

# TWO ESSAYS ON THE ROLE OF PERCEIVED RETURNS, PREFERENCES, AND SOCIO-ECONOMIC STATUS IN SHAPING HOUSEHOLDS BEHAVIORS IN DEVELOPING COUNTRIES

by

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(Under the Direction of Ellen McCullough)

## ABSTRACT

This dissertation consists of two chapters focusing on understanding how households perceived returns and preferences shape their behaviors in developing countries. Although the importance of perceived returns and preferences has been recognized in theoretical models of household behavior, empirical applications are limited because perceived returns are so rarely measured, especially in developing contexts. Chapter 1 uses a novel survey design based on hypothetical investment scenarios to measure parental perceived returns to their investment in early skill formation of young children and provides empirical evidence on the role of parental perceived returns and socio-economic status on actual investment behaviors using panel data of 1,575 young children in China. We find that, on average, caregivers with higher socio-economic backgrounds have significantly higher perceived returns to investment in children. Only households with low socio-economic status are more likely to invest more time in their children as their perceived returns increases. Chapter 2 examines how preferences of households shape their diet quality in Africa, given incomes and prices faced. It offers the first comprehensive set of demand models for six sub-Saharan African countries using Exact Affine Stone Index censored demand systems, which are using panel data, flexible, utility-theoretic, control for unobserved heterogeneity, and account for bias arising from unobserved quality heterogeneity and from price search behavior. Using the demand models, we simulate responses of households to an unconditional cash transfer and to price vouchers targeting different types of foods. The results show that the expenditure elasticities and price elasticities of demand for micro- and macro- nutrients

vary with households' socio-economic status. There is a strong link between poverty reduction and diet quality improvement. Cash transfer and some price vouchers could effectively close dietary intake gaps and improve the nutrient density of diets for poor consumers.

**INDEX WORDS:** [Perceived Returns, Parental Time Investment, Socio-economic Status, Consumer Preferences, Demand System Estimation, Diet Quality, Developing Countries]

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# DEDICATION

I dedicate this dissertation to God Almighty my creator, my source of inspiration and my strong pillar. I also dedicate this work to my beloved fiancé Xin Fan, who has been a constant source of support and encouragement during the challenges of graduate school and life. I am truly thankful for having you in my life. I also dedicate this work to my loving parents and grandparents whose words of encouragement and push for tenacity ring in my ears. Finally, I also dedicate this dissertation to my many friends and church family who have supported me throughout the process.

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# CHAPTER I

## PARENTAL PERCEIVED RETURNS, SOCIO-ECONOMIC STATUS AND INVESTMENT BEHAVIOR

In this chapter, we use a novel survey design based on hypothetical investment scenarios to measure parental perceived returns to their investment in early skill formation of young children in rural China. Using a set of panel data of 1575 young children that we collected, we find that caregivers perceive that time investment will increase the probability of reaching certain developmental milestones. Specifically, rural caregivers believe that parental investment and skill endowments are complementary. On average, caregivers with higher socio-economic background have significantly higher perceived returns to investment. We also find only households with low socio-economic status are more likely to invest time in their child when they have higher perceived returns to investment. Our findings highlight the importance of parental perceived returns to investment in actual parental investment behavior, especially for households from low socio-economic background.

### **1.1 Introduction**

The importance of early childhood development in lifetime development has been addressed in the literature (Doepke et al., 2019; Heckman and Mosso, 2014). It is a critical and sensitive period in skill formation. There is compelling evidence that child skills affect labor market outcomes and the likelihood of being poor (Almlund et al., 2011; Currie and Almond, 2011). The high economic

returns to investment in early childhood development have been recognized by policymakers and researchers (Attanasio, Cattan, et al., 2020; Heckman and Mosso, 2014).

Parental investment plays an irreplaceable role in early childhood development (Attanasio, Meghir, et al., 2020; Currie and Almond, 2011; Francesconi and Heckman, 2016). Therefore, researchers have explored different interventions to foster parental investment, such as in-home parental training programs (Bugental et al., 2010; Doyle et al., 2017; Sylvia et al., 2021) and psychotherapy for depressed mothers (Baranov et al., 2020). In all of these programs, before and after the interventions, different parents have different propositions to invest in their children. Given these different rates of investment, it is interesting to understand the mechanism behind the effect of these interventions, and more generally, what drives parental investment behavior.

Traditional economic theory assumes that parents have complete information about the child skill formation process (Becker and Tomes, 1979, 1986). However, in reality, parents face uncertainty when they determine levels of time and monetary investments in their children. They do not know the actual return of these investments when they are made.

Although there are well-formulated models of early childhood development in which parental perceived returns to the technology of skill formation are included (Agostinelli and Wiswall, 2016; Cunha et al., 2010), empirical studies face a crucial identification problem: it is virtually impossible to decompose heterogeneity in perceived returns from heterogeneity in preferences by only observing parental investments and cognitive/non-cognitive skills (Manski, 2004). Cunha et al., 2013 created a survey instrument to elicit parental perceived returns to the technology of skill formation. However, only a few empirical studies have adapted this methodology to study parental perceived returns to health investments in early childhood (Bhalotra et al., 2020; Biroli et al., 2020) and the returns to educational investments in school-aged children (Attanasio, Boneva, et al., 2019; Boneva and Rauh, 2018).

The overall goal of this paper is to understand the role of parental perceived returns to parental investment in determining actual parental investment behavior. First, we use a novel survey design based on hypothetical investment scenarios to measure parental perceived returns to time investment in their children's skill formation. We attempt to answer how caregivers' perceived returns to time investment differ by child skill endowments. Second, we examine whether there is heterogeneity in perceived returns over the caregivers socio-economic status. Third, we explore which characteristics of children and caregivers drive

heterogeneity in parental perceived returns. Lastly, we estimate the role of this heterogeneity in determining actual parental investment behavior.

The remainder of the chapter one is organized as follows. In section 1.2, we develop a theoretical framework of the process of early skill formation under the assumption of parental perceived returns. In section 1.3, we explain how we elicit parental perceived returns in surveys with respondents. We describe the data in section 1.4 and the empirical strategy in section 1.5. Section 1.6 reports the findings, and section 1.7 concludes.

## 1.2 Parental Perceived Returns and the Technology of Early Skill Formation

In this section, we present a theoretical framework of the process of early skill formation when parental perceived returns are determined subjectively. Traditionally, the literature assumes that parents have complete information about the technology of early skill formation when deciding the amount of parental investments (Becker and Tomes, 1979, 1986). Following the recent literature (Attanasio, Boneva, et al., 2019; Biroli et al., 2020; Kinsler and Pavan, 2021), we relax this assumption and assume that parents do not know the actual process of early skill formation. Instead, they make parental investment decisions based on their perceived returns to parental investment.

When deciding the amount of parental investment,  $I_i$ , parents face a utility maximization problem. We assume that parents care about their consumption  $C_i$ , leisure time  $L_i$ , and their child's development  $\theta_i$ :

$$\begin{aligned} \text{Max.} \quad & U(C_i, L_i, \theta_i) & (1.1) \\ \text{s.t.} \quad & \theta_i = f_i(I_i, Z_i, \epsilon_i) \\ & I_i + L_i + W_i = T \end{aligned}$$

Indeed, the parental utility maximization problem has two constraints. First, the decision to invest is subject to a subjective skill formation technology constraint. The function that produces a child's development is based on the general early skill formation framework developed by Cunha et al., 2010, where  $f_i$  is the perceived production function of early skill formation of the parent of child  $i$ . Importantly, the perceived function may not be consistent with the actual production function  $f$ . We assume  $f_i$  to be monotonically increasing in its arguments and twice continuously differentiable.  $\theta_i$  is the parental-perceived child skill of the child  $i$ ;  $I_i$  is a vector of parental investments for child  $i$ ;  $Z_i$  notes

a set of child and household characteristics, including the child’s endowment skills, parental education and household wealth; and  $\epsilon_i$  the error term. Second, when investing in their child, the parental decision also is subject to a time budget constraint. Parent  $i$  in period  $t$  can allocate their total time  $T$  to activities with their child  $I_i$ , leisure  $L_i$  and work  $W_i$ .

The first-order condition to the parental utility maximization problem is:

$$\frac{\partial f_i(\cdot)}{\partial I_i} = 0 \tag{1.2}$$

As can be seen from the first-order condition, the optimal parental investment decision for each parent depends on their subjective beliefs about the partial derivatives of their perceived production function, which is the perceived marginal returns to their investment.

### 1.3 Measuring Parental Perceived Returns

We use a novel survey design based on hypothetical investment scenarios to measure parental perceived returns to investment in the skills of their young children. This approach was pioneered by Cunha et al., 2013 who proposed it as a way to elicit parental perceived returns to parenting choices for their children in early childhood. Other research teams have used similar methodologies to study parental perceived returns to health investments in early childhood (Bhalotra et al., 2020; Biroli et al., 2020) and the returns to educational investments in school-aged children (Attanasio, Boneva, et al., 2019; Boneva and Rauh, 2018).

In this study we present caregivers with several hypothetical investment scenarios to elicit their perceived returns to time investments in their young children. The caregivers in our sample, on average, have a relatively low socio-economic background. A significant proportion of them is illiterate. We therefore adjusted the survey design typically used in the literature so that it was appropriate for use in our study population. First, instead of asking caregivers about their perceptions of probabilities, we asked them about natural frequencies which are easier to understand (Hoffrage et al., 2000) and allow for a visual presentation of responses (Delavande, 2014).<sup>1</sup> Second, we asked parents about hypothetical children in order to minimise the bias that arises when parents use private information about their own child to inform their beliefs.<sup>2</sup> This survey design also allows us to vary the characteristics of hypothetical children across different investment scenarios and hence allows us to estimate whether

<sup>1</sup> There are several other methods used in the literature to construct hypothetical investment scenarios to elicit beliefs. For example, Bhalotra et al., 2020 uses the likelihood of a child reaching specified developmental milestones under different hypothetical scenarios. Attanasio, Boneva, et al., 2019 elicits beliefs by asking the perceived future earnings of the child will be at certain ages using scenarios that vary in high/low investment.

<sup>2</sup> Although this method has been shown to minimise the response bias, it is not possible to rule out that private information will inform their judgement of hypothetical children.

perceived returns to time investments differ depending on infant skill endowments<sup>3</sup>.

Caregivers are presented with different scenarios based on 100 hypothetical children living in rural China. "Scenarios" are defined as hypothetical pairs of initial child skill endowments and parental investment. Hence, we define a hypothetical scenario  $S$  as follows:

$$S = (S_A, S_I) \quad (1.3)$$

with  $S_A$  the hypothetical child skill endowment at the beginning of the period and  $S_I$  the hypothetical level of parental investment. Conditional on these hypothetical scenarios, caregivers are asked to report the expected child skill development in the next period:

$$E[Y|S] \quad (1.4)$$

We use a skill development outcome that is a salient milestone in the process of child development: for example, starting to count. Next, we introduce varying degrees of difficulty in achieving this milestone. More specifically, after presenting each hypothetical scenario  $S$ , we ask caregivers how many out of 100 hypothetical 4-year old children can count to 20, (easy), 50 (medium) and 100 (hard).

$$Y = (Y_{20}, Y_{50}, Y_{100}) \quad (1.5)$$

The parental investment scenarios  $S_I$  are also constructed to be salient for caregivers and are complemented with visual aids (see Figures C1 and C2). We present caregivers with a low parental investment scenario,  $S_I^L$ , where mothers spend little time interacting or talking to her child and a high parental investment scenario,  $S_I^H$ , where mothers spend a lot of time on cognitively stimulating activities with their child.<sup>4</sup>

$$S_I = (S_I^L, S_I^H) \quad (1.6)$$

Lastly, we introduce a hypothetical skill endowment scenario,  $S_A$ , which allows us to estimate how parents perceive the complementarity of initial skill endowments with parental investment. More specifically, we ask caregivers to

<sup>3</sup> we reminded the caregivers at the beginning of the survey as well as at the start of each section that this is not about their child/children in particular, but about children in general.

<sup>4</sup> See Appendix C for a fully scripted overview of both investment scenarios.

report how many out of 100 hypothetical 4 year old children they expect will be able to count (to 20, 50 and 100) if initially at 3 years old they had a low skill endowment,  $S_A^L$ , and found it difficult to count to ten and if they had a high skill endowment,  $S_A^H$ , and found counting to ten easy.

$$S_A = (S_A^L, S_A^H) \tag{1.7}$$

Using this survey design, the survey team presents caregivers with four different hypothetical scenarios and collects information on caregivers expectations of child skill development for each of these scenarios. Specifically, the four scenario pairs  $s$  form in the set:

$$S = \{(S_A^L, S_I^L), (S_A^L, S_I^H), (S_A^H, S_I^L), (S_A^H, S_I^H)\} \tag{1.8}$$

A visual overview of the survey instrument used to elicit these parental perceived returns can be found in Figure C3. Before parents were asked to respond to these scenarios the survey team asked parents to respond to two practice scenarios which were used as an illustration to explain parents how the questionnaire worked. A fully scripted overview of the questionnaire and the instructions given to the survey team can be found in Appendix C.

## **1.4 Data**

### **1.4.1 Sampling and Data Collection**

The data in this paper are from a large-scale study conducted in Shaanxi province, located in northwest China. Shaanxi province had a per capita annual disposable income of about 2,300 dollars in 2013 cnbs. Of all counties in the province, we conducted our study in 11 nationally-designated poverty counties located in the Qinglin mountain region.

To construct our sample, we first selected sample townships from a complete list of townships in each of these 11 counties, excluding the township that housed each county seat and townships with no villages having a population of 800 or more. 174 townships met these criteria inclusion. From this list, we randomly selected one village with at least 800 people from each township. If a village had more than five children aged 6 - 12 months, we randomly selected five children from the full list of children aged 6 - 12 months as our sample children.

Otherwise, we randomly selected an additional village in the same township as our sample village until we reached five children per township.

A team of enumerators conducted a survey in October 2014 when the children were at age 3 and collected information on children and caregivers characteristics, and parental time investment. A follow-up survey was conducted in June 2017 when the children were at age 5. In the follow-up survey, we collect parental perceived returns to parental time investment using a novel survey design described in Section 3. Overall, 1,575 children and their families in 351 villages across 174 townships were included in the follow-up survey.

The descriptive statistics of caregiver and child are shown in Table 1. Our sample children have about equal numbers of males (53%) and females (47%). In the follow-up survey, the average age of the children was around 57 months. The majority of the children were only children, and only 25% had siblings. The primary caregivers for around 64% of children were a parent (the mother, in most cases), while the remaining children were often reared by their grandmothers. Only 13% of the primary caregivers had at least 9 years of education.

Table 1.1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
<b>Child Characteristics</b>					
Child male	0.531	0.499	0	1	1572
Child age (months)	56.862	3.417	49.167	65.3	1557
Child has siblings	0.25	0.433	0	1	1517
child skill endowment (SD)	-0.011	0.755	-2.285	2.784	1542
Child health endowment (Hb g/L)	115.833	9.970	70	163	1534
<b>Caregiver Characteristics</b>					
Caregiver is parent	0.641	0.48	0	1	1517
Caregiver education $\geq$ 9 Years	0.131	0.337	0	1	1575
HH asset (SD)	0.026	1.494	-3.191	3.552	1575
<b>Parental Investment</b>					
Told story to child yesterday	0.107	0.309	0	1	1575
Played with child yesterday	0.333	0.472	0	1	1575
Sang song to child yesterday	0.317	0.465	0	1	1575
Number of children books in HH	2.035	4.035	0	50	1333

### 1.4.2 Measures on Infant Skill Development

To minimum potential measurement error raising from data collection process, we use the average of the infants skills assessed in three rounds of surveys: when the children were at age 3, at age 2.5 and at age 2, to measure the skill endowment of each infants.<sup>5</sup> In these three rounds of surveys, infant skills were assessed using the Bayley Scales of Infant Development (BSID) Version I. The BSID scale is a standardized test of infant cognitive and motor development (Bayley, 1993) and has been adapted to the Chinese language and environment (H. Huang et al., 1993; S. Yi, 1995; S. Yi et al., 1993). The BSID scale evaluates two domains of child development: cognitive development by the Mental Development Index (MDI) and gross motor skills by the Psychomotor Development Index (PDI). Because this study focuses on cognitive development, thus we only used MDI as our measure of skill development. Since raw MDI scores are increasing in age, instead of using raw MDI scores, we computed age-adjusted z-scores using age-conditional means and standard deviation, which were estimated by non-parametric regression. This method is less sensitive to outliers and results in normally distributed standardized scores with mean zero across the age range (in months) (Attanasio, Cattani, et al., 2020; Sylvia et al., 2021). We then take the average of non-parametric standardized scores from the three rounds of surveys for each child as the measure of his/her cognitive skill endowment.

<sup>5</sup> The data used in this paper are from a large-scale study consisted of six rounds of surveys. The baseline survey and the follow-up survey in this paper are the fourth round survey (when the children were at age 3) and the last round survey (when the children were at age 5) accordingly.

### 1.4.3 Measures on Parental Investment

We surveyed primary caregivers on their time use when sample children were three years old, on average, and used these data to generate a measure of parental time investment in age-appropriate activities.<sup>6</sup> The survey of time use was executed in these steps. First, we asked respondents to indicate how many times per week they read, sang, or did outside activities with their children using a 4-point likert scale: 1 “never”; 2 “1-2 days”; 3 “3-6 days”; 4 “every day.” Next, we asked them whether they did any of these activities on the previous day as was thought to be easier for parents to remember. Finally, we asked the parents how many children books they had in the household.

As shown in Table 1, caregivers spend little time on average engaging in activities that we classify as investments in cognitive skill formation. Only 10% of caregivers reported telling stories to their child on the previous day. Around 30% of caregivers played with their child or sang songs to their child on the previous day. On average, each child has two children books at his/her home.

In order to reduce the dimensionality of the investment variables, we aggregated these variables into one composite measure by extracting a latent factor

<sup>6</sup> Primary caregiver is the person who is most responsible for taking care of the child, for example, preparing meals for the child.

score. To do so, we performed an exploratory factor analysis to discover the factor structure of the measure. According to the analysis, the results indicate that a one-factor model best fits the time investment data we collected. We then estimated the means and factor loadings of our measurement system and predicted a parental time investment factor for each caregiver. In Appendix B.1, we give a detailed overview of the exploratory factor analysis and the subsequent estimated measurement system.

#### 1.4.4 Measures on Socio-Economic Status

We harnessed household assets as the measure of socio-economic status. To assess the household asset, we collected data on household possession of a set of household durable assets (including electric appliances, vehicles, etc.). Like parental time investment, we also performed an exploratory factor analysis for measures of household assets, which shows that our data are rich enough to extract one factor. We then estimated the factor loadings on measures of household assets and predicted a household asset factor for each caregiver. The details of the household asset factor extraction can be found in Appendix B.3.

For the purpose of the analysis, we also partitioned our sample households into three socio-economic tercile groups based on their asset factor: poor households, medium households, and wealthy households. The poor group is characterized by a household asset factor below the first third. Households in the medium group have the asset factor in the middle third of the asset factor values. Households in the wealthy group have the asset factor in the top third.

### 1.5 Empirical Strategy

The response data collected for the hypothetical investment scenarios allows us to estimate the perceived returns to parental time investment given an initial skill endowment as follows:

$$Y_{sij} = \alpha_j + \beta_{1j}I_s + \beta_{2j}A_s + \beta_{3j}I_sA_s + \gamma_{ij} + \epsilon_{sij} \quad \forall j \quad (1.9)$$

where  $Y_{sij}$  is the outcome  $j$  parent  $i$  expects in scenario  $s$ ,  $I_s$  a dummy variable equal to one if scenario  $s$  includes high parental investment,  $A_s$  a dummy variable equal to one if scenario  $s$  includes a high skill endowment and  $\gamma_{ij}$  are parental fixed effects. As we collected hypothetical investment scenarios for three different child development outcomes,  $j$  (counting to 20, 50 and 100), we estimate this specification for each outcome separately but also present results

for a pooled specification. In all specifications standard errors are clustered at the caregiver level.

The estimates of  $\beta_{1j}$  show how parents on average perceive the marginal return of parental time investment on each skill development outcome  $j$ . The estimates of  $\beta_{2j}$  indicate how parents on average perceive the effect of high initial skill endowment on later skill development. Finally, the estimates of  $\beta_{3j}$  allow us to explore to which degree parents perceive initial skill endowment and parental investment to be complementary in the process of skill development.

