and reaching into late 2008, global food prices increased dramatically and rapidly. The FAO's food price index, an index of global food prices, soared to a peak that was nearly 160% greater than its lowest point in 2007 (FAO, 2011). This increase in prices led to renewed interest in the topic of global food insecurity, driven in part by intense media interest in the food crisis and the consequent food riots that broke out in countries around the world (Benson, Minot, Pender, Robles, & von Braun, 2008). As media interest died down, a number of questions remained about the extent to which global prices are transmitted to local markets, and ultimately to households and those within. To date, much of the work addressing these questions has been based on simulation studies that examine the impact on consumption of a given increase in food prices. These exercises have typically relied on pre-crisis data, and sought to simulate the impact of a given rise in food prices on the expected caloric intake (Aksoy & Isik-Dikmelik, 2008; FAO, 2008; Ivanic & Martin, 2008). Other studies have relied on analyses of past crises to gain general insights into who is or who is not at risk during a crisis (Ruel, Garrett, Hawkes, & Cohen, 2010). Still others have examined shifts in the prevalence of malnutrition during the food crisis period, at both the local and national level. Yet, as Ruel et al (2010: 170S) notes in a recent review, "…Given the recent onset of the 2007–2008 food price crisis, little empirical evidence exists at this point on its impact on poverty, food security,

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and nutrition." And, more recently, Naylor and Falcon (2010) noted that the question remains, "…how do price shocks and variability affect food security for people on the ground?" A recent review of the existing evidence addressing this very question highlighted that the poorest of the poor were disproportionately impacted by the crisis, but it also highlighted the limited number of empirical studies that examined shifts in food insecurity and spotlighted methodological shortcomings with the studies that had been carried out (Compton, Wiggins, & Keas, 2010). We thus aim to complement these existing studies by focusing on the empirical distribution of household food insecurity in southwest Ethiopia before and during a period of high food prices.

Food insecurity occurs when an individual has limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (Anderson, 1990). Food insecurity is closely related to other widely discussed concepts like food insufficiency and hunger but has the important distinction that one can be food insecure but still be consuming sufficient energy and meeting micronutrient demands. This is because a household can be food insecure if members are concerned about accessing food in the near future. This is critical because the thought of having insufficient food tomorrow can impact on behaviors today. It is very likely that if one is food insecure for some time then their dietary quality and or quantity will be compromised and undernutrition may be induced. Examining the distribution of food insecurity will likely provide more general insights into patterns of risk and vulnerability because the health consequences of food insecurity are many and varied. Food insecure households in low-income countries often have diets that are less diverse (Becquey et al., 2010; Belachew, Hadley, & Lindstrom, 2008; Hadley, Borgerhoff Mulder, & Fitzherbert, 2007) and perhaps of lower energy content, leading to poorer nutritional status (Hackett, Melgar-Quinonez, & Alvarez, 2009; Sarlio-Lahteenkorva & Lahelma, 2001; Widome, Neumark-Sztainer, Hannan, Haines, & Story, 2009). Evidence is also accumulating that the nutritional consequences are but one piece of a larger food insecurity syndrome. Food insecurity is also associated with higher symptoms of common mental disorders (Heflin, Siefert, & Williams, 2005; Weaver & Hadley, 2009) and diagnoses of mental disorder (Sorsdahl et al., 2010). Varied evidence also supports a link between the experience of food insecurity and high-risk sexual behavior among women (Weiser et al., 2007) and to a lesser extent among men. Evidence also supports a link between household food insecurity and school enrollment, attendance, and achievement with some evidence suggesting that the negative impact is biased against girls (Ashiabi, 2005; Roustit, Hamelin, Grillo, Martin & Chauvin, 2010).

Given the far reaching population health implications of food insecurity, an understanding of its causes, consequences, and how these are distributed across households during times of rapid food price increases is important for thinking about how macro-level changes impact household and individual level-wellbeing. There is, however, debate over the distribution of impacts during the 2008 food crisis. One set of concerns is over the extent to which urban and rural households were disproportionably affected by the rise in food prices. Much of this debate has focused on the vulnerability of the urban poor, who spend a high percentage of their total budget on purchasing food. Collier (2008) stated this position succinctly, "The unambiguous losers when it comes to high food prices are the urban poor." This is a legitimate concern for many parts of the world as the urban population increases in size: urban dwellers rely on purchasing large portions of their food, and are thus more fully exposed to market forces (Ruel, Haddad, & Garrett, 1999). A second set of questions has focused on the extent to which rural producers might actually benefit from higher food prices; from this perspective high food prices may be viewed as pro-poor. This hypothesis suggests that as global and local food prices fluctuate, net food sellers will see benefit from higher food prices. Others have suggested that place and livelihood strategies are secondary to poverty as influences on households' reaction to food price spikes (Naylor & Falcon, 2010).

The issue of the food price crisis' impact and on equality in impacts is especially relevant in Ethiopia, a country with a large rural population and high levels of poverty. Ethiopia experienced particularly dramatic increases in food prices, with some evidence showing that beginning in mid-2004 Ethiopian food prices began increasing faster than global prices (Ulimwengu, Workneh, & Paulos, 2009). Minot (2010) notes that during the food crisis, in Ethiopia "food price increases were particularly high, ranging from 83% to 184%" higher than baseline domestic prices. The price of maize increased dramatically and the growth of the domestic price reached 236% of the increase in the world price (Minot, 2010).

In this paper our objective is to use data from a population-based sample of rural, urban, and semi-urban households in southwest Ethiopia to explore how household food insecurity might be affected by dramatic upward shifts in food prices. We ask three basic questions: First, did household-level food insecurity deteriorate from baseline levels following the food crisis? Second, if it did, was the deterioration distributed equally across geographic places and differing levels of socioeconomic status? Third, to what extent did existing household-level factors either improve or worsen households' 2008 food insecurity status?

Household food insecurity, household capacities and vulnerabilities

The ability to produce sufficient foods for one's household at home is one way that a household could achieve food security. Another way is to generate sufficient income to purchase foods on the market. The former represents the stereotypical rural farmer and the latter the stereotypical urban dweller. We thus expect measures of home production, crops sales, and measures of income or wealth to be predictive of food insecurity. For the farmer, surplus harvest can also be sold to produce additional income, which is why some investigators have highlighted the potential gains that rural farmers might enjoy from higher food prices. In short, if farmers were selling a unit of maize for $1 but are now selling it for $2 then, all else equal, they should benefit in terms of greater income, which should translate into more food security. This suggests the hypotheses that wealth will be protective of 2008 food insecurity, and that rural locale, which might serve as a proxy for a household's livelihood strategy, might be important. More specifically, farmers may benefit during a period of rising and high prices and not show evidence of declining food insecurity. It is also likely that households that already were experiencing high levels of food insecurity in 2005 are expected to be more vulnerable to high food insecurity in 2008, net of other factors.

While food insecurity is ultimately determined by insufficient income combined with the inability to purchase or produce foods, it has also been hypothesized that individuals may use their social networks, and the capital that resides in those networks to reduce the variance in their food consumption (Dirks, 1980; Shipton, 1990). Social capital is defined by Bourdieu as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition… which provides each of its member with the backing of the collectively-owned capital a 'credential' which entitles them to credit…" (Bourdieu, 1986: 249). By drawing on the resources of other households during difficult times, individuals might not experience food insecurity, or may experience it