To examine whether there exists heterogeneity in parental perceived returns by households' socio-economic background, we split our sample into three socio-economic tercile group, as described in Section 4.4, and estimate Equation 1.9 within each socio-economic tercile group. In addition, we perform a Chow test to determine whether parental perceived returns vary across groups. Specifically, the Chow test allow us to test whether or not the coefficients of each regression for different socio-economic tercile group are equal.

Next, we are interested in understanding the determinants of parental perceived returns. Perceived returns are defined as the average perceived returns to parental investment for both children with low and high initial ability endowment at the beginning of the hypothetical investment period. Hence, we calculate the perceived returns to investment,  $R_{ij}$  for each caregiver  $i$  and outcome  $j$ . Perceived returns to each parent is invested in each outcome is calculated from the four different scenarios,  $Y_{sij}$ , as:

$$R_{ij} = \frac{(Y_{2ij} - Y_{1ij}) + (Y_{4ij} - Y_{3ij})}{2} \quad \forall j \quad (1.10)$$

with  $Y_{sij}$  being parent  $i$ 's perceived number of children out of a hypothetical 100 that has achieved developmental milestone  $j$  under scenario  $s$ . The difference between scenario  $s = 1$  and  $s = 2$  calculates the perceived returns to parental investment for children with a low initial ability endowment, whereas the difference in developmental outcomes between scenario  $s = 3$  and  $s = 4$  indicate the perceived returns to parental investment for children with a high initial ability endowment.

Given that we have three main developmental outcomes of interest  $Y_j$  (ability to count to 20, 50 and 100) we have three measures of perceived returns for each parent  $i$ . For the purpose of the next analysis we aggregate these three measures into one composite measure by extracting a latent factor score (See Appendix B.2 for exploratory factor analysis), which is denoted as  $R_i$ . We examine the determinants of parental perceived returns using the following specification:

$$R_i = \alpha_i + \beta_1 P_i + \beta_2 C_i + \epsilon_i \quad (1.11)$$

with  $P_i$  being parental baseline characteristics, including a dummy of whether the primary caregiver received at least 9 years of education, a dummy of whether the primary caregiver of the child is his/her parent, and a dummy refer household asset factor. The variable equals 1 if the family asset value is higher than the median value and it equals 0 if otherwise.<sup>7</sup>  $C_i$  child represents baseline characteristics, including a dummy of male child, child age in months, a dummy of whether a child has siblings, child cognitive skill endowment, and child health endowment.<sup>8</sup>  $\epsilon_i$  is the error term. All specifications are estimated with heteroskedasticity robust standard errors.

To explore the relationship between perceived returns, socio-economic status and actual parental investment behavior, we first estimate the effects of parental perceived returns and socio-economic status separately on actual parental investment behavior. We then estimate heterogeneous effects on actual parental investment behavior by applying an interaction term between parental perceived returns and household socio-economic status. The equations are shown as follows:

$$I_i = \alpha_i + \beta_1 R_i + \gamma_1 X_i + \epsilon_i \quad (1.12)$$

$$I_i = \alpha_i + \beta_2 A_i + \gamma_1 X_i + \epsilon_i \quad (1.13)$$

$$I_i = \alpha_i + \beta_1 R_i + \beta_2 A_i + \beta_3 R_i * A_i + \gamma_1 X_i + \epsilon_i \quad (1.14)$$

with  $R_i$  being the subjective belief factor of caregiver  $i$ ,  $A_i$  represents the household asset factor of caregiver  $i$ ,  $X_i$  a vector of baseline characteristics of child and caregiver, including dummies of male child, whether primary caregiver of the child is his/her parent, and whether primary caregiver received at least 9 years of education.  $\epsilon_{in}$  represents the error term. All specification are estimated with cluster-robust standard errors, clustered at the village level.

## 1.6 Results

### 1.6.1 Parental Perceived Returns to Parental Investment

For each of the four hypothetical investment scenarios described in section 3.1, caregivers were asked to indicate how many out of 100 hypothetical rural Chinese 4-year old children they believed would be able to reach developmental

<sup>7</sup> The variable of household asset factor is based on the summed value of a set of assets, including electric appliances, livestock, vehicles etc.

<sup>8</sup> We explain the measures of child cognitive skill endowment in Section 5.2. we use the hemoglobin value of the child at age three as the measure of child health endowment.

milestones with increasing difficulty level (counting to 10, 20 and 100). The average responses of caregivers for each of the three developmental milestones in different hypothetical investment scenarios are reported in Table A1. We also plot a bar graph of those responses in Figure 1.1. Caregivers believe, on average, that for each of these scenarios more children would be able to reach the developmental milestone if parents invest more time in children. Caregivers also believe that children with higher initial skill endowments at the beginning of the investment period are more likely on average to achieve each milestone. Lastly, the number of hypothetical children that caregivers believe can reach each of these milestones on average decreases with the level of difficulty of the milestone in each of the four scenarios. Overall, this evidence suggest that the response of the sample caregivers to the survey instrument are sensible and consistent. While there are some inconsistencies in response patterns at the individual level, this does not affect the means indicating that caregivers understood the survey instrument well. Finally the differences in mean responses to each scenario are large, indicating that parents perceive the returns to parental investment, both for children with initial low ability and high ability, to be large.

We use the response data collected from the hypothetical investment scenarios to estimate the parental beliefs about the returns to investment in early skill formation and report results in Table 1.2. Results of the pooled regression specification can be found in Appendix Table A2. Caregivers perceive that investing time in children increases the probability of reaching each developmental milestone by age 4 by an average of 22 percentage points. Caregivers believe that children with high initial skill endowments at age 3 are on average 15 percentage points more likely to achieve these developmental milestones. We further find that caregivers believe parental investment and skill endowments to be somewhat complementary. On average caregivers believe that children with initial high skill endowments who also receive parental time investment are 2.5 percentage points more likely to achieve the developmental milestones. The disaggregated regression results in Table 1.2 indicate that parents only perceive there to be a complementarity between early skill endowments and parental investment for the more difficult development milestones.

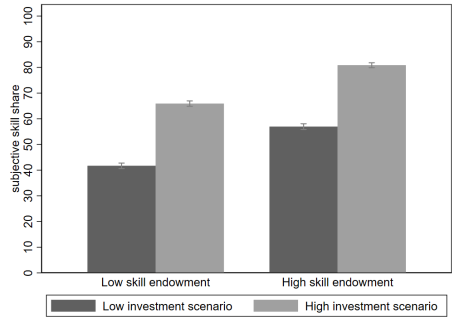
### **1.6.2 Heterogeneity in Parental Perceived Returns by Households Socio-economic Status**

Heterogeneity in perceived returns to parental investment is considerable as shown in Figure 1.2. As described in detail in Equation 1.10 in section 4 we define returns to parental investment as the difference in the number of hy-

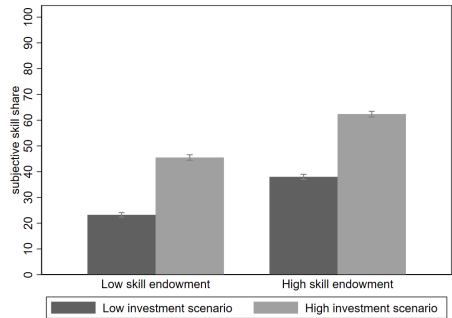
Table 1.2: Perceived Returns to Parental Time Investment

	Task Difficulty: Easy		Task Difficulty: Medium		Task Difficulty: Hard	
	(1)	(2)	(3)	(4)	(5)	(6)
Time investment	24.063 <sup>***</sup> (0.479)	24.228 <sup>***</sup> (0.582)	23.312 <sup>***</sup> (0.448)	22.256 <sup>***</sup> (0.538)	17.879 <sup>***</sup> (0.456)	15.021 <sup>***</sup> (0.536)
High skill endowment	15.076 <sup>***</sup> (0.468)	15.241 <sup>***</sup> (0.594)	15.776 <sup>***</sup> (0.442)	14.719 <sup>***</sup> (0.500)	12.719 <sup>***</sup> (0.410)	9.860 <sup>***</sup> (0.454)
Time investment * High skill endowment		-0.331 (0.647)		2.114 <sup>***</sup> (0.617)		5.718 <sup>***</sup> (0.625)
Sample mean	61.35	61.35	42.26	42.26	25.50	25.50
Parent Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5994	5994	5994	5994	5994	5994
R <sup>2</sup>	0.49	0.49	0.52	0.52	0.40	0.41

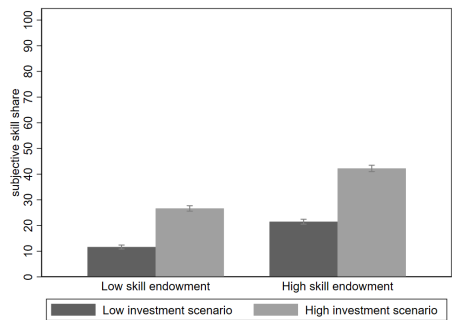
Note: All standard errors are clustered at the household level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



(a) Task Difficulty: Easy



(b) Task Difficulty: Medium



(c) Task Difficulty: Hard

Figure 1.1: Bar graphs plot how many out of 100 hypothetical children caregivers believe to reach developmental milestones in a low and high investment scenario with developmental milestones increasing in task difficulty.

pothetical 4-year old children that are believed to achieve the developmental milestones between the low and high investment scenario. We find perceived returns to parental time investment for each difficulty level to range from zero to 100 (Figure 1.2).<sup>9</sup>

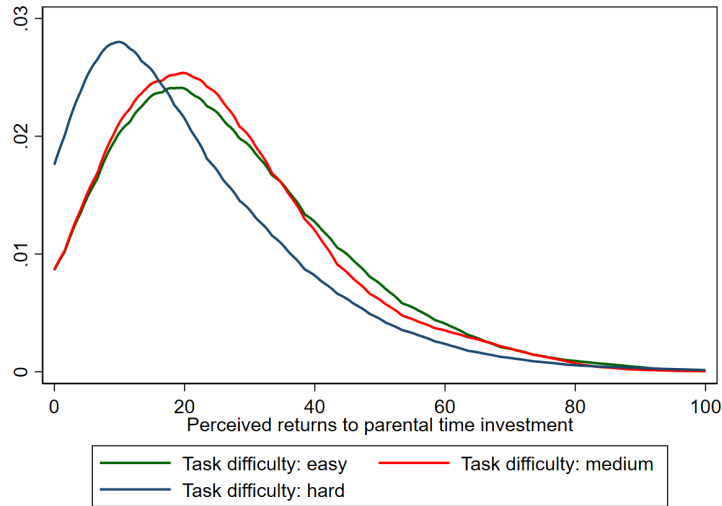
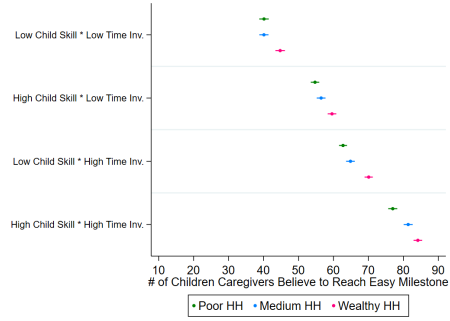


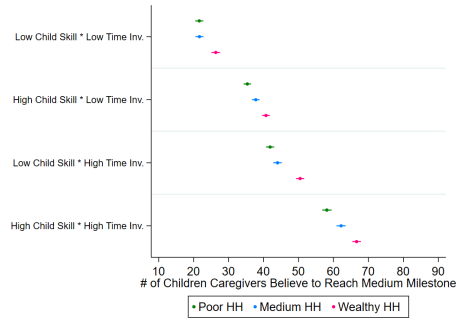
Figure 1.2: Kernel density plots the returns to parental time investment. More specifically, the density plots the difference in average number of hypothetical children believed to achieve developmental milestones between the high and low investment scenario for milestones with different difficulty level. For this figure we drop inconsistent answer patterns, which present around 4% of the total sample.

According to the literature (Biroli et al., 2020; Boneva and Rauh, 2018), one possible factor drives the heterogeneity in perceived returns to parental investment is the socio-economic status of households. Before exploring the heterogeneity in perceived returns to parental investment by socio-economic status, we are interested in whether the raw responses of the number of hypothetical 4-year old children that are believed to achieve the developmental milestones in all four scenarios differ by households socio-economic status. Figure 1.3 shows that the number of hypothetical children households believe can reach each of these milestone always increases as households becomes wealthier in all scenarios. For example, poor households believe that out of 100 children with low initial skill endowments and with low time investment, only around 40 of them can reach the easy milestone, while rich households believe about 45 children can do so. While for 100 children with low initial skill endowments and with high time investment, poor household believe about 63 children can reach the easy milestone as rich household believe 7 more children can do so. We examine that all the differences of responses between poor and rich households are statistically significant at 1% level (Table A3).

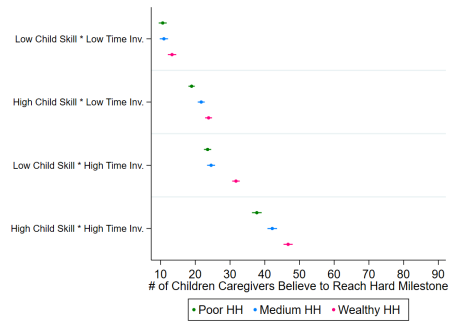
<sup>9</sup> While we keep all response data in our empirical specifications, for the purpose of clarity of the graph we drop all answer patterns where returns are negative. This amounts to dropping around 4% of our sample.



(a) Task Difficulty: Easy



(b) Task Difficulty: Medium



(c) Task Difficulty: Hard

Figure 1.3: Number of Children Caregivers Believe Can Reach Milestones of Different Difficulty in Each Child Skill and Investment Scenario, by Socio-economic Status of HH

Using the response from the hypothetical investment scenarios, we estimate the perceived returns to parental time investment in each socio-economic group shown in Table 1.3. Our results show that households with higher socio-economic backgrounds are more likely to have higher perceived returns to in-

vestment. Poor households perceive that investing time in children increases the probability of reaching each development milestone by an average of 18 percentage points. In contrast, rich households believe that children who receive parental time investment, on average, are 22 percentage more likely to achieve those development milestones. We further find that the difference of perceived returns between low socio-economic and high socio-economic households increases as the difficulty of the milestone increases. For the probability of reaching an easy milestone, the difference in perceived returns between low and high socio-economic households is 2.7 percentage points. In contrast, the difference increases to 5.49 for the probability of reaching a hard milestone. The results of the Chow test indicate that the differences of perceived returns among three socio-economic groups are statistically significant at 1% level (Table 1.3).

Findings on the relationship between parental perceived returns to time investment and their socio-economic status are mixed in the literature. Some studies find significant differences in perceived returns by socio-economic status of households (Biroli et al., 2020; Boneva and Rauh, 2018), while the results in Attanasio, Boneva, et al., 2019 show no significant relationship between income and perceived returns. Our finding provides more evidence to support that parental perceived returns to time investment do differ by socio-economic status.

### **1.6.3 Determinants of Parental Perceived Returns**

In order to better understand the determinants of perceived returns to parental investment we present results of specification 9 in Table 1.4. First, it is noteworthy that overall we are not able to explain much of the variation in perceived returns of caregivers as indicated by the low values of the R-square in either the specification that includes household characteristics or the specification that includes both household and child characteristics. This finding is in line with the literature (Attanasio, Cunha, et al., 2019; Biroli et al., 2020). In a study in Colombia, Attanasio, Cunha, et al., 2019 examined whether maternal perceived returns to parental investment differ across observable characteristics of mothers, however, the values of the R-square of their specifications are less than 0.03. Biroli et al., 2020 found household characteristics can explain no more than 7% variation in the beliefs about behavior persistence of a healthy routine and an unhealthy routine.

None of the baseline child characteristics can significantly predict the perceived returns factor. Caregivers with more than 9 years of education do, on average, have higher perceived returns to their investment, but this finding is not significant at conventional levels. We find that caregivers from households

Table 1.3: Perceived Returns to Parental Investment by Wealth Tercile

	Task difficulty: easy		Task difficulty: medium		Task difficulty: hard	
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Poor Households (N=2010)</b>						
Time investment	22.427 <sup>***</sup> (0.825)	22.606 <sup>***</sup> (0.979)	21.503 <sup>***</sup> (0.794)	20.260 <sup>***</sup> (0.913)	15.858 <sup>***</sup> (0.820)	12.930 <sup>***</sup> (0.913)
High skill endowment	14.408 <sup>***</sup> (0.821)	14.588 <sup>***</sup> (1.028)	14.989 <sup>***</sup> (0.754)	13.745 <sup>***</sup> (0.817)	11.252 <sup>***</sup> (0.659)	8.322 <sup>***</sup> (0.682)
Time investment * High skill endowment		-0.359 (1.067)		2.489 <sup>**</sup> (1.044)		5.860 <sup>***</sup> (1.008)
<b>Medium Households (N=1936)</b>						
Time investment	24.833 <sup>***</sup> (0.803)	24.760 <sup>***</sup> (0.998)	23.365 <sup>***</sup> (0.738)	22.335 <sup>***</sup> (0.908)	17.032 <sup>***</sup> (0.741)	13.597 <sup>***</sup> (0.914)
High skill endowment	16.436 <sup>***</sup> (0.844)	16.364 <sup>***</sup> (1.041)	17.144 <sup>***</sup> (0.804)	16.114 <sup>***</sup> (0.867)	14.185 <sup>***</sup> (0.765)	10.750 <sup>***</sup> (0.850)
Time investment * High skill endowment		0.145 (1.174)		2.060 <sup>*</sup> (1.103)		6.870 <sup>***</sup> (1.166)
<b>Wealthy Households (N=2048)</b>						
Time investment	24.940 <sup>***</sup> (0.852)	25.318 <sup>***</sup> (1.046)	25.037 <sup>***</sup> (0.786)	24.141 <sup>***</sup> (0.965)	20.662 <sup>***</sup> (0.789)	18.420 <sup>***</sup> (0.938)
High skill endowment	14.444 <sup>***</sup> (0.770)	14.822 <sup>***</sup> (1.019)	15.254 <sup>***</sup> (0.741)	14.357 <sup>***</sup> (0.910)	12.771 <sup>***</sup> (0.704)	10.529 <sup>***</sup> (0.820)
Time investment * High skill endowment		-0.756 (1.126)		1.793 <sup>*</sup> (1.063)		4.484 <sup>***</sup> (1.073)
<b>Chow Test: Poor = Medium = Wealthy</b>						
F-statistics	7.4	5.46	9.28	6.26	9.73	6.68
df <sub>1</sub>	4	6	4	6	4	6
df <sub>2</sub>	1498	1498	1498	1498	1498	1498
P-value	0.00	0.00	0.00	0.00	0.00	0.00

Note: All standard errors are clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

with higher socio-economic backgrounds, as indicated by the asset factor, on average, have higher perceived returns and this finding is statistically significant at 5% level. This evidence suggests that there might be a socio-economic gradient in parental subjective beliefs formation. The same finding is shown in section 6.2 and Figure A1.

The variable that is most predictive of perceived returns in our sample is whether the caregiver is also the parent of the child. As indicated in the description of our sample in Table 1.1, only about 64% of the caregivers are also the father/mother of the child. This finding is in line with other studies in rural China where it is common for both fathers and mothers to out-migrate in pursuit of economic opportunities in more urban areas (Chang et al., 2011; Wen and Lin, 2012; Zhou et al., 2015). Hence, a relatively large proportion of rural children is left behind with their grandparents. We find that, on average, grandparents have much lower perceived returns about parental investment compared to parents. Figure A2 further confirms this finding as grandparents have lower perceived returns across the entire distribution compared to parents.

In addition, we examine the determinants of parental perceived returns for households from different socio-economic backgrounds (Table A4). The results show that the dominant factor that determines perceived returns regardless of socio-economic status is whether the caregiver is the parent of the child, which is consistent with the findings using the entire sample as shown above. We also find that poor households tend to have 0.01 standard deviations higher perceived returns as their child health endowment increase by one standard deviation, which is statistically significant at 1% level. Caregivers from medium households with more than 9 years of education have 0.214 standard deviations higher perceived returns, which is statistically significant at 10% level.

#### **1.6.4 Parental Perceived Returns, Household Socio-economic Status and Investment Behavior**

Given our findings in section 6.2 and 6.3, which show that household socio-economic status drives the heterogeneity in their perceived returns, we would like to assess whether the perceived returns determine parental investment for households of different socio-economic status.

The result in Table 1.5 shows both perceived returns and household socio-economic status are positive correlated with parental actual investment behavior. As parental perceived return increases 1 standard deviation (SD), caregivers tend to invest 0.05 SDs more time on their child, statistically significant at 5% level. Caregivers will invest 0.13 SDs more time if they have 1 SD more asset.

Table 1.4: Determinants of Parental Perceived Returns to Investment

	(1)	(2)
	Perceived Returns Factor	Perceived Returns Factor
<b>Caregiver Characteristics</b>		
Caregiver education $\geq 9$ years	0.141* (0.075)	0.125 (0.076)
Caregiver is parent	0.229*** (0.048)	0.252*** (0.049)
HH asset index	0.043*** (0.016)	0.040** (0.017)
<b>Child Characteristics</b>		
Child male		0.004 (0.050)
Child age (months)		-0.002 (0.007)
Child has younger sibling		0.016 (0.057)
Child skill endowment		0.007 (0.035)
Child health endowment		0.003 (0.002)
Observations	1498	1445
$R^2$	0.02	0.03

Note: \* $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Furthermore, we examined heterogeneous effects by applying an interaction term of perceived returns factors and household asset index and report results in Table 1.5. Since parental perceived returns and household wealth are measured as continuous variables, it is difficult to interpret the coefficients of the interaction term. To better illustrate the results, we predict all combinations of parental perceived returns, ranging from -1.8 SDs (1 percentiles of parental perceived returns) to 2.8 SDs (99 percentiles) in increments of 0.2 SDs, and household asset index, ranging from -2.7 SDs (1 percentiles of household asset index) to 3.3 SDs (99 percentiles) in increments of 0.3 SDs. We visualize the predictions in Figure 1.4. We find that when the household socio-economic status is fixed, caregivers are more likely to invest time in their child’s skill formation when they have higher perceived returns to investment. This trend is more obvious for low socio-economic households. For example, figure 1.4 shows that for caregivers with low socio-economic status( e.g. asset index is -2 SDs, below the mean), those having low perceived returns (-1 SD) have a time investment factor less than -0.2 SDs, while others having relatively high perceived returns (2 SD) have a time investment factor ranging from -0.2 to 0. However, for caregivers with high socio-economic status, (e.g. assets index is above 1.7 SDs which is the cut-off line to be counted as a wealthy household), their time investment does not increase in perceived returns. These findings highlight the importance of the perceived returns in increasing parental time investment especially low socio-economic households.

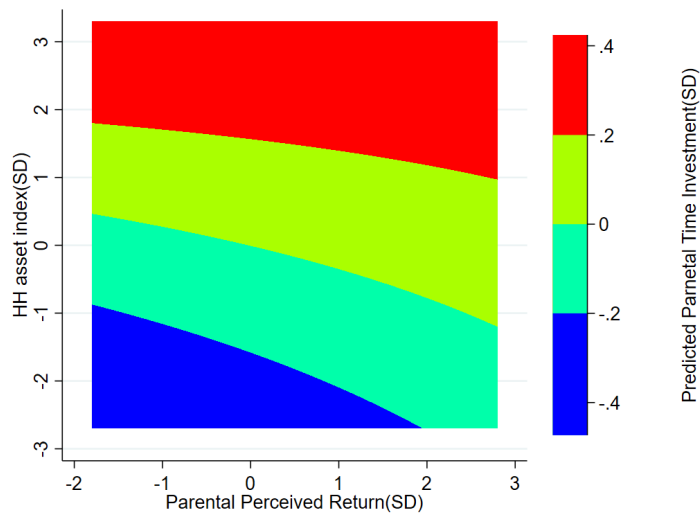


Figure 1.4: Predicting Actual Parental Time Investment by Perceived Returns Factor and Household Asset Factor

Table 1.5: Effects of Perceived Returns and Socio-economic Status on Parental Time Investment

	Time Inv. (1)	Time Inv. (2)	Time Inv. (3)
Perceived return factor	0.054** (0.026)		0.039 (0.025)
HH asset index		0.131*** (0.015)	0.127*** (0.016)
Perceived return factor $\times$ HH asset index			-0.012 (0.015)
Constant	-0.033 (0.053)	-0.062 (0.052)	-0.043 (0.053)
Child and Caregiver Characteristics	YES	YES	YES
Observations	1284	1297	1284
$R^2$	0.05	0.10	0.10

Note: Child and caregiver characteristics include dummies of male child, whether primary caregiver of the child is his/her parent, and whether primary caregiver received at least 9 years of education. All standard errors are clustered at the village level.  $*p < 0.10$ ,  $**p < 0.05$ ,  $***p < 0.01$ .

Our findings indicate that only low socio-economic households investment behavior is consistent with our theoretical framework that decisions regarding time investment depend on parental perceived returns. A large body of literature addresses the irreplaceable role of parental time investment in child development (Barnett and Yarosz, 2007; Berlinski et al., 2008; Su et al., 2021). Thus, improving parental perceived returns could offer the potential to motivate caregivers to invest more time into their child’s development, which is shown to improve child development, especially for households with low socio-economic backgrounds.

## 1.7 Conclusion

This chapter uses a novel survey design based on hypothetical investment scenarios to measure parental perceived returns to their investment in the early skill formation of young children in rural China. Our results first show that our sample caregivers generally have rational and consistent perceived returns

to parental time investment in general. The results demonstrate that caregivers perceive that time investment will increase the probability of reaching certain developmental milestones. We also find that caregivers believe that parental investment and skill endowments are somewhat complementary. In addition, we find that socio-economic background and whether the caregiver is the parent of the child are the significant determinants of perceived returns. On average, caregivers with higher socio-economic backgrounds have significantly higher perceived returns. Grandparents have much lower perceived returns compared to parents. Furthermore, we find that only caregivers with low socio-economic status are more likely to invest more time in their children as their perceived returns increase.

Our study may suffer from a potential limitation. We collected caregivers' perceived returns to investment data when our sample children were about 5 years old, while children in our hypothetical scenarios are 3 years old. Ideally, we would have elicited perceived returns of caregivers when their own children were at the same age as the children in the hypothetical scenarios. Because we collected data 2 years later, we rely on the assumption that parental perceived returns to investment are constant over time. This assumption is supported by the theoretical evidence that parental perceived returns to investment partly depend on the individual's locus of control (Rotter, 1966), which remains relatively constant over time (Cobb-Clark and Schurer, 2013). Given that Attanasio, Cunha, et al., 2019 also collected parental perceived returns data two and half years after the time that they collected parental investment data, we believe our assumption is acceptable.

Our study overcomes the identification problem of measuring parental perceived returns and provides a clear picture of perceived returns in a developing context. Our findings highlight the importance of parental perceived returns in parental investment behavior for households with low socio-economic backgrounds. Further studies are needed to explore the determinants of perceived returns to provide insights into improving perceived returns to parental investment.

# CHAPTER 2

## AFRICAN DIETS: THE ROLE OF INCOME, PRICES AND PREFERENCES

### 2.1 Introduction

Historically, lowering food prices and raising incomes of the poor have both contributed to improved food security, as defined as the adequate intake of dietary energy, macronutrients, and micronutrients to lead a healthy and productive life. For example, the Green Revolution was estimated to lower the real prices of food staples by 35 to 66%, resulting in a corresponding 13.3 to 14.4 % increase in caloric intake per capita and 6.1 to 7.9 % decrease in the proportion of child malnourished in developing countries (Evenson and Gollin, 2003). At the same time that we have seen widespread improvements in food security worldwide, we have also seen rapid transformation of diets across the developing world. The disease burden associated with over-consumption has quickly become a major public health concern (Swinburn et al., 2011). Obesity, for example, is believed to be a risk factor for diseases such as diabetes, heart disease and stroke, and cancer that increase the economic burden of healthcare systems (de Oliveira et al., 2015; Wang et al., 2011). A study in Brazil shows that obesity-related health costs are responsible for 1.86% of medium- and high-complexity healthcare expenses (\$22.6 billion) in 2011 (de Oliveira et al., 2015).

Economic determinants of food intake are very strong. Consumers' purchasing power for food depend on their total available budgets (income plus any change in assets or savings) and the real price of food items, which signal their scarcity in any given time or place. The overall dietary changes associated with improved undernutrition and exacerbated overnutrition both hinge on

consumers’ responses to changes in income and the real prices of foods. Despite broad recognition that these economic determinants of food security – incomes and food prices – are very important, little is known about how diet quality overall changes as incomes and food prices change.

We ask how consumers’ preferences shape diet quality in Africa, given incomes and prices faced. As countries consider ag-nutrition strategies, it is important to understand the role of consumer incomes as well as specific food prices in shaping food consumption. But there is very little good evidence available. Building on consumer demand theory and updated modeling applications, we offer the first comprehensive set of demand models from Africa that use panel data, and are flexible, utility-theoretic, control for unobserved heterogeneity, and account for bias arising from unobserved quality heterogeneity and from price search behavior.

## 2.2 Methods

### 2.2.1 Household Data

We model food demand systems using Living Standards Measurement Study – Integrated Surveys on Agricultural (LSMS-ISA) panel data from six countries – Malawi, Niger, Ethiopia, Uganda, Tanzania, and Nigeria.<sup>10</sup> LSMS-ISA surveys are administered by each country’s national statistics offices in partnership with the World Bank’s Development Data Group. The surveys involve a comprehensive questionnaire, covering multiple topics, that is administered through an in-person interview to a nationally representative sample of households selected through a two-stage sampling procedure. Table 2.1 reports details about each country’s survey years and sample.

<sup>10</sup> LSMS-ISA data can be accessed at <https://www.worldbank.org/en/programs/lsmis>.

Table 2.1: Sample characteristics of nationally representative datasets used to model demand systems

	Malawi	Niger	Ethiopia	Uganda	Tanzania	Nigeria
Survey rounds	2010-11, 2012-13, 2016-17	2011, 2014	2011-12 <sup>a</sup> , 2013-14, 2015-16	2005-06, 2009-10, 2011-12, 2013-14, 2015-16, 2018-19	2008-09, 2010-11, 2012-13	2010-11, 2012-13, 2015-16 <sup>b</sup>
Unique households	3,104	3,974	3,529	3,277	3,165	4,407
HH-year observations	8,088	13,129	8,886	14,419	9,196	25,947
Food items reported	58	73	25	47	50	74
Food group modeled	18	19	14	19	19	19
Share of households in Q1 (wave 1)	44.03	28.40	58.78	51.84	24.88	22.66
Share of households in Q2 (wave 1)	29.41	37.46	28.60	27.05	29.20	28.82
Share of households in Q3 (wave 1)	18.62	23.88	10.65	14.38	25.68	29.72
Share of households in Q4 (wave 1)	7.94	10.25	1.97	6.74	20.24	18.80

Note: <sup>a</sup> Ethiopia’s 2011-12 sample excludes urban households, so our Ethiopia panel focuses on the rural and small town sample that is found across all three survey rounds. <sup>b</sup> In Niger and Nigeria, consumption data were collected twice within each survey rounds, so we effectively have 4 rounds of panel data in Niger, and 6 rounds of panel data in Nigeria.

In the food consumption module of the LSMS-ISA survey, households recall their at home food consumption, by food item and source, over the 7-day period preceding the household interview. The sources include food purchased at a market, food that was self-provisioned (i.e., cultivated by the household),

and food received as a gift or transfer. For food that is purchased, the cost of acquisition is also collected. We discuss imputing unit values for non-purchased items in Section 2.2.2. The number of food items listed in the LSMS survey varies by country, as reported in Table 2.1. We aggregate items that are similar in both diet function and in nutritional characteristics, and we have 18-19 categories everywhere except Ethiopia, where there are 14.

We calculate total household expenditures over the 7-day period preceding the household's interview based on the food expenditures described above and the non-food consumption modules. Non-food expenditure items include food consumed away from the home, alcoholic beverages and tobacco, education and health expenses, and expenditures on various non-food goods and services. Our demand model uses a vector of each food group's share of total expenditures (plus the numéraire good's share in total expenditures) as its dependent variables. These budget share variables are described in Tables D.1 to D.6. We also construct the covariates that we use as demand shifters in our demand model (see Section 2.2.3) using household survey data.

For the purpose of describing our results, we partition each country's sample into four expenditure "quartiles" based on household level total consumption per adult male equivalent per day. These "quartiles" are based on international poverty lines, and thus are defined consistently across countries. The poorest group (Q<sub>1</sub>) is characterized by expenditures below the international standard for extreme poverty, which is \$US 1.90 per capita per day in constant 2017 international \$US, adjusted for 2011 purchasing power parity (PPP) and the consumer price index (CPI) within each country. Households in the second quartile (Q<sub>2</sub>) have daily per capita expenditures between \$US 1.90 and \$US 3.20, which corresponds with the international poverty standard. The third quartile (Q<sub>3</sub>) has per capita daily expenditures between \$US 3.20 and \$US 5.50, corresponding with the international poverty standard for upper-middle-income countries. Households in the fourth quartile have daily per capita expenditures above \$US 5.50.

Because we apply common expenditure cutoffs across all countries to form our "quartiles", consumers in the same quartile can be considered comparable across countries. The share of each country's population falling into each quartile varies by country however. Only 23% of Nigerian households fall into Q<sub>1</sub>, while 52% of Ugandan households do. Only 7% of Ugandan households are part of Q<sub>4</sub>, while 20% of Tanzanian households are (Table 2.1).

### 2.2.2 Prices

We do not observe market prices for the food items consumed by households. Instead, we use the total value per unit of item purchased, which is observed whenever a household purchases an item from a market, to construct market level unit values for each food item. These unit values reflect a household's opportunity cost of consuming an item whether or not it is purchased at the market.

We follow several steps to construct unit values. First, we convert consumption of each food item to the most commonly reported unit for that item in that country. Second, we clean consumption outliers by bottom- and top-coding quantity consumed at the 1st and 99th percentiles, respectively, of item level consumption per adult male equivalent. Third, we use total expenditures and the total quantity purchased to create a unit value for each purchased item. Fourth, we clean unit value outliers by bottom- and top-coding them at the item level to the 1<sup>st</sup> and 99<sup>th</sup> percentiles, respectively. Fifth, we impute item level unit values for households who do not consume any market-purchased portion of an item during the 7-day recall period preceding the interview date, following Perali and Chavas, 2000. We generate imputed unit values using the median unit values at the food item, unit, and the most dis-aggregated geographic level for which we have at least three unit value observations in order to reduce the influence of unit value outliers. Geographically, we start with the EA level and continue with the ward, district, region (interacted with urban), and then national level (interacted with urban). We use an instrumental variable approach to account for price endogeneity, as discussed in Section 2.2.4.

### 2.2.3 Demand Model

We characterize household demand for multiple food groups and a composite numéraire good that incorporates all other consumption goods and services using a two-way approximate linearized Exact Affine Stone Index (EASI) demand model (Lewbel and Pendakur, 2009). The EASI model is an incomplete demand system in that it omits consumption of leisure. However, it does include all non-food consumption of goods and services in the form of one numéraire good, thus avoiding the very common yet problematic assumption that it is appropriate to model demand for individual food items conditional on total *food* expenditures (as opposed to total expenditures; Hanemann and Morey, 1992; LaFrance and Hanemann, 1989). The EASI model is also attractive because it is more flexible in functional form than more commonly used alternatives, such as the Almost Ideal Demand (AID) system and the Quadratic

Almost Ideal Demand System, allowing for more curvature in the Engel curves that describe the relationship between expenditures and food demand, as well as the Slutsky matrix that describes the relationship between prices and demand (Lewbel and Pendakur, 2009). The EASI model can be approximated using a system of estimation equations that are linear in parameters. For all six countries, we follow the specification used by (McCullough et al., 2021):

$$w_{hit}^* = \mu_i + \sum_{j=1}^J \alpha_{ij} p_{hjt} + \sum_{r=1}^L \beta_{ir} y_{ht}^r + \sum_{j=1}^J \alpha_{ijy} (y_{ht} \times p_{hjt}) + \sum_{k=1}^K \gamma_{ik} z_{hkt} + u_{hit},$$

$$(h = 1, \dots, H; i = 1, \dots, J - 1; t = 1, \dots, T).$$
(2.1)

In Equation 2.1,  $w_{hit}^*$  represents household  $h$ 's latent budget share for food group  $i$  at time  $t$ . The household's observed budget share during the 7-day recall period,  $w_{hit}$ , is the latent budget share that is censored at zero, as discussed in Section 2.2.4. The log price index for household  $h$  and food group  $j$  at time  $t$  is denoted by  $p_{hjt}$ . The variable  $y_{ht}$  represents the log of household  $h$ 's real total expenditures in period  $t$ . Following Lewbel and Pendakur, 2009, we construct  $y_{ht}$  as the log of total household expenditures deflated by the Stone price index:  $\log x_{ht} - \sum_{j=1}^J w_{hjt} p_{hjt}$ , where  $x_{ht}$  is nominal total household expenditures on food and non-food items.  $J$  represents the total number of goods in our demand system (the number of food groups in Table 2.1 plus the numéraire good).  $H$  represents the total number of households in each dataset.  $L$  represents the highest degree of total expenditure polynomial included in the specification and is selected during the estimation procedure, as discussed in Section 2.2.4.

The vector  $z_{hkt}$  in Equation 2.1 represents  $K$  demand shifters that control for observed taste differences among households, including household head age, household size adjusted for adult equivalence,<sup>11</sup> household dependency ratio, and indicators the household head's marital status and gender, indicators for each survey wave, geographic controls including an indicator for urban areas and for each region, and an intercept.<sup>12</sup> Following McCullough et al., 2021, we control for time invariant unobserved heterogeneity in tastes and preferences at the community level by including a vector of correlated random effects in  $z_{hkt}$ . These effects include enumeration area (EA) level means across survey waves of both the price vector ( $\overline{p_{hjt}^c}$ ) and the interaction between the price vector and real total household expenditures ( $\overline{y_{ht} \times p_{hjt}^c}$ ) into  $z_{hkt}$ . Each household is linked with its corresponding EA in the first survey round. We associate households who move away from their communities with the tastes and preferences from their originating communities (Atkin, 2013; Cockx et al., 2018).

<sup>11</sup> Following the commonly used weights in the literature (De Janvry and Sadoulet, 2015; Haughton and Khandker, 2009), We adjust for adult equivalence using 1 as a weight for household members who are above age 17, 0.5 for members who are 13 - 17, 0.3 for members who are 7 - 12, 0.2 for members who are under 7.

<sup>12</sup> The demand shifters of Uganda's model do not include the indicator for household head's gender and household dependency ratio. Continuous demand shifters are logged and demeaned in the models for consumers in Tanzania, Malawi, and Nigeria.

#### 2.2.4 Estimation

With a large number of goods reported over a short recall period, it is very common for a household to not consume anything from a food group during the recall period. As zero consumption values pose an estimation challenge, we estimate latent demand using a Tobit model, which is used commonly in the censored demand literature (Kasteridis et al., 2011; Meyerhoefer et al., 2005; Perali and Chavas, 2000).

We impose several cross-equation restrictions on our latent demand system parameters consistent with the widely acknowledged properties of a well behaved demand system – homogeneity, symmetry and adding-up. With the adding up restriction, we recover the parameters of the budget share equation for the numéraire good. We estimate this censored demand system with cross-equation restrictions using the extended Amemiya’s generalized least squares (AGLS) estimator, which was adapted to a very similar application by Zhen et al., 2014.

We address two sources of endogeneity with our estimation approach. The first source arises from the fact that each household’s own budget shares (the dependent variables in our demand system) also are used to calculate the household’s Stone price index, which is part of the household’s real expenditures variable,  $\log x_{ht}$ , (a regressor in our demand system). We instrument each household’s Stone price index with a modified index, which deflates expenditures by  $\overline{w}_{it}$ , the sample-average budget share for food group  $i$  (Lewbel and Pendakur, 2009).

The second source of endogeneity arises when households do not face prices in the market that are determined exogenously from household characteristics and preferences (Cox and Wohlgenant, 1986). For example, households who really like to consume rice might try harder to find a low price for rice on the market. Another example relates to quality heterogeneity within food groups (e.g., households that are wealthy might seek out beef rather than the less expensive goat meat) or within food items (e.g., households that are wealthy might consume more steak than ground beef). We create a Fisher Ideal price unit at the food group level in order to reduce the influence of unit value bias caused by substitution between food items within a food group (e.g. between types of red meat).<sup>13</sup> We reduce the influence of household level price search behavior and within-item substitutions by constructing three instruments for each price index – the first uses donor households from the same survey wave and EA, the second uses donor households from the same survey wave and region, and the third uses donor households from the same geographic zone and survey month and year.<sup>14</sup>

<sup>13</sup> For the numéraire good, we use the each country’s consumer price index (CPI) less food, alcoholic beverages, tobacco, and narcotics, as their price index.

<sup>14</sup> For the numéraire good, the instrument is based on CPI lagged by two months.

### 2.2.5 Food Demand Elasticities

Using the demand system parameters, we calculate predicted budget shares for each household-year observation by evaluating Eq. (2.1). We calculate a price elasticity matrix for each household-year observation and a total expenditure elasticity for each household-year observation according to the methods discussed in Appendix E, evaluating each price and expenditure elasticity at each data point.

We use a simulation approach to generate standard errors for each prediction, drawing parameters 100 times from a multivariate normal distribution with means equal to the parameter vector and variance equal to the parameter covariance matrix (Krinsky and Robb, 1990).

Tables D.31 to D.54 report the sample-wide median price and total expenditure elasticities and their standard errors by expenditure quartile for each country's demand system. Food demand is more responsive to expenditure changes than food price changes, regardless of household total expenditure levels and countries. The poorer the consumers, the more sensitive to expenditure changes. The trend holds for all six countries. Our results also show a consistent demand pattern for consumers in all six countries: the total expenditure elasticities for animal-sourced foods such as poultry, red meat, and dairy are relatively high. We also find that consumers with additional income tend to shift their demand towards less inessential food, such as soft drinks. Especially in Malawi and Niger, the expenditure elasticity of soft drinks exceeds 2 for consumers in all expenditure quartiles.

Figures D.8 to D.9 show the own- and cross-price elasticities in matrix form for all expenditure groups of each country, respectively. Consistent with the previous findings of consumption patterns in the literature, our results show that food consumption is more responsive to own-price than cross-price changes for consumers in most countries, except for Ethiopia consumers in the second, third, and fourth quartiles. We also found that in Malawi, Niger, and Tanzania, poor consumers tend to show stronger cross-price effects in response to price change. Especially, maize price is the most important one for demand substitution among the poorest quartiles consumers in Malawi and Tanzania, while millet is in Niger. For example, when maize price increases 1%, the consumption of red meat, poultry, dairy, tea, and soft drinks will decrease more than 1% for consumers of the poorest expenditure group in Malawi (Table D.31), and the consumption of red meat and poultry will decrease more than 1% for the poorest consumers in Tanzania (Table D.47). Similarly, in the poorest expenditure group of Niger, cross-price pairs of millet and eggs, fish, and soft drinks have a median elasticity of substitution less than -1 (Table D.35).

### **2.2.6 Nutrient Demand Elasticities**

We derive nutrient demand elasticities using the price and expenditure elasticities described above, following K. S. Huang, 1996 and K. S. Huang and Lin, 2000. The approach is discussed in more detail in Appendix E.

We report the median elasticity of micro- and micro-nutrient with respect to total expenditures and a price change in each food group by country and expenditure group in Tables D.7 to D.30. In general, for each nutrient, the total expenditure elasticity is larger than any price elasticity. We also find that the micro- and macro- nutrients consumption for poorer consumers are more sensitive to total expenditure than for wealthier consumers. For example, in Malawi, the expenditure elasticities of 4 nutrients (fat, iron, vitamin A and total folate) are greater than 1 for the poorest quartile, while none of them are greater than 1 for the wealthiest quartile. Similarly, in Ethiopia, the expenditure elasticities of all nutrients are greater than 1 for the poorest quartile, however, only the expenditure elasticities of protein, fat, and vitamin A are still greater than 1 for the wealthiest quartile. In addition, our results suggest a clear pattern that nutrient intake is more responsive to the price of one single staple than the price of any other food group in Malawi (maize), Niger (millet), and Tanzania (maize), especially for poor consumers.

### **2.2.7 Diet Quality Assessment**

To assess diet quality, we employ three different measures. The first measure, intake adequacy, relates to adequacy of each nutrient's intake relative to the household's requirement. The second, dietary balance, relates to dietary balance and is based on the share of each key macro-nutrient in total dietary energy intake. The third measure, the Nutrient Rich Foods Index, relates to the nutrient density of a household's diet.

To examine intake adequacy of each dietary component (dietary energy, carbohydrates, protein, fat, iron, zinc, vitamin A, and total folates – hereafter "nutrient"), we rely primarily on a binary assessment of whether a household's intake of a nutrient exceeds the household level estimated average requirement (EAR) for that nutrient. This measure is analogous to a Foster-Greer-Thorbecke (FGT-0) headcount ratio (Foster et al., 1984). The population level average intake adequacy measure then reflects the share of households in a population whose intake of a given nutrient is deemed "adequate." We also present, in some cases, a nutrient intake gap. This is based on the ratio between a household's nutrient intake and the household's requirement (EAR). When the gap exceeds one, the household's intake exceeds the requirement. When the gap is less than

one, the household’s intake is that fraction of the EAR. The nutrient intake gap is analogous to a Foster-Greer-Thorbecke (FGT-1) poverty gap ratio.

We use the concept of macronutrient balance as a proxy for problems of over-consumption and under-consumption. We assess the share of protein, fat and carbohydrates in each household’s total dietary energy intake. The World Health Organization specifies a range of recommended intake for each macronutrient (10-15% for protein, 15-30% for fat, and 55-75% for carbohydrates). Consumption of these macro-nutrients in ratios outside of the recommended intake range indicates a dietary imbalance that is predictive of chronic disease (Amine et al., 2003). In particular, consumption of fats in excess of 30% of dietary energy is predictive of over-consumption, and consumption of carbohydrates in excess of 75% of dietary energy is predictive of under-consumption.

The Nutrient Rich Foods Index (NRFI) is a diet-level measure that we use to assess overall diet quality (Drewnowski, 2010; Fulgoni III et al., 2009). NRFI is a scoring system based on the density of 12 individual diet components. Nine of these are considered “good,” and thus increased intake raises the overall NRFI measure (these are protein, fiber, vitamin A, vitamin C, vitamin E, calcium, iron, magnesium, and potassium). Three nutrient components are considered “bad,” and thus increased intake lowers the overall NRFI measure (saturated fat, added sugar, and sodium). For each household, we first score intake of each nutrient ( $\gamma$ ) relative to total dietary energy intake using the following equation:

$$NutScore_{\gamma} = \max \left\{ \frac{\varphi_{\gamma}}{\varphi_{kcal}} \cdot \frac{2000}{DRV_{\gamma}}, 1 \right\}, \quad (2.2)$$

where  $\varphi_{\gamma}$  represents the intake of nutrient  $\gamma$ ,  $\varphi_{kcal}$  represents total dietary energy intake,  $DRV_{\gamma}$  refers to the USDA’s Daily Reference Value (DRV) for each nutrient’s intake per 2,000 calories, for adults and children aged 4 years and older. If the  $NutScore_{\gamma}$  exceeds 1 for a good nutrient, it is truncated to 1. Summing across the nutrient score for all 12 diet components, the NRFI is then:

$$NRFI = \left( \sum_{\gamma \in \text{GOOD}} NutScore_{\gamma} - \sum_{\gamma \in \text{BAD}} NutScore_{\gamma} - 1 \right) * 100. \quad (2.3)$$

Both of our diet level quality measures – macro-nutrient balance and NRFI – are normalized by caloric intake, and thus they are not sensitive to misreporting of quantities consumed by a household, assuming a household misreports quantities similarly for all food items.

### 2.2.8 CT and PV Simulations

We use policy simulations to test the sensitivity of diet quality to changes in total expenditures and food prices. We simulate two policies – a cash transfer of fixed size (CT), and a price voucher that offers a 25% price discount on various categories of foods (PV). Both the size of the CT and the PV discount level are selected using real-world policy precedents.

Social protection programs such as cash transfers are seen as an important vehicle for improving nutrition because they raise incomes for poor consumers, which is strongly associated with poverty reduction and improved food security. Furthermore, through their delivery mechanisms (e.g., by empowering women, or delivering specific food products in kind) or by imposing conditions that reinforce desired behaviors (e.g., schooling for girls), social protection programs can affect behaviors that determine household food security (Alderman, 2015).

We select a cash transfer size (CT) based on a meta-analysis of 57 evaluations conducted on 24 different social safety net programs across Africa (Ralston et al., 2017). We benchmark a transfer size at 20% of the median household expenditure levels of households whose per capita expenditures fall below the \$1.90/day international poverty line equivalent. The benchmark transfer size for each country is depicted in the first row of Table 2.2.

Next, following the same meta-analysis social safety net programs Africa (Ralston et al., 2017), we assume that 75% of the CT is used to increase total household expenditures (rather than, e.g., saving it or investing it in a farm or non-farm enterprise). We convert this assumed monthly increase in total household expenditures to its weekly equivalent and then calculate the proportionate increase in the household's total expenditures as a share of its pre-CT total expenditures. For each household and each food group (plus the numeraire), we calculate the post-CT predicted consumption by multiplying the household's pre-CT consumption quantity with its expenditure elasticity of demand and its proportionate increase in total household expenditures. We then compare the pre-CT and post-CT diet quality measures discussed above (i.e., intake adequacy, macronutrient balance, and NRFI).

For the sake of comparing the distributional effects of CTs, and so that we assess PV impacts against a CT impact benchmark, we simulate CTs not just for Q<sub>1</sub> (poor) consumers but also for Q<sub>2</sub>-Q<sub>4</sub> consumers. We note that social protection programs often include non-poor households (Beegle et al., 2018), so CT simulations for non-poor households are also policy relevant. In all cases, we hold the CT size fixed based on the median expenditures of Q<sub>1</sub> households, as described above. We calculate monthly program costs per CT recipient per country simply as this transfer size, assuming that there are no

overhead administration or targeting costs, and no adjustments to the transfer amount based on household size or composition. These costs are reported by country in the first row of Table 2.2.

We acknowledge several important assumptions that we make in simulating the impacts of CTs on diet quality. First, we assume that the CT does not result in any equilibrium impacts on relative prices that consumers face (for each food group and the numéraire good). While there is evidence that CTs can increase the prices of perishable foods in remote markets if CT program saturation rates are large, we do not incorporate these effects in our analysis. We also assume the CTs would not result in a change in consumer incomes, either by increasing wage rates for households or if CT proceeds are invested into household managed enterprises (e.g., a farm).

Next, we design a Price Voucher policy simulation. High nutrient density foods are generally costlier per calorie than low nutrient-density foods worldwide and especially in sub-Saharan Africa, which deters poor consumers from consuming high nutrient density foods (Headey and Alderman, 2019). Nutritious diets are expensive relative to poor consumers' purchasing power, with the EAT Lancet diet costing about 75% of the daily mean per capita income of a sub-Saharan African household (Hirvonen et al., 2020). PVs have been used in many cases to lower the costs of, and thereby encourage consumption of, healthy foods (Gittelsohn et al., 2017). It is also common for developing country governments to subsidize the prices of food staples for poor consumers as a safety net intervention.

We select a PV size of 25% in order to align with consumer subsidy interventions that have been used to influence diet quality. Consumer price subsidies between the range of 10% and 50% have been used to encourage consumption of healthy foods like fresh fruits and vegetables, though discounts that exceed 30% are somewhat uncommon (Gittelsohn et al., 2017). PV evidence largely comes from developed countries, where fresh fruits and vegetables are often targeted. A piloted FFV subsidy of 30% targeting SNAP beneficiaries increased FFV intake by about 26% in the USA (Olsho et al., 2016). In Sweden, a 50% subsidy of whole grain bread and breakfast cereals led to a 38% increase in fiber intake (Nordström and Thunström, 2009). In South Africa, the HealthyFood program, which offered a 25% price discount on selected fresh fruits and vegetables and whole grains to 260,000 households in South Africa, was found to increase the consumption of healthy items while lowering consumption of unhealthy foods, such as foods high in sugar and salt, fried foods, fast foods, and processed meats (An et al., 2013). In China, Jensen and Miller, 2010 find that staple grain PVs ranging from 8% to 25% do alter food consumption patterns.

We separately apply PVs to 5 different food categories: staple grains, starchy staples, pulses & nuts, fruits & vegetables, and animal source foods. We categorize our food groups in each country into these five categories, and the mapping of them is shown in Table D.55. We multiply pre-PV intake of each food group by the 25% PV and the vector of own and cross-price elasticities with respect to each subsidized food group within the category, thus accounting for an own-price response and cross-price effects, in order to predict post-PV consumption. We then compare households' diet quality indicators with and without each food category PV. As with CTs, we assume that the PV does not result in any equilibrium price effects, e.g., by driving up demand for specific foods. We also assume household incomes are not affected by equilibrium effects induced by the PVs, such as changing output or production factor prices.

The cost of a PV depends on the discount provided and the post-subsidy demand for each subsidized item. We share our methodology for calculating the value to a household of a PV in Appendix E. As with CTs, we ignore program administrative costs. We summarize these costs by country, food category, and quartile of consumer targeted in Table 2.2. In general, it is more costly to provide a PV to a wealthy household than a poor household because wealthy households consume higher quality products within each category (thus a 25% discount on a premium item costs more to provide than a 25% discount on a budget item), and because wealthy households tend to consume larger quantities of many food items than do poorer households.

## **2.3 Results**

### **2.3.1 Diet quality generally improves with total household expenditures**

We explore the relationship between total household expenditures and diet quality in two ways. First, we use the parameters of large food demand systems estimated in six sub-Saharan African countries (Malawi, Niger, Ethiopia, Uganda, Tanzania, and Nigeria) to describe the sensitivity of intake of dietary energy, macronutrients and micronutrients to changes in total expenditures. We also evaluate the sensitivity of overall diet quality, as measured by macronutrient balance and the Nutrient Rich Food Index (a measure of a diet's nutrient density), to total expenditures. Second, we simulate a cash transfer (CT) and then examine its impacts on intake of dietary energy, macro- and micro- nutrients and on the two measures of diet quality. We present our findings in the remainder of this sub-section.

Table 2.2: Costs of implementing a CT and PV program

		Malawi	Niger	Ethiopia	Uganda	Tanzania	Nigeria	
Average monthly household transfer size per household (2011 USD PPP)	Q1-4	36.69	42.17	36.40	29.64	31.72	48.84	
Staple grains	Q1	19.86	26.46	18.56	5.84	11.08	17.59	
	Q2	32.83	37.87	25.37	8.88	19.30	22.25	
	Q3	43.65	46.15	26.24	10.60	25.08	23.18	
	Q4	50.24	46.05	19.19	12.13	28.39	22.01	
Average monthly cost of PV program per household (2011 USD PPP)	Starchy staples	Q1	3.89	0.56	1.01	9.69	4.60	7.65
		Q2	6.33	1.30	1.46	15.88	6.87	12.60
		Q3	7.71	2.59	2.21	20.29	8.25	16.33
		Q4	7.47	5.05	3.95	21.69	8.57	17.46
Pulses & nuts	Q1	4.85	1.59	3.41	5.52	3.59	3.71	
	Q2	8.62	2.50	4.24	8.81	4.89	5.25	
	Q3	11.97	3.55	6.01	10.20	5.13	5.72	
	Q4	14.64	3.51	8.62	10.98	4.42	5.90	
Fruits & vegetables	Q1	6.09	1.58	1.46	2.89	4.45	5.21	
	Q2	9.48	2.58	2.01	4.78	7.12	7.74	
	Q3	13.24	4.66	2.82	6.37	9.61	9.75	
	Q4	19.37	9.31	2.81	9.47	14.09	12.18	
Animal source foods	Q1	3.66	1.52	3.88	4.63	4.27	8.52	
	Q2	10.68	4.98	7.88	10.95	9.95	16.37	
	Q3	22.96	11.61	15.72	18.39	17.36	25.44	
	Q4	39.03	34.78	21.80	30.97	32.34	38.41	
Median marginal propensity to consume cash transfer on food	Q1	0.57	0.53	0.53	0.47	0.55	0.61	
	Q2	0.61	0.45	0.53	0.44	0.58	0.61	
	Q3	0.58	0.40	0.50	0.34	0.50	0.54	
	Q4	0.37	0.36	0.49	0.16	0.33	0.42	

Note: The methodologies used to calculate a household's marginal propensity to consume food in total and the monthly cost of PV programs by food category can be found in Appendix E.

In all countries, we find that wealthier consumers are much more likely to have sufficient intake of dietary energy, macro-nutrients and micro-nutrients. Wealthier consumers are more likely to have diets that are well balanced. The majority of poor consumers in all six countries consume protein in a smaller share of total dietary energy than is recommended by the WHO, a sign of dietary imbalance. Many poor consumers also consume an excess share of carbohydrates in total dietary energy in Malawi, Ethiopia, Uganda, and Tanzania. Fat is often underconsumed by poor consumers in Malawi, Niger, Ethiopia and Tanzania but is overconsumed by more consumers in Uganda and Nigeria.

When we simulate a CT, we find that poor consumers are more likely to consume sufficient dietary energy, macro- and micro-nutrients, though gaps in intake remain. CTs lessen the over-consumption of carbohydrates for some poor consumers in Malawi and Tanzania. CTs improve under-consumption of protein in Niger, Ethiopia, Uganda, and Tanzania and of fat in Malawi, Niger and Tanzania without exacerbating over-consumption of fat. NRFI, a measure

of a diet's nutrient density, also improves for poor consumers after a CT in Malawi, Ethiopia, Uganda and Nigeria, while decreasing for poor consumers in Niger and Tanzania. The impact of CTs on NRFI are much smaller in magnitude for wealthy consumers than for poor consumers.

### **Poor consumers have expenditure-elastic demand for nutrients**

Figure D.1 shows the expenditure elasticities of demand for each macro- and micro- nutrient, separated by total expenditures quartile, for each country.

Demand for dietary energy (DE) is expenditure elastic only for poor (Q<sub>1</sub>) consumers in Niger, Uganda and Nigeria. Consumers in all quartiles exhibit inelastic demand for DE in Malawi, Ethiopia and Tanzania. Nigeria is unusual in that even wealthier (Q<sub>2</sub> and Q<sub>3</sub>) consumers exhibit slightly elastic demand for DE. Demand for carbohydrates is similar to demand for DE.

Consumers show much more elastic demand for fat with respect to total expenditures than they do for DE, except for in Uganda and Nigeria. Demand for protein is more expenditure elastic than demand for DE, except for in Malawi. Generally, consumers appear to shift their food expenditures towards fat and/or protein at the expense of carbohydrates as they become wealthier, which is consistent with improving diet quality.

Regarding micro-nutrients, expenditure elasticity patterns vary from country to country. Poor consumers have expenditure-elastic demand for iron in Ethiopia and Nigeria only. They have expenditure-elastic demand for zinc in Niger, Ethiopia, Uganda and Nigeria only. They have expenditure elastic demand for vitamin A in Malawi, Ethiopia and Tanzania only. Poor (Q<sub>1</sub>) consumers have expenditure elastic demand for folate everywhere except for Ethiopia and Uganda.

For all six countries and for all macro- and micro- nutrients, wealthier consumers have smaller expenditure elasticities of dietary intake than do poorer consumers. The response of micro and macro nutrient intake to an increase in expenditures is much larger for poorer consumers (quartiles 1 & 2) compared to wealthier consumers.

### **Growth in total expenditures is associated with increased dietary energy intake**

Figure 2.1 shows the relationship between total per capita expenditures and the probability that a household's DE intake is adequate (i.e., it exceeds the household's estimated average requirement (EAR), as described in Sec. 2.2.7). The probability that a household's DE intake is adequate is strongly increasing in

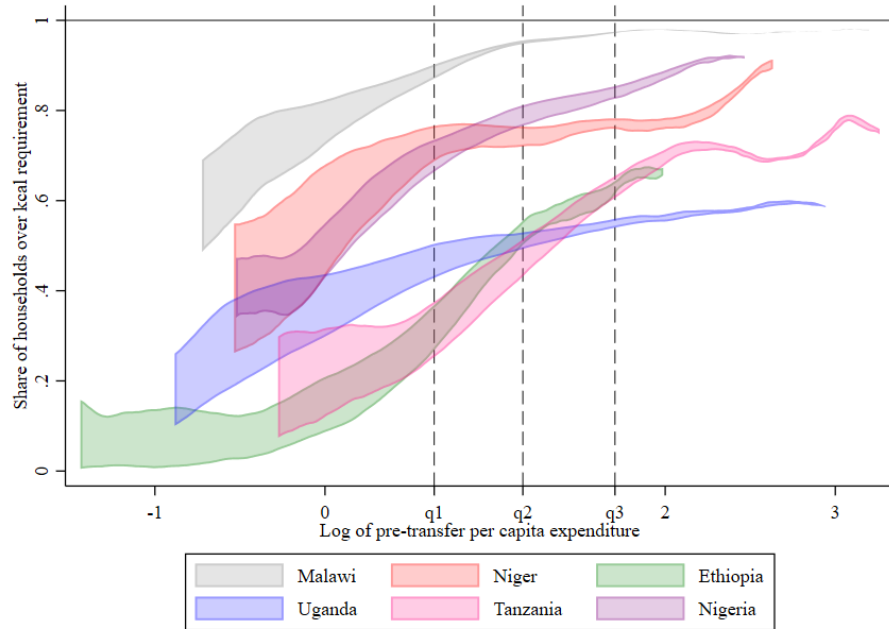


Figure 2.1: Predicted probability of dietary energy (DE) sufficiency conditional on total household expenditures, before and after a simulated cash transfer (CT). The horizontal axis depicts the log of total household expenditures per adult equivalent (in \$US, PPP). The vertical axis depicts the share of households with sufficient intake of dietary energy (that is, dietary energy intake exceeds the household's recommended dietary intake). The shaded area corresponding with each country depicts the predicted increase in the share of households with sufficient dietary energy intake following the simulated CT. It is bounded below by the pre-transfer share of households with sufficient DE intake and above by the post-transfer share of households with sufficient DE intake. The dashed lines represent the median cutoff points between expenditure quartiles.

total household expenditures. The probability of sufficient DE intake increases most strongly with expenditures in Niger, where 25% of the poorest households have sufficient DE intake, while 65% of households at the top end of Q<sub>1</sub> consume sufficient DE. The effect of expenditures is also large in Ethiopia, where only 5% of the poorest households consume sufficient DE and 50% of households at the top end of Q<sub>2</sub> consume sufficient DE. Overall, the relationship between expenditures and the probability of sufficient DE intake is clearly increasing in expenditures.

Figure D.2 shows the relationship between total per capita expenditures and predicted dietary energy intake as a share of EAR for each country. The average wealthy household's intake of DE exceeds the recommended intake for wealthy consumers in all countries, but not for poor consumers in Niger, Ethiopia,

Uganda and Tanzania. These results suggest that DE over-consumption could be a concern for many wealthy households. We explore this possibility with our macronutrient dietary balance measure.

### **Overall nutrient density of diets is strongly associated with growth in total expenditures**

NRFI, as discussed in Sec. 2.2.7, is an overall measure of a diet's nutrient density that increases with increased concentration of "good" micronutrients and decreases with increased concentration of "bad" dietary components like saturated fat and added sugar. Figure 2.5 shows that wealthier households has higher NRFI score than poor households.

### **Cash transfers close intake gaps for the poor**

A simulated CT, as discussed in Sec. 2.2.8, results in a large increase in the probability that poor ( $Q_1$  as well as  $Q_2$ ) households consume sufficient dietary energy in all countries. Figure 2.1 plots the increase in the share of households whose dietary energy intake exceed the EAR, conditional on household total per capita expenditures (in \$US, PPP) with and without the simulated CT. The effect of the CT in pushing households above the dietary energy intake requirement is largest for poor households and is generally small for wealthy households.

A CT would raise the share of consumers who have sufficient intake of key macro- and micro- nutrients. Figure 2.2 depicts the share of households in each quartile with adequate intake of each macro- and micro- nutrient without any CT, as depicted by one horizontal line for each country. The "x" marker depicts the post-CT share of households with sufficient intake of each macro- and micro-nutrient. Following a CT, the share of  $Q_1$  households with sufficient protein intake increases from 58% to 77% in Niger, the country with the largest increase. The increase is also large in Tanzania (16%), Ethiopia (9%), Uganda (9%), and Nigeria (9%). It is smallest in Malawi (a 8% increase, from 75% to 83% of households). The CT is also effective in increasing the share of poor households who have sufficient intake of protein, iron, zinc, vitamin A and total folate. There are only one exception, where pre-CT intake is very low and also not responsive to the CT (e.g. vitamin A in Ethiopia).

### **Cash transfers improve nutrient density of diets for poor consumers**

We also assess the response of NRFI, our measure of diet-level nutrient density, to the CT simulation. Figure 2.3 shows the expected change in NRFI following the simulated cash transfer (CT) conditional on total per capita expenditures.

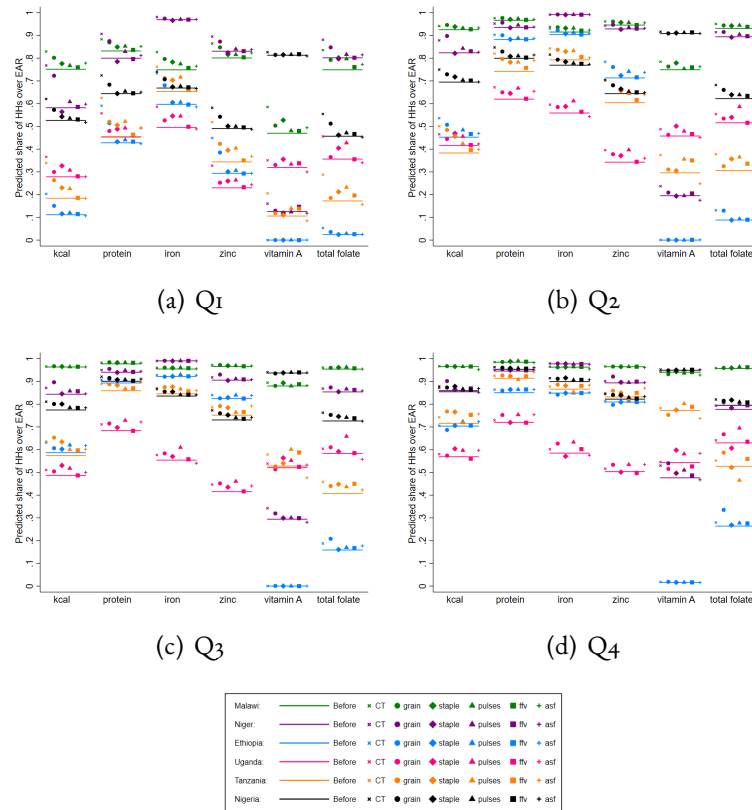


Figure 2.2: Predicted share of households with sufficient intake (exceeding EAR) of each macro- and micro- nutrient before (solid line) and after each CT/PV, separated by quartile, in (a) Ethiopia (b) Malawi (c) Niger (d) Nigeria (e) Tanzania, and (f) Uganda.

With the exception of Tanzania and Niger, the CT improves expected NRFI for poor ( $Q_1$ ) consumers. The effect is largest in Malawi, where NRFI increases by 0.15 standard deviations. It is more modest in Ethiopia, Uganda and Nigeria, and is negative but small in Niger and Tanzania.

NRFI is comprised of nine different dietary components, of which some are positively associated with improved diet quality and some are negatively associated. Because consumer diets evolve in many ways as their expenditures increase, there is no clear pattern in how a CT affects diet quality for wealthy vs poor consumers. In Malawi and Ethiopia, the effect of a CT on NRFI is generally positive but diminishes in magnitude as total expenditures increase. In Tanzania, the CT has a small negative expected effect on NRFI that decreases in magnitude as total expenditures increase. In Uganda and Nigeria, the effect

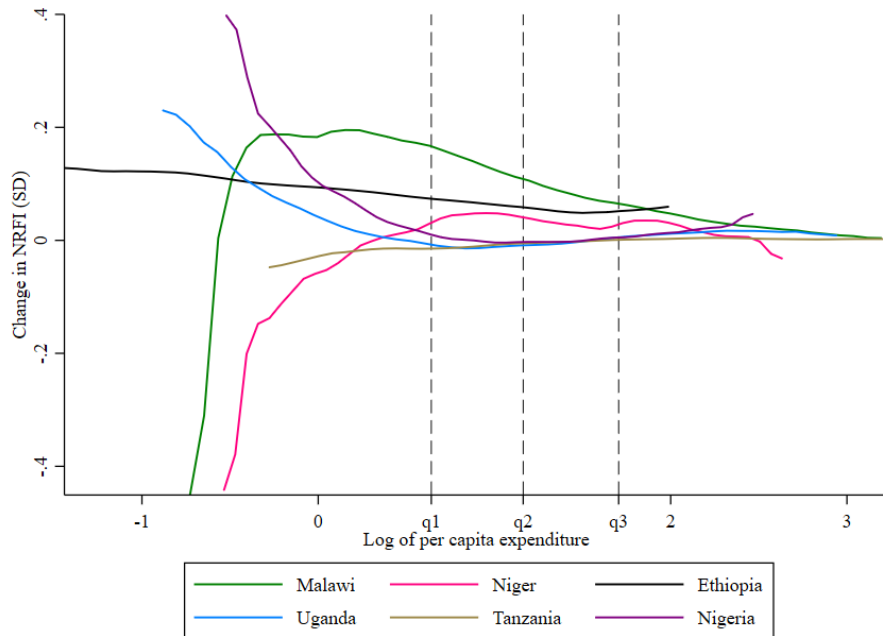


Figure 2.3: NRFI response to simulated cash transfer. The horizontal axis depicts log per capita total expenditures. The vertical axis depicts the predicted change in NRFI after a CT. The NRFI response is standardized, so that 0 indicates no change and 1 indicates one full standard deviation increase. The dots correspond with the median expenditure and prediction for each expenditure quartile.

of the CT on NRFI follows a u-shaped pattern over total expenditures, while in Niger it follows an inverted u-shaped pattern.

### Cash transfers do not exacerbate dietary imbalance

As show in Figure 2.4, the CT appears to lower the share of consumers who consume an excess of carbohydrates (exceeding 75% of dietary energy) in Malawi and Tanzania. The share of consumers consuming an excess of carbohydrates does not increase in any of the remaining countries. The CT also lowers the share of households that consume less than 10% of their calories from protein in Niger, Ethiopia, Uganda, and Tanzania. Finally, the CT lowers the share of households who consume less than 15% of their calories from fat, another sign of under-consumption, in Malawi, Niger, and Tanzania.

With regards to over-consumption, we are concerned with the share of households who derive more than 30% of their DE from fat or more than 15%

from protein. The CT does not increase the share of households with excess fat consumption anywhere. Protein consumption exceeding 15% of DE is rare and unaffected by the CT.

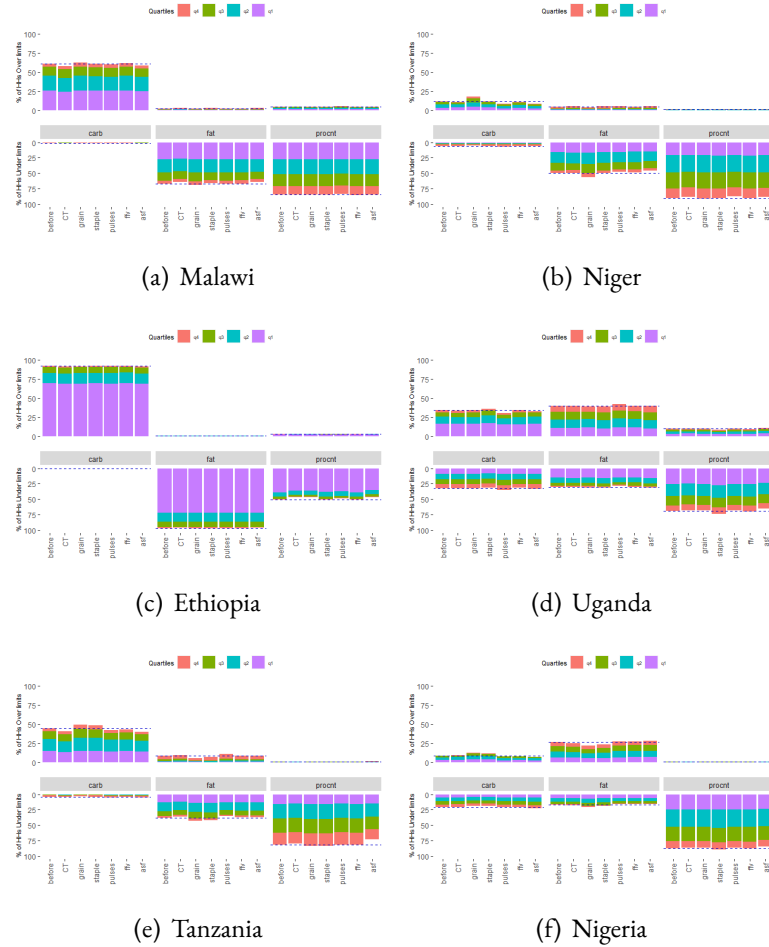


Figure 2.4: Intake of each macronutrient as a share of total dietary energy intake before and after CT and PV simulations, by total expenditure quartile.

### 2.3.2 Diet quality and food price changes

Next we explore the relationship between price changes in specific food groups and intake of dietary energy, macro-, and micro-nutrients. As we did with our analysis of the role of total expenditures in determining food demand, we first describe the demand system parameters and their implications for the relationship between food price changes and dietary intake. We find that, as the prices of different food groups change relative to each other, patterns of consumer substitutions between food groups become an important determinant of dietary

intake and diet quality. That is, if one food becomes more expensive, the price change affects demand not only for that food, but also for other foods – each of which is comprised of different macro- and micro- nutrients. Thus it is important to understand these overall demand patterns, including substitution, in order to understand how changes of any specific food price affect dietary intake. Unlike other food demand models, our modeling approach allows consumers' responses to price changes to vary between wealthy and poor consumers, which adds important flexibility in understanding how consumers might be affected by price shocks.

Generally, we find that diet quality is more sensitive to food staple prices than it is to the prices of more nutrient-dense foods. We also find that diet quality is more sensitive to staple food price changes in countries where one food staple dominates (i.e., Malawi, Niger and Tanzania) than in places where consumers rely on multiple major food staples (i.e., Ethiopia, Uganda, and Nigeria). compared to places with multiple food staples.

After we explore consumers' price substitution patterns and their implications for determining dietary intake of macro- and micro-nutrients, we then simulate consumers' responses to price vouchers (PVs) targeting five different categories of foods: staple grains, starchy staples, pulses & nuts, fresh fruits & vegetables, and animal sourced foods. We simulate consumers' diet quality after introduction of each PV and compare it to diet quality without any PV (and with a CT instead of a PV).

### **Food staple prices are strong determinants of macro- and micro- nutrient intake.**

In all countries, the intake of dietary energy, macro- and micro-nutrients is most sensitive to the prices of food staples. These elasticities of intake with respect to each food group's price are depicted for Malawi, Niger and Ethiopia in Fig. D.3 and for Uganda, Tanzania, and Nigeria in Fig. D.4. We see two distinct patterns in the relationship between food prices and dietary intake, depending on the type of diet.

In countries where one single staple food dominates poor households' total expenditures (e.g. Malawi, with maize at 34%, Niger, with millet at 32% and Tanzania, with maize at 21% (Tables D.1, D.2 and D.5, respectively). We see a clear signal of dietary intake sensitivity with respect to these staple prices, which takes the form of a prominent vertical red bands in the matrices that depict the elasticity of macro- and micro-nutrient intake with respect to food group prices in these three countries. These red bands indicate large negative intake elasticities with respect to the dominant staple's price, which cut across almost

all dietary components. The importance of the dominant food staple's price as an intake determinant persists even for high income consumers in Malawi and Tanzania. In Niger for wealthy consumers, rice overtakes millet as the food whose price is the strongest determinant of dietary intake.

We see a different pattern of intake sensitivity in multi-staple countries, where no single food dominates households' expenditures, and dietary intake is much less sensitive to any single food's price. This is the pattern observed in Ethiopia, where wheat, teff and maize together comprise 38% of poor households' total expenditures, but no single food comprises more than 15.5% (Table D.3). In Uganda, the food group containing roots, tubers and other starches comprises the largest budget share for poor households, at 12% of total expenditures, with cassava, maize and wheat follow with 8%, 8%, and 4%, respectively (Table D.4). In Nigeria, poor consumers spend their largest budget share on wheat (13%), followed by rice (10%) and roots and tubers (9%) (Table D.6). In these countries, intake of dietary components is collectively responsive to staple food prices, but no single food group alone is a strong determinant.

In all countries, vitamin A intake is most responsive to different food prices than are other dietary components. In Malawi, it is roots, tubers and other starches. In Niger, it is spread across many foods, such as sugar, vegetables and fruits, in addition to rice and millet. In Ethiopia, it is red meat and eggs in addition to wheat. In Uganda it is concentrated in roots, tubers other starches and fats & oils. In Tanzania, it is pulses, vegetables and oils in addition to maize. In Nigeria, it is oils.

**A lower price of the same food can improve overall diet quality in one country while worsening it in another.**

Improving affordability of a single food group can have opposite impacts on the nutrient density of poor consumers' diets in different countries (Fig. 2.5). For example, an increase in the price of pulses worsens NRFI in Malawi, Ethiopia Uganda and Tanzania while improving it in Nigeria. An increase in maize prices does not affect NRFI in Malawi, Ethiopia and Nigeria while it improves NRFI in Uganda and Tanzania. An increase in the price of cassava worsens NRFI in Malawi and Tanzania while slightly improving it in Nigeria. An increase in the price of vegetables worsens NRFI in Malawi, Uganda and Nigeria without affecting it in Niger, Ethiopia or Tanzania. An increase in the price of fruits worsens NRFI in Malawi and Tanzania while improving it in Ethiopia and Uganda. An increase in the price of eggs worsens NRFI in Ethiopia while increasing it in Malawi, Niger, Uganda, and Tanzania.

These effects underpin the importance of understanding consumers' complex substitution patterns in response to food price changes. These substitution patterns vary from country to country and within a country, as Hicksian demand is allowed to vary with total household expenditures in our flexible demand system. Policymakers should take care not to assume that improving the affordability of a nutrient dense food will uniformly improve the nutrient density of consumers' diets. NRFI does increase with an increase in total household expenditures for poor consumers in most countries, except for Tanzania where there is no impact of increasing expenditures on NRFI.

### **The crops whose prices are most important for nutrient intake are not necessarily the most nutrient dense**

Figure 2.6a depicts a scatterplot between each food group's energy density and the elasticity of dietary energy intake with respect to that food's price. Figure 2.6b depicts a scatterplot between each food group's NRFI score and the elasticity of NRFI with respect to the food group's price. In a world without substitutions, one would expect to see a negative relationship between intake elasticity and food content. That is, if the price of a very calorie dense food increases, one would expect to see dietary energy intake decrease considerably [Chen do you agree this would be predicted?]. If a nutrient dense food became more expensive, one would expect the diet's nutrient density to decrease.

Rather, we see that dietary energy intake is most responsive to rising grain prices, especially in Malawi and Niger (where one food staple dominates). While pulses are very energy dense, dietary energy intake is not very responsive to the prices of pulses. NRFI is most responsive to grain prices in Ethiopia but to pulse and starchy staple prices in Malawi. The most nutrient dense foods are fruits and vegetables, but their prices do not appear to be important drivers of overall dietary nutrient density.

### **Price vouchers would close dietary intake gaps**

PVs targeting all food categories increase the share of poor households with sufficient dietary energy intake except in a few cases - PVs targeting starchy staples in Niger and targeting animal sourced foods Nigeria and Ethiopia. PVs targeting poor consumers do not increase the share of households with sufficient intake of dietary components as much as do CTs targeting poor consumers (Fig. 2.2). However, in many cases they come close. For closing dietary energy gaps, PVs targeting staple grains in Malawi, Niger, Ethiopia and Tanzania substantially increase the share of households with sufficient intake of dietary energy. PVs

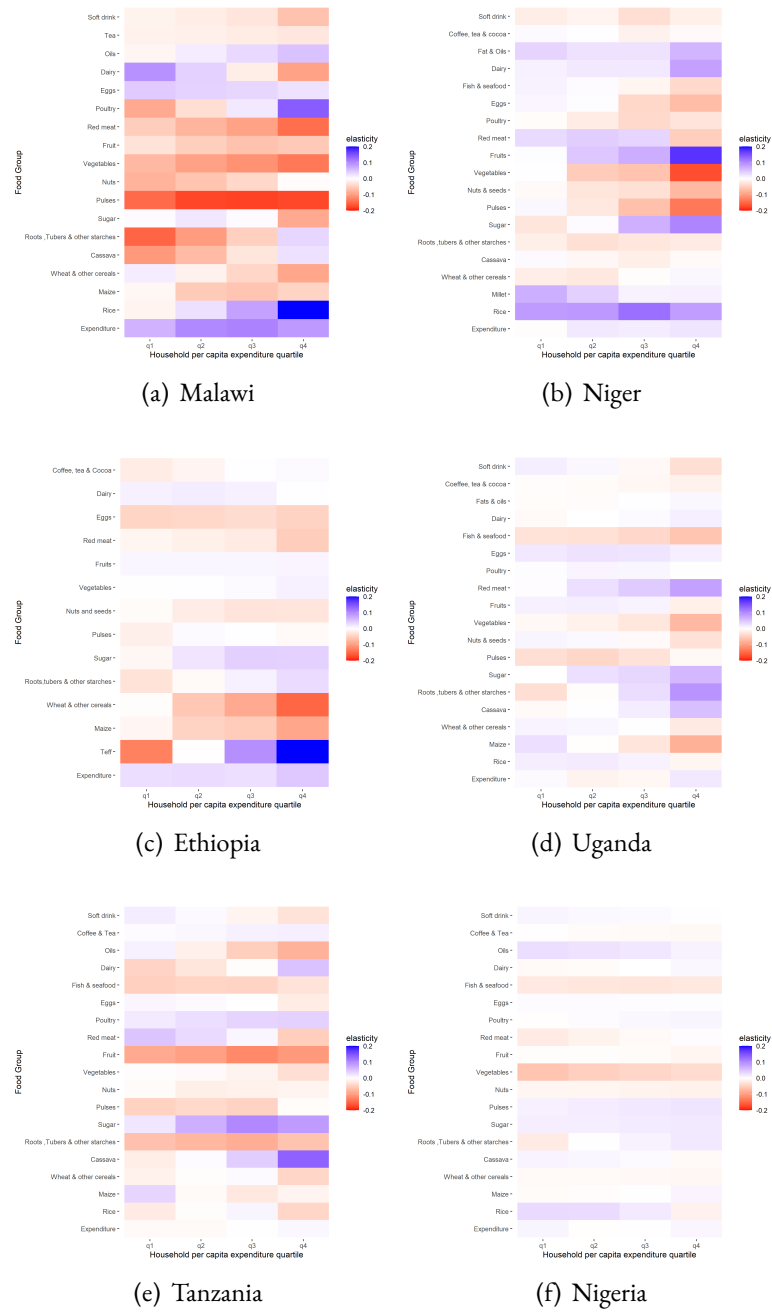


Figure 2.5: Price and expenditure elasticities of NRFI, separated by quartile, in (a) Malawi, (b) Niger, (c) Ethiopia, (d) Uganda, (e) Tanzania, and (f) Nigeria.

targeting pulses & nuts in Malawi, Niger, Uganda and Tanzania also increases dietary energy sufficiency. In order to increase the share of poor households

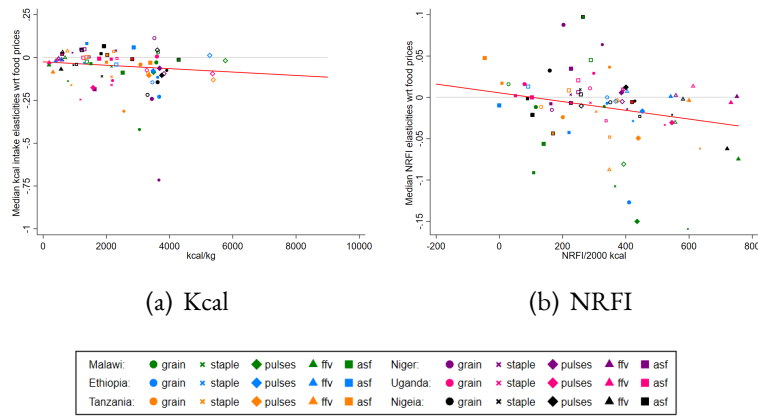


Figure 2.6: Median Kcal intake and NRFI elasticity wrt food price and nutrient composition for Q1 consumers. In each country, we categorize multiple food groups described in section 4.1 into four categories: grains, starchy staples, pulses and nuts, fruits and vegetables, and animal sources food. Each shape of the symbols represents one category. The horizontal axis depicts each food group’s kcal or NRFI composition, which are calculated based on the food composition table regardless the actual consumption. The vertical axis depicts median kcal(or NRFI) intake elasticity wrt food price for Q1 consumers.

with sufficient protein, PVs targeting staple grains and pulses & nuts in all countries are effective. So are PVs targeting starchy staples in Tanzania and Uganda.

For increasing the share of poor households with sufficient iron, staple grain PVs everywhere except for in Niger are somewhat effective, as are PVs targeting both pulses & nuts and starchy staples in Malawi, Uganda and Tanzania. For increasing the share of poor households with sufficient zinc intake, PVs targeting staple grains in all countries are somewhat effective, as are those targeting starchy staples and pulses in Tanzania and Uganda. In order to increase the share of poor households with sufficient vitamin A intake, PVs targeting starchy staples in Malawi and Uganda and fresh fruits and vegetables and pulses & nuts in Tanzania are most effective. In Ethiopia, very few poor households consume sufficient vitamin A at baseline, and this remains unchanged with any PV or with the CT. For total folates, PVs targeting staple grains in Malawi, Niger and Nigeria appear effective, as do PVs targeting starchy staples and pulses & nuts in Malawi, Uganda and Tanzania.

Wealthier households generally have a higher share of households with sufficient intake at baseline, and PVs do not have a major impact on sufficiency, except for PVs targeting pulses & nuts and starchy staples foods make an impact for a large number of dietary components in Uganda and Tanzania, and vitamin

A intake responds to staple grain PVs even targeting the wealthiest segment of Households in Niger.

No single food category offers a consistent vehicle for improving intake of all key nutrients in all countries for poor consumers. Staple grain PVs do not appear to do harm in terms of exacerbating the incidence of households with insufficient intake. But for many micro-nutrients, staple grain PVs do not increase the share of households with sufficient intake (e.g. vitamin A in Nigeria, Niger and Ethiopia and folates in Uganda). Fresh fruit and vegetable PVs don't move the needle much for anything except Vitamin A and total folates. Animal source food PVs raise the share of households with sufficient intake of all dietary components, but only in Malawi and only by a small amount. They also raise the share of households with sufficient intake of protein and zinc in Tanzania. PVs targeting animal source foods result in lower share of households with sufficient dietary energy intake in Nigeria and with intake of vitamin A and folates in Uganda and Tanzania, and of iron in Uganda.

While CTs almost always generate larger impacts than PVs on the share of poor (Q<sub>1</sub>) households with adequate intake, some PVs have a larger impact on intake adequacy than CTs for wealthier households (Fig.2.2). For Q<sub>2</sub> households, for example, staple grain PVs in Niger generate larger impacts on intake of dietary energy, protein, zinc and folates than do CTs. In Uganda, starchy staple PVs generate larger impacts on dietary energy and vitamin A intake than do CTs, and pulse & nut PVs generate larger impacts on intake sufficiency for Q<sub>2</sub> households of iron, zinc and total folates than do CTs.

### **Price vouchers targeting the poor could exacerbate some dietary balance problems**

While virtually all PVs help to reduce the share of poor households with adequate dietary energy intake, except only for ASF in Nigeria and starchy staples in Niger(Fig.2.2), there is some concern that some PVs could exacerbate problems of over-consumption. We find generally low evidence of dietary imbalance consistent with over-consumption, such as an excess share of fat or protein in dietary energy intake, except for in Uganda and Nigeria, where fat comprises a an excess share of dietary energy intake for about 40% and 30% of households, respectively (Fig. 2.4). Generally, the dietary balance data suggests that under-consumption is the bigger problem, with carbohydrates comprising an excessively large share of dietary energy intake for the majority of poor households in Malawi, Ethiopia, Uganda and Tanzania(Fig. 2.4). Similarly, protein comprises an excessively small share of dietary energy intake for the majority

of poor households all countries, as does fat in Malawi, Niger, Ethiopia and Tanzania(Fig. 2.4).

We find that PVs targeting the staple grain category exacerbate dietary imbalance problems associated with under consumption in many cases (Fig. 2.4). They increase the share of households whose intake of carbohydrates exceeds the threshold in Malawi, Niger and Tanzania while also increasing the share of households with insufficient intake of fat in Niger, Tanzania and Nigeria. The share of household under-consuming protein is improved by staple grain PVs only in Ethiopia and Uganda. The staple grain PVs do slightly mitigate signs of over-consumption by reducing the share of households for whom fat comprises an excessive share of dietary energy in Niger, Tanzania and Nigeria, and the share of households for whom carbohydrates comprise to small a share of dietary energy intake is improved in Nigeria and Tanzania.

When PVs target starchy staples, they similarly exacerbate imbalance problems of under-consumption for many households, while also improving them for some. The share of households with excessive carbohydrate intake is increased Uganda, Tanzania and Nigeria, and the share of households who consume too small a share of protein is increased in Uganda and Nigeria and of fat is increased in Tanzania. Under-consumption of protein is improved, however in Uganda. And under-consumption of fat is improved in Niger. PVs targeting starchy staples do not appear to exacerbate dietary imbalance problems associated with over-consumption. After starchy staple PVs, fewer households over-consume fat in Tanzania and Nigeria, and fewer households under-consume carbohydrates in Uganda and Nigeria.

PVs that target pulses & nuts mostly improve the imbalance problems of under-consumption while, in a few cases exacerbating imbalance problems associated with over-consumption. Generally, the share of households for whom carbohydrates comprise an excessively large share of dietary energy intake decreases in Niger, Uganda and Tanzania. The share of households who consume too small a share of protein improves following pulse & nuts PV in Malawi, Niger, Ethiopia and Uganda, as does the share consuming too small a share of fats in Niger, Uganda and Tanzania. The pulse & nut PVs do seem to exacerbate over-consumption problems by increasing the share of households whose fats exceed the recommended limits in Uganda and Tanzania(and also increase the share of households whose carbohydrates are too small a share of dietary energy intake in Uganda).

PVs that target fresh fruits & vegetables (FFV) do not improve imbalance problems associated with under-consumption, nor do they exacerbate problems associated with over-consumption. The FFV PV does improve under-

consumption of fats in Niger, but it also exacerbates over-consumption of fats in Nigeria.

Finally, a PV that targets animal source foods (ASF) improve problems of under-consumption without exacerbating problems of over-consumption. The ASF PV reduces the share of households that over-consume carbohydrates as a share of dietary energy in all countries. It also reduces the share of households that under-consume protein as a share of dietary energy everywhere except for in Malawi while also reducing the share of households that under-consume fat as a share of dietary energy in Malawi and Niger. It slightly exacerbates the share of households that over-consume fat only in Nigeria, where the problem appears to affect wealthier (Q<sub>3</sub> and Q<sub>4</sub>) households.

### **Price vouchers targeting the poor would have mixed effects on overall dietary micronutrient density**

The effects of PVs on overall dietary micronutrient density (measured by NRFI) is mixed as shown in Figure 2.7. PVs targeting staple grains would decrease NRFI in Niger, Uganda, Tanzania and Nigeria for the poorest (Q<sub>1</sub>) households, while increasing it in Malawi and Ethiopia (Fig. 2.7). Staple grain PVs decrease NRFI across all expenditure quartiles in Niger. The positive effect in Malawi and Ethiopia becomes negative for wealthy households, while the negative effect in Uganda, Tanzania and Nigeria becomes positive for wealthy households. Overall, if staple grain PVs targeted poor households, they would not improve the micronutrient density of diets except for in Ethiopia.

PVs targeting starchy staple foods would increase NRFI for poor (Q<sub>1</sub>) households in all countries, with the strongest effects in Malawi and Tanzania. This effect diminishes in magnitude for wealthier households and becomes negative for Q<sub>4</sub> households everywhere except Niger, with a particularly detrimental effect on NRFI for Q<sub>4</sub> households in Uganda. If PVs for starchy staples are targeted to extremely poor or poor consumers, they will generally improve the nutrient density of diets, with a small detrimental effect in Nigeria for Q<sub>2</sub> households and very limited positive effects in Niger and Nigeria for Q<sub>1</sub> households and in Ethiopia and Uganda for Q<sub>2</sub> households.

PVs that target pulses & nuts would improve NRFI of extremely poor (Q<sub>1</sub>) consumers in Malawi, Ethiopia, Uganda and Tanzania, with the strongest positive effect in Tanzania and a very small negative effect in Nigeria. The Q<sub>2</sub> effects are very similar to the Q<sub>1</sub> effects, with a larger positive effect in Niger. Across the expenditure distribution, the pulse & nuts PV increases dietary micronutrient density everywhere except Nigeria, where the negative impact is very small. This evidence suggests that PVs targeting pulses & nuts would improve dietary mi-

cronutrient density at the population level even without efforts to target poor consumers.

PVs that target fresh fruits & vegetables (FFVs) improve NRFI across all consumer expenditure quartiles in Malawi, Tanzania and Nigeria. They result in a very small NRFI decrease for poor households in Niger, Ethiopia and Uganda which becomes positive for Q<sub>3</sub> and Q<sub>4</sub> consumers in Uganda but stays negative or flat for Q<sub>3</sub> and Q<sub>4</sub> consumers in Niger and Ethiopia. This result suggests that FFV PVs could be an effective vehicle for improving NRFI in some countries (Malawi, Tanzania and Uganda), even without targeting poor consumers, though they are not likely to result in improved NRFI for most consumers in Niger, Ethiopia and Uganda.

Finally, we examine the impact of PVs that target ASFs on NRFI. ASF PVs improve NRFI for poor consumers everywhere except Niger, though the positive effect is very small in Malawi, Uganda and Tanzania. They do not improve NRFI for Q<sub>2</sub>-Q<sub>4</sub> consumers in Uganda or Tanzania. The negative effect of ASF PVs on the NRFI of Q<sub>1</sub> and Q<sub>2</sub> consumers in Niger becomes positive for Q<sub>3</sub> and Q<sub>4</sub> consumers, while the positive effect of ASF PVs on the NRFI of Q<sub>1</sub>-Q<sub>3</sub> consumers in Nigeria becomes flat for Q<sub>4</sub> consumers. This evidence suggests that ASF PVs targeting poor consumers could improve dietary micronutrient density only in some countries (Nigeria, Ethiopia and Malawi).

For extremely poor (Q<sub>1</sub>) consumers, PVs targeting staple grains would decrease NRFI in Niger, Uganda, Tanzania and Nigeria while increasing it in Malawi and Ethiopia (Fig. 2.7). PVs targeting starchy animal sourced foods would decrease NRFI in Niger and Malawi, while improving it in Tanzania, Ethiopia and Nigeria. PVs targeting pulses & nuts, fresh fruits & vegetables, and starchy staples are more universally beneficial in raising NRFI, with the exception only of starchy staples in Niger and pulses in Nigeria.

There are no clear trends in the effect of PVs on NRFI as consumers become wealthier. Staple grain subsidies improve NRFI for wealthy consumers in Ethiopia, Uganda, and Tanzania while decreasing it in Malawi and Niger. The impact of starchy staples PVs decreases as expenditures rise everywhere except Niger. Pulse & nut PV impacts behave similarly as consumers become wealthier, though their impacts increase considerably in magnitude in Niger and become slightly more negative in Nigeria. FFV PVs are always increasing in total expenditures except in Ethiopia, where they have an increasingly negative effect on NRFI as consumers become wealthier. The effect of ASF PVs is increasing in total expenditures in Malawi, Niger, Ethiopia and Uganda. It is decreasing in Tanzania and Nigeria.

### **The costs of PVs vary considerably across food quartiles, countries, and expenditure quartiles**

The costs of PVs, which by assumption reduce the consumer's price of items within the targeted category by 25%, vary according to the household's predicted demand for items affected by any PV. We calculate the household level costs for each PV according to the methodology described in Appendix E, and we report mean costs for each total expenditure quartile in Table 2.2.

When considering the costs, it is clear that PVs are much less costly per household when poor households are targeted. Households consume more and higher quality foods within each category as they become wealthier, so the cost of a proportional price discount becomes larger for wealthier households. The monthly costs of food PVs are almost universally rising in total household expenditures (Table 2.2).

Staple grain PVs are by far the most expensive, costing up to \$US 26 per household per month for poor households in Niger and \$US 50 for wealthy households in Malawi. Only in Uganda, where starchy bananas comprise a food staple, is a different PV category (starchy staples) more expensive than a staple grain PV. Pulse & nut PVs are reasonably cost effective, with a mean per household expenditure of \$5.52 per month per poor (Q1) household in Uganda (the highest of the countries). The pulse & nut PVs do not become excessively expensive for wealthy consumers, suggesting that the costs of program leakage in the case of imperfect targeting would not be overly burdensome. Fresh fruit and vegetables behave similarly to pulses & nuts in that they are not overly expensive for poor households (the maximum is \$6.09 per household per month in Malawi). They do become more expensive for wealthier households (the mean per-month expenditure is \$19 in Malawi and \$14 in Tanzania). Animal sourced food PVs, by contrast, become quite expensive for wealthy consumers, capping out at around \$US 39 per month in Malawi and Nigeria.

Across all food categories, PVs, are always much less expensive per household than CTs, which range from \$29 per hh per month in Uganda to \$49 in Nigeria. The costs of a fixed CT do not vary between wealthy and poor households (by assumption, these CTs are fixed according to an absolute amount, and they do not vary with household size).

When assessing the dietary impacts of CTs and PVs (Fig. 2.7) alongside the predicted costs, pulses & nuts and fresh fruits & vegetables appear much more promising generally than do staple grains and animal sourced foods. Cash transfers do not appear to be a cost effective way to alter NRFI as compared to much cheaper PVs.

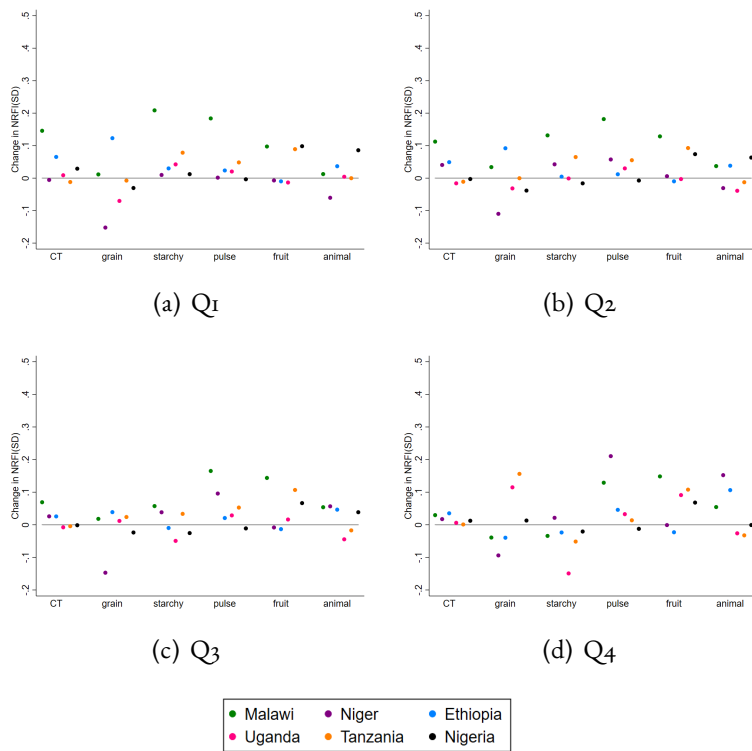


Figure 2.7: Nutrient-Rich Food Index (NRFI) response to Cash Transfer or Price Voucher Simulations (as a share of the sample-wide standard deviation), by total expenditure quartile, in (a) Malawi, (b) Niger, (c) Ethiopia, (d) Uganda, (e) Tanzania, and (f) Nigeria.

## 2.4 Discussion

Our results show a strong link between poverty reduction and diet quality improvement. The wealthier the consumers, the more likely they have sufficient intake of dietary energy, macro-nutrients and micro-nutrients, and well-balanced diets. We find that dietary intake gaps and imbalance persist even for high-income consumers in SSA countries. Our results also suggest that anti-poverty interventions, such as cash transfer, are expected to close intake gaps and improve diet quality for poor consumers in SSA, with few exceptions. However, poverty reduction is necessary but not sufficient.

We find that food staple prices are strong determinants of macro- and micro-nutrients intake. This indicates that the income effects of food prices changes are important. It could explain why staple foods that are not considered high nutrient density are an essential vehicle for improving diet quality and dietary balance. This sensitivity is mainly concentrated in countries that rely on one major staple food vs. multiple staples. Our results also show that improving the affordability of a single food group can enhance the quality of diet in one country while worsening it in another country. Therefore, improving the affordability of a nutrient-dense food will not uniformly improve the nutrient density of diets quality for all consumers. While price vouchers targeting poor consumers could close nutrients intake gaps with a few exceptions, it could also exacerbate some dietary balance problems.

It should be noted that the study may suffer from some potential limitations. First, we held expenditures constant in our policy simulations, which is not always held in real life. For example, for farm households, higher prices would raise their profits, leading to an increase in their total expenditures, while lower prices would reduce them. Second, we do not model equilibrium impacts. Third, our model is a static model where we assume consumers spend a fixed amount of cash transfer.

This study contributes to a broader policy debate about how to invest in improving diet quality in developing countries effectively. It is the first one that attempts to answer this question using comprehensive food systems modeling. Our results suggest that poverty reduction interventions and affordability improvement interventions have the potential to improve diet quality. However, there is no universal solution for countries with different demand patterns. Further applications are needed in other developing countries.

# APPENDIX A

## SUPPLEMENTAL TABLES AND FIGURES OF CHAPTER ONE

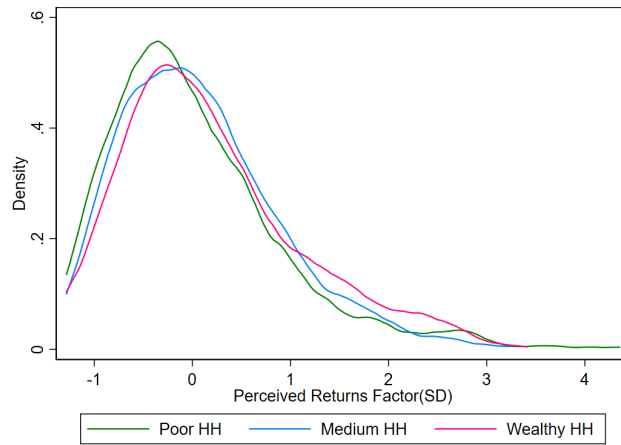


Figure A1: Kernel density plots perceived returns factors by socio-economic status.

Table A1: How Many Out of 100 Hypothetical Children Caregivers Believe to Reach Development Milestones in Different Scenarios

	(1) Task difficulty: easy	(2) Task difficulty: medium	(3) Task difficulty: hard
Low Child Skill * Low Time investment	41.70 (0.40)	23.24 (0.35)	11.63 (0.35)
High Child Skill * Low Time investment	56.94 (0.37)	37.96 (0.32)	21.49 (0.29)
Low Child Skill * High Time investment	65.93 (0.35)	45.50 (0.35)	26.65 (0.32)
High Child Skill * High Time investment	80.84 (0.37)	62.33 (0.38)	42.23 (0.40)
Sample Mean	61.36	42.26	25.50
Observations	5994	5994	5994

Note: Fixed effects at the household level. All standard errors are clustered at the household level.

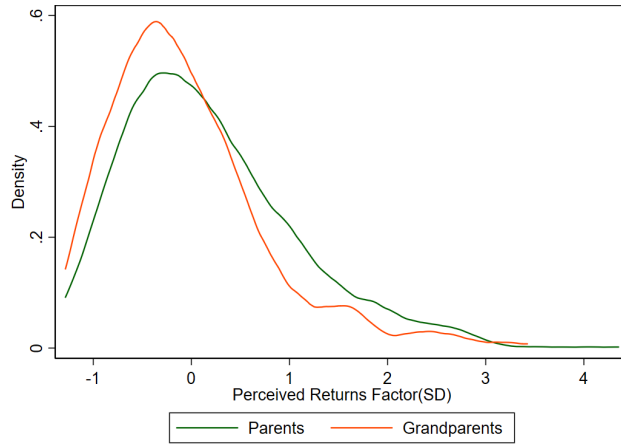


Figure A2: Kernel density plots perceived returns factors for parents and grandparents.

Table A2: Perceived Returns to Parental Investment (Pooled regression)

	Task difficulty: pooled	
	(1)	(2)
Time investment	21.751*** (0.403)	20.501*** (0.472)
High skill endowment	14.523*** (0.381)	13.273*** (0.437)
Time investment * High skill endowment		2.500*** (0.515)
Task Difficulty: medium	-19.096*** (0.307)	-19.096*** (0.307)
Task Difficulty: hard	-35.853*** (0.467)	-35.853*** (0.467)
Sample mean	43.84	43.84
Parent Fixed Effects	Yes	Yes
Observations	17982	17982
$R^2$	0.60	0.60

Note: All standard errors are clustered at the household level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Table A3: How Many Out of 100 Hypothetical Children Caregivers from different Socio-economic Status Believe to Reach Development Milestones in Different Scenarios

	Poor (1)	Medium (2)	Rich (3)	Difference: Rich - Poor (4)
<b>Task Difficulty: Easy</b>				
Low Child Skill * Low Time Inv.	40.130 (0.693)	40.105 (0.671)	44.758 (0.695)	4.628 [0.003]
High Child Skill * Low Time Inv.	54.718 (0.623)	56.469 (0.643)	59.580 (0.632)	4.862 [0.003]
Low Child Skill * High Time Inv.	62.737 (0.579)	64.866 (0.635)	70.076 (0.600)	7.339 [0.000]
High Child Skill * High Time Inv.	76.965 (0.660)	81.374 (0.659)	84.143 (0.628)	7.178 [0.000]
<b>Task Difficulty: Medium</b>				
Low Child Skill * Low Time Inv.	21.614 (0.591)	21.671 (0.582)	26.330 (0.634)	4.716 [0.000]
High Child Skill * Low Time Inv.	35.359 (0.547)	37.785 (0.556)	40.688 (0.567)	5.329 [0.000]
Low Child Skill * High Time Inv.	41.874 (0.593)	44.006 (0.630)	50.471 (0.582)	8.597 [0.000]
High Child Skill * High Time Inv.	58.108 (0.686)	62.180 (0.671)	66.621 (0.623)	8.513 [0.000]
<b>Task Difficulty: Hard</b>				
Low Child Skill * Low Time Inv.	10.602 (0.594)	10.946 (0.608)	13.291 (0.617)	2.689 [0.022]
High Child Skill * Low Time Inv.	18.924 (0.465)	21.696 (0.515)	23.820 (0.516)	4.896 [0.000]
Low Child Skill * High Time Inv.	23.533 (0.531)	24.543 (0.584)	31.711 (0.554)	8.178 [0.000]
High Child Skill * High Time Inv.	37.715 (0.714)	42.163 (0.706)	46.725 (0.672)	9.010 [0.000]
Observations	2010	1936	2048	

Note: Fixed effects at the household level. All standard errors are clustered at the household level in parentheses. P-value estimates are statistically significant at 1% level in all regressions.

Table A4: Determinants of Perceived Parental Returns to Investment By Wealth Tercile

Dependent variable: Perceived Returns Factor	Poor HH (1)	Medium HH (2)	Wealthy HH (3)
<b>Caregiver Characteristics</b>			
Caregiver education $\geq 9$ years	0.161 (0.162)	0.214* (0.123)	0.077 (0.116)
Caregiver is parent	0.233*** (0.087)	0.309*** (0.077)	0.237** (0.093)
<b>Child Characteristics</b>			
Child male	0.079 (0.090)	-0.027 (0.083)	-0.045 (0.087)
Child age (months)	-0.002 (0.014)	-0.014 (0.010)	0.011 (0.013)
Child has younger sibling	-0.010 (0.110)	-0.005 (0.087)	0.038 (0.103)
Child skill endowment	0.047 (0.066)	0.010 (0.056)	-0.040 (0.057)
Child health endowment	0.010** (0.004)	-0.003 (0.003)	0.004 (0.005)
Observations	486	467	492
$R^2$	0.03	0.04	0.02

Note: All standard errors are clustered at the village level. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

# APPENDIX B

## MEASUREMENT SYSTEMS

### B.1 Parental Investment

We collect data on parental investment behavior when children are three years old by asking the primary caregiver how much time they spend on age-appropriate activities such as singing, reading stories and outdoor activities. We perform an exploratory factor analysis (EFA) to help us with the dimensionality reduction of the parental investment data. Before we perform the EFA we transform the categorical variables (4-point likert scale) into binary variables such that no bias arises in the EFA due to the response structure of the data. In order to determine the optimal factor structure we use Horn's parallel analysis (Horn, 1965) and Cattell's scree plot (Cattell, 1966; See Table B1).

Table B1: EFA Factor Selection

	Cattell's scree plot	Horn's parallel analysis
Parental Investment	1	1
Parental Perceived Returns	1	1
Household Asset	2	2

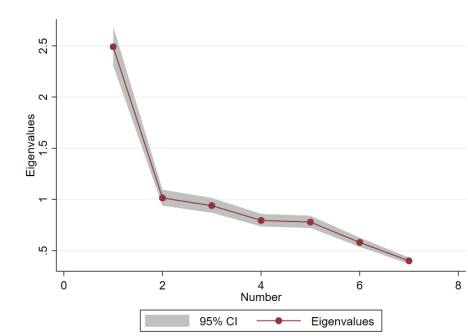


Figure B1: Scree Plot of Eigenvalues of PCA Parental Investment

Both factor selection methods indicate a one-factor model best fits the parental time investment data. We proceed next with estimating factor loadings which can be found in Table B2. The first three investment dummies equal one when caregivers indicate not to have engaged in parenting activities the last week. The next three investment dummies, on the other hand, are equal to one when caregivers engaged in the listed parenting activities the previous day. As we expected, the first three investment dummies load negatively on the latent time investment factor, while the subsequent three investment dummies load positively. The variable measuring the number of children books in the house also load positively on the investment factor. This pattern of factor loadings gives us confidence that the latent factor indeed measures parental time investment.

Table B2: Estimated Factor Loadings on Measures of Parental Time Investment

	Factor Loading
<b>Time investment</b>	
Caregiver did not read to child last week	-0.242
Caregiver did not sing to child last week	-0.290
Caregiver did not do any outside activities with child last week	-0.065
Caregiver read story to child yesterday	0.150
Caregiver played with child yesterday	0.138
Caregiver sang songs with child yesterday	0.308
Number of books for children in household	0.114

## B.2 Parental Perceived Returns

As described in Sections 1.3 and 1.5, we have three measures of perceived returns as we have three main development milestones. Similar to parental investment, we conduct an EFA to reduce the dimensionality of our perceived return measures. The results of Horn's parallel analysis horn1965rationale and Cattell's

scree plot cattell1966scree suggests that the optimal number of factor is 1 (Table B1 and Figure B2). The estimated factor loadings on measures of parental perceived returns are shown in Table B3. All measures load positively on the perceived return factor. The direction of factor loadings shows that the latent factor is an appropriate measure of parental perceived returns.

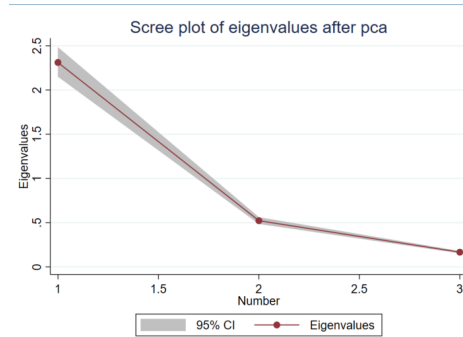


Figure B2: Scree Plot of Eigenvalues of PCA Parental Perceived Returns

Table B3: Estimated Factor Loadings on Measures of Parental Perceived Returns

	Factor Loading
<b>Parental Perceived Returns</b>	
Perceived Returns on Reaching Easy Milestone	0.165
Perceived Returns on Reaching Medium Milestone	0.650
Perceived Returns on Reaching Hard Milestone	0.191

### B.3 Household Asset

We use household possession of a set of household durable assets (including electric appliances, vehicles, etc.) as measures of the household asset. We perform an EFA to reduce the dimensionality of these household asset measures. According to Horn’s parallel analysis and Cattell’s scree plot, the optimal number of factors is two (Table B1 and Figure B3). However, to simplify the analysis, we choose to extract one factor. Figure B3 indicates that the eigenvalue of the one-factor model is acceptable. The estimated factor loadings on measures of the household asset are shown in Table B4. All measures load positively on the household asset. The direction of factor loadings shows that the latent factor is an appropriate measure of the household asset.

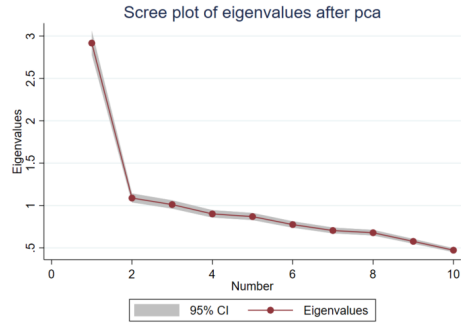


Figure B3: Scree Plot of Eigenvalues of PCA Household Asset

Table B4: Estimated Factor Loadings on Measures of Household Asset

	Factor Loading
<b>Household Asset</b>	
Whether household has tap water	0.202
Whether household has a flush toilet	0.500
Whether household has a boiler	0.624
Whether household has a washing machine	0.263
Whether household has a computer	0.613
Whether household has internet	0.629
Whether household has a refrigerator	0.522
Whether household has an air condition	0.511
Whether household has a motorbike or electric bike	0.213
Whether household has a car or van	0.343

# APPENDIX C

## HYPOTHETICAL INVESTMENT SCENARIOS

Below we provide a fully scripted overview of how the household survey teams collected information from caregivers on hypothetical investment scenarios. The script read out loud to the caregivers is printed in italic, whereas the instructions to the interviewer are printed in standard font type.

**[script interviewer]** *We would like to know what do you think about a mother spending time with her child and if it has any effect on the child's development. To do this, I will introduce you to a game about spending time with children. Before we talk about children, let's practice some questions about the likelihood of future events about which we have no certainty.*

**[instructions interviewer]** Ask the mother if she can determine what the higher number is between any two numbers from 0 to 100. Can mother recognise the numbers and which ones is larger?

**[script interviewer]** *Notice, that the numbers at this side (0) means less families and at the other side (100) means more families. We will use this as an indicator of how many out of 100 families in your village will eat a particular food in the future. Let's think about what they will eat in the next week as an example: Imagine that the number of families in your village was exactly 100. We know that it might be somewhat more or less, but for this game, let's assume it is 100. Out of these 100 families in your village, how many do you think will eat meat in the next week?:*

- *If you are absolutely sure that in the next week all the 100 families in your village will eat meat, choose the number 100. You get it?*
- *If you are absolutely sure that in the next week none of the 100 families in your village will eat meat, choose the number ZERO. You get it?*

- *If you are not sure how many families will eat meat in the next week but you think that it is more likely that these 100 families in your village will eat meat than not, choose the number between 0 and 100 but closer to 100 than to 0. You get it?*
- *If you are not sure how many families will eat meat in the next week but you think that it is less likely that these 100 families in your village will eat meat than not, choose the number between 0 and 100 but closer to 0 than to 100. You get it?*

**[instructions interviewer]** If the respondent provides decreasing numbers of families (number of families in 2 smaller than in 1 and/or number of families in 3 smaller than in 2), please explain again the idea of the last question before going to the next questions:

1. *Out of the 100 families in your village, how many do you think will eat MEAT at dinner in the next week? \_\_\_\_\_*
2. *Out of the 100 families in your village, how many do you think will eat VEGETABLES at dinner in the next week? \_\_\_\_\_*
3. *Out of the 100 families in your village, how many do you think will eat RICE at dinner in the next week? \_\_\_\_\_*

**[script interviewer]** *I will now ask you some questions about when children start to walk. Not particularly your child (or children in this village), but children in general. As before, you can choose the number between 0 and 100 to answer my questions and you will be able to modify your answers at any time of the game. Now we will have number of children instead of number of families. But it is again from 0 to 100! So if my answer is 60 out of 100 for example (meaning that out of 100 children like the one we are considering, 60 of them will achieve the task). You get it? Notice, that the numbers at this side (0) means less children and at this other side (100) means more children.*

*Let's start with our story - Suppose that there are 100 9-month old children that are already crawling and they are healthy, which means they are fed well with a diversified diet, and have no illness:*

1. *Out of these 100 children, how many will be able to WALK by the age of 12-months-old ( 1 year-old)?: \_\_\_\_\_*
2. *and how many of them will be able to WALK by the age of 15-months-old?: \_\_\_\_\_*

**[instructions interviewer]** If the respondent provides decreasing numbers of children (number of children in b smaller than in a), please explain again the idea of last question as described above before going to the next questions.

**[script interviewer]** *Let's change the story a bit: Now, we will consider another 100 9-month old children that are already crawling, but now they are unhealthy, which means that they are fed poorly –only with rice:*

1. *Out of these 100 children, how many of them will be able to WALK by the age of 12-months-old (1 year old) if you told me that the number of healthy children were [\_\_]?:\_\_\_\_\_*
2. *and how many of them will be able to WALK by the age of 15-months-old if you told me that the number of healthy children were [\_\_]?:\_\_\_\_\_*

**[instructions interviewer]** If the respondent provides decreasing numbers of children (number of children in b smaller than in a), please explain again the idea of last question as described above before going to the next questions.

**[instructions interviewer]** Read all the answers comparing as you did mean while you were playing with the respondent and then asks if they want to change any answers. Register the final answers after potential changes are made.

**[script interviewer]** *Now we'll talk about how children learn to count. Please notice that we still will talk about children in general not about your own children. Let's imagine that we have now 2 TYPES of 3-year-old children, one type that learns counting easily and another type that finds it harder.*

*We also have 2 TYPES of families in the story. In the first type of family, the mother spends little time with her child, so, for instance, the child is left alone with only one picture children's book, when she goes to the market the child is left alone, when she cooks or cleans the house she does not talk much to the child so the child is also left on her own to play or to draw with only one pencil and one paper sheet. In the other type of family, the mother, every day, spends much more time with the child: she tells stories to her child meanwhile they look several picture children's books together, they do the shopping together in the market, they play together and they draw together with several colouring books/paper sheets and pencils.*

*You can choose the number between 0 and 100 to answer my questions and you will be able to modify your answers at any time of the game. Notice, that the numbers at this side (0) means less children and at this other side (100) means more children. Before we start with this story, let me remind you that the children first start counting to 10, then to 20 and only later to 50.*

**[instructions interviewer]** Show the illustrations meanwhile you are explaining each scenario

**[script interviewer]** *Suppose that there are 100 3-year-old children for whom counting to 10 is more difficult. If the mother of these children spends little time per week with her child:*

1. *Out of these 100 children, how many of them will be able to count from 1 to 20 by the age of 4-years-old? \_\_\_\_\_*
2. *Out of these 100 children, how many of them will be able to count from 1 to 50 by the age of 4-year-old? \_\_\_\_\_*
3. *Out of these 100 children, how many of them will be able to count from 1 to 100 by the age of 4-year-old? \_\_\_\_\_*

*Let's change the story a bit: For the same 100 children of 3-year old for whom counting to 10 is more difficult, the mother of the child spends every day of the week with her child:*

1. *Out of these 100 children, how many of them will be able to count from 1 to 20 by the age of 4-years-old if you told me that they were [\_\_] out of 100 children when the mother spends little time per week with her child?  
\_\_\_\_\_*
2. *Out of these 100 children, how many of them will be able to count from 1 to 50 by the age of 4-years-old if you told me that they were [\_\_] out of 100 children when the mother spends little time per week with her child?  
\_\_\_\_\_*
3. *Out of these 100 children, how many of them will be able to count from 1 to 100 by the age of 4-years-old if you told me that they were [\_\_] out of 100 children when the mother spends little time per week with her child?  
\_\_\_\_\_*

**[script interviewer]** *Now we will repeat exactly the same but for the child of 3-year old that counts to 3 easily. So now, suppose that there are 100 3-year old children for whom counting to 10 is easier. If the mother of these children spends little time per week with her child:*

1. *Out of these 100 children, how many of them will be able to count from 1 to 20 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*

2. *Out of these 100 children, how many of them will be able to count from 1 to 50 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*
3. *Out of these 100 children, how many of them will be able to count from 1 to 100 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*

**[script interviewer]** *Let's change the story a bit: For the same 100 children of 3-year old for whom counting to 10 is easier, if the mother of these children spends every day of the week with her child:*

1. *Out of these 100 children, how many of them will be able to count from 1 to 20 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*
2. *Out of these 100 children, how many of them will be able to count from 1 to 50 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*
3. *Out of these 100 children, how many of them will be able to count from 1 to 100 by the age of 4-years old if you told me that they were [\_\_] out of 100 children when counting was more difficult for them? \_\_\_\_\_*

**[instructions interviewer]** Read and compare all the answers and then asks if you need to change any answers. Register the final answers.



Figure C1: Visual Aid for Low Parental Investment Scenario



Figure C2: Visual Aid for High Parental Investment Scenario

		Number of Children →																						
Scenarios ↓		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100		
Counting to 3 is more difficult at age 3	Mothers spend little time per week with her child	a. Count to 20 →																						
		b. Count to 50 →																						
		c. Count to 100 →																						
	Mothers spend every day of the week with her child	a. Count to 20 →																						
		b. Count to 50 →																						
		c. Count to 100 →																						
Counting to 3 is easy at age 3	Mothers spend little time per week with her child	a. Count to 20 →																						
		b. Count to 50 →																						
		c. Count to 100 →																						
	Mothers spend every day of the week with her child	a. Count to 20 →																						
		b. Count to 50 →																						
		c. Count to 100 →																						

Figure C3: Survey Instrument to Elicit Parental Perceived Returns

# APPENDIX D

## SUPPLEMENTAL TABLES AND FIGURES OF CHAPTER TWO

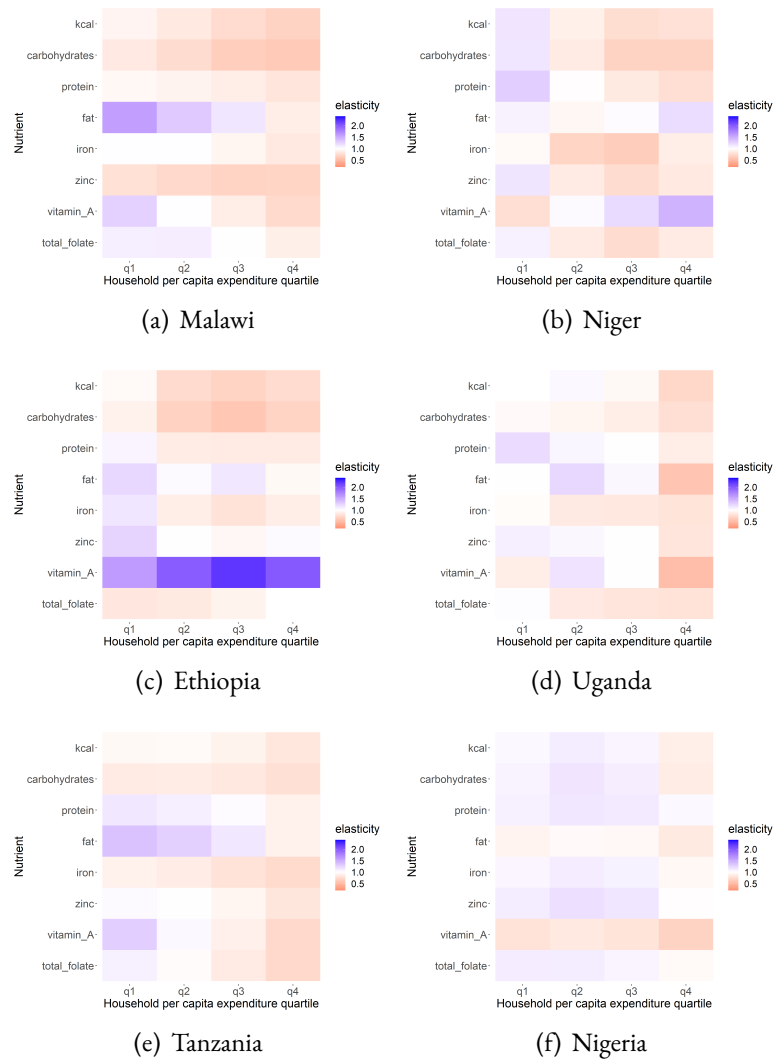


Figure D.1: Expenditure elasticities of demand for each macro- and micro- nutrient, by total expenditure quartile, in Malawi (a), Niger (b), Ethiopia (c), Uganda (d), Tanzania (e), and Nigeria (f). Each cell's color depicts the median expenditure value for each segment of each country's population.

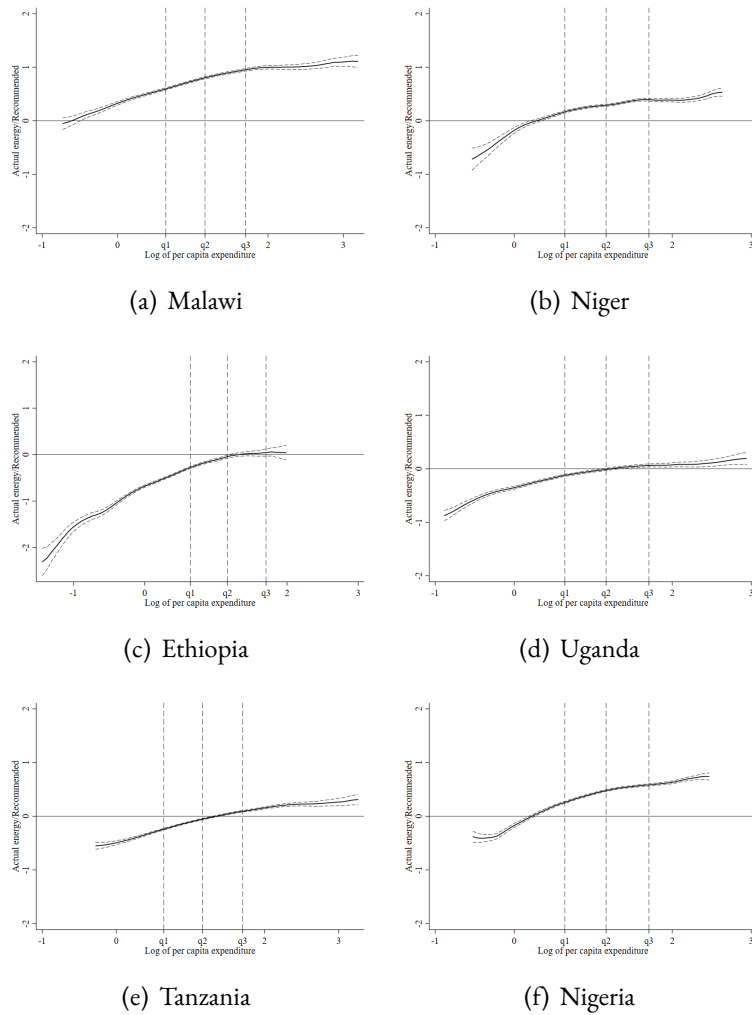
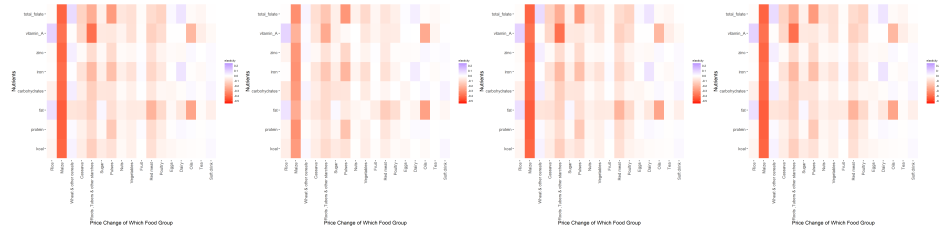
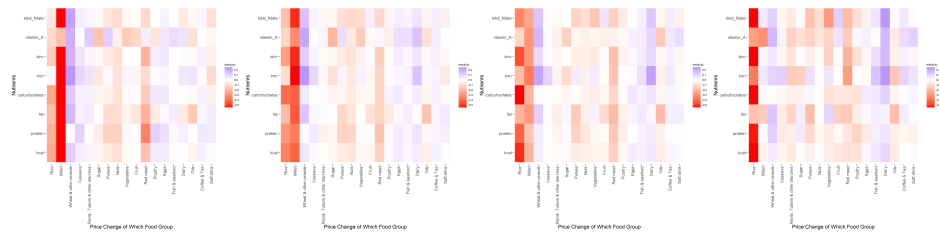


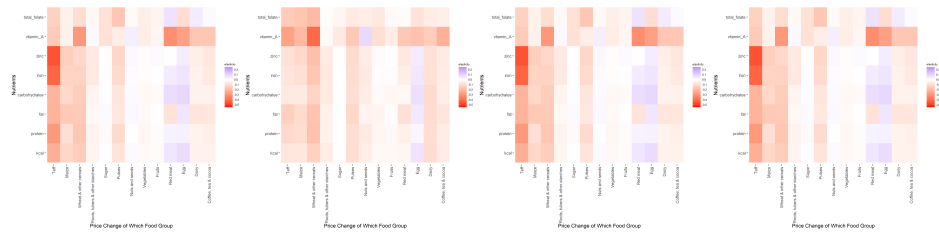
Figure D.2: Dietary energy expansion path. The horizontal axis depicts the log of total household expenditures per adult equivalent. The vertical axis depicts the predicted dietary energy intake as a share of the household's recommended intake of dietary energy (which is specific to each household's composition). The vertical dashed lines signify the break points between expenditure quartiles.



(a) Malawi

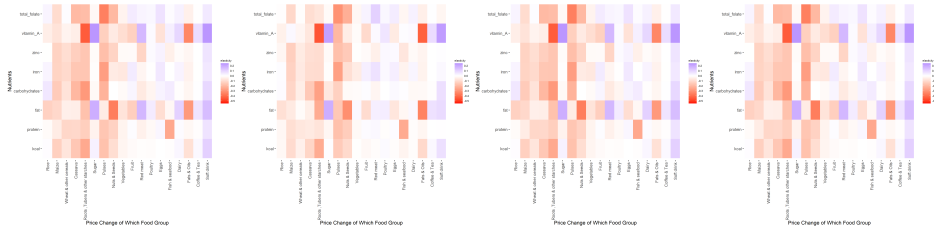


(b) Niger

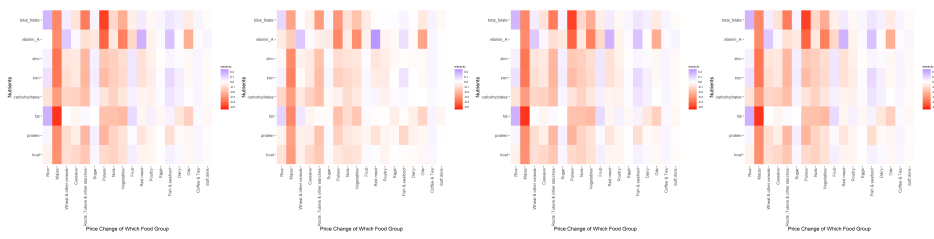


(c) Ethiopia

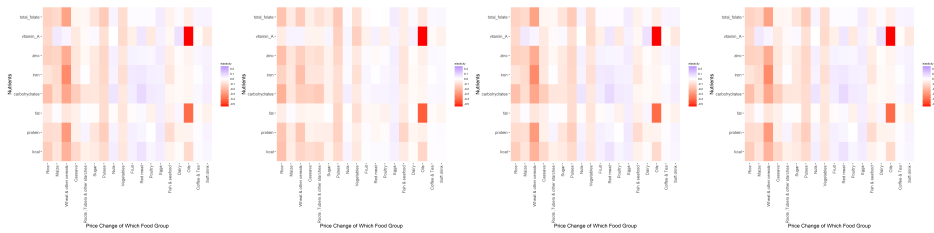
Figure D.3: Price elasticities of demand for each macro- and micro- nutrient including dietary energy, separated by quartile, in (a) Malawi, (b) Niger, and (c) Ethiopia.



(a) Uganda



(b) Tanzania



(c) Nigeria

Figure D.4: Price elasticities of demand for each macro- and micro- nutrient including dietary energy and NRFI, separated by quartile, in (a) Uganda, (b) Tanzania, and (c) Nigeria.

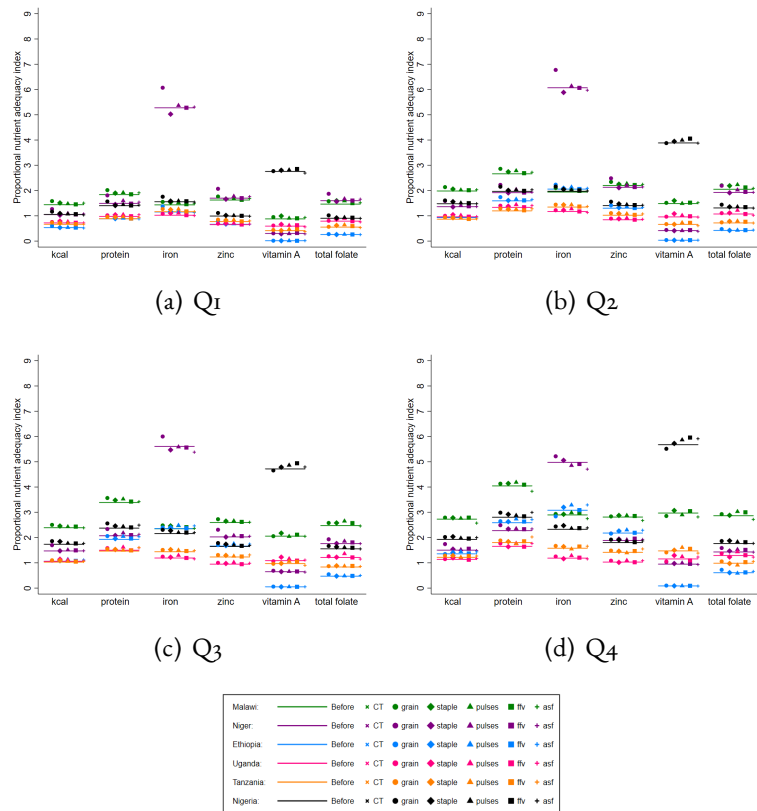


Figure D.5: Predicted intake (relative to EAR) of each macro- and micro- nutrient before and after CT/PV, separated by quartile.

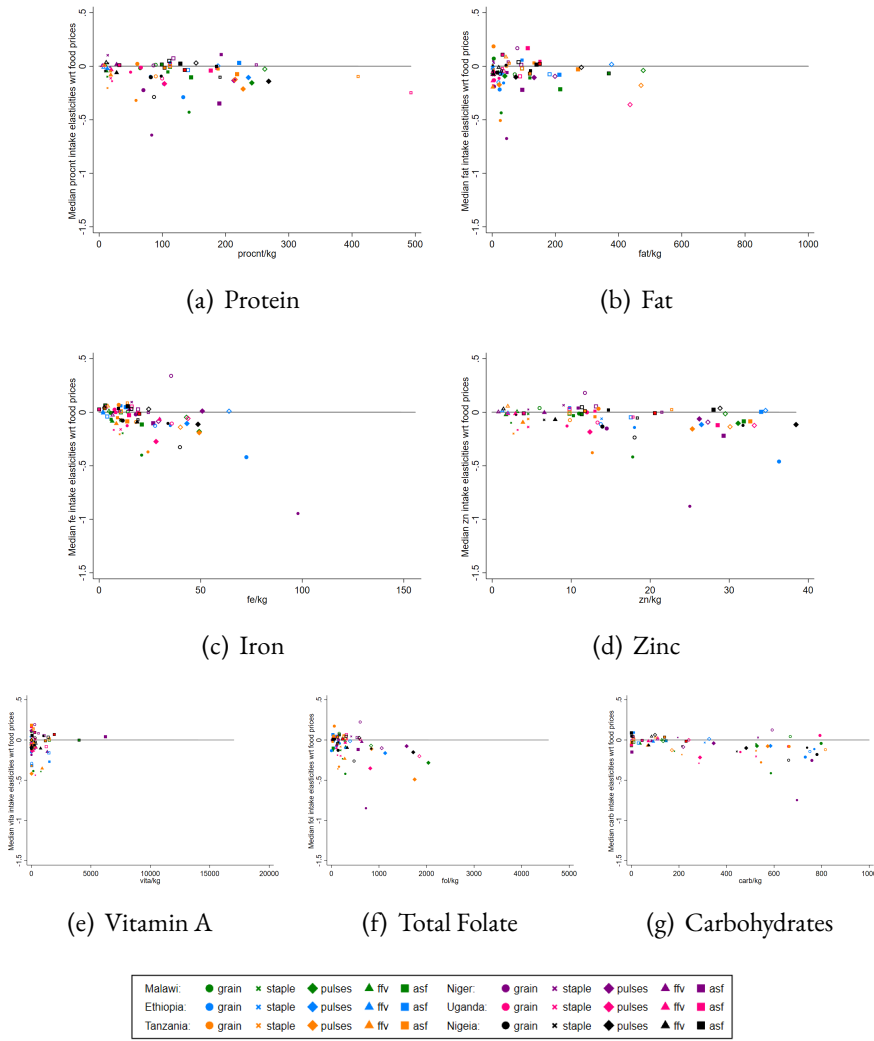
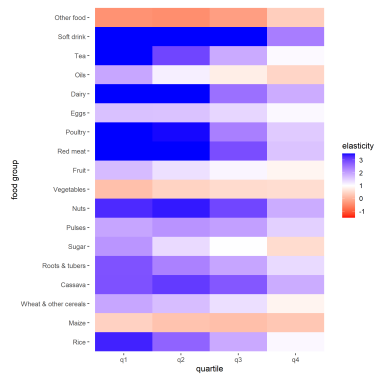
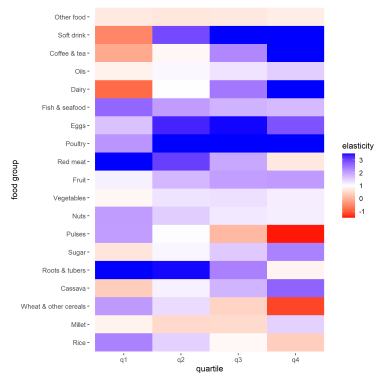


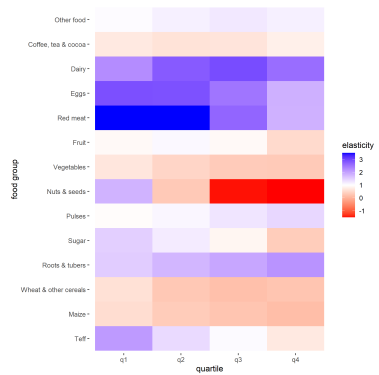
Figure D.6: Nutrient intake elasticity wrt food price and nutrient composition



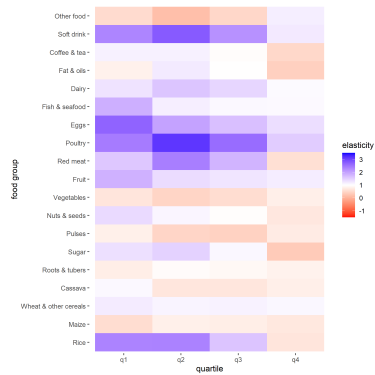
(a) Malawi



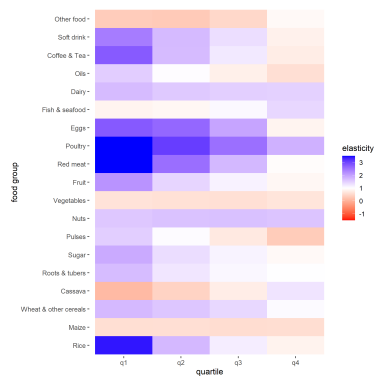
(b) Niger



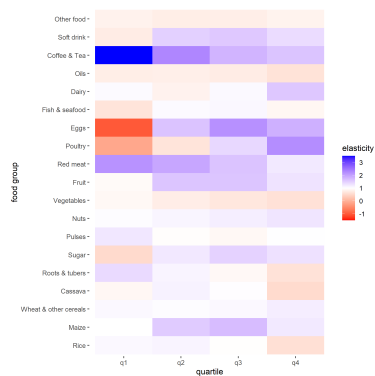
(c) Ethiopia



(d) Uganda

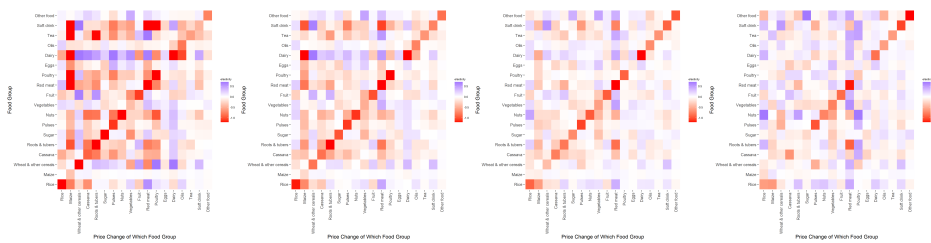


(e) Tanzania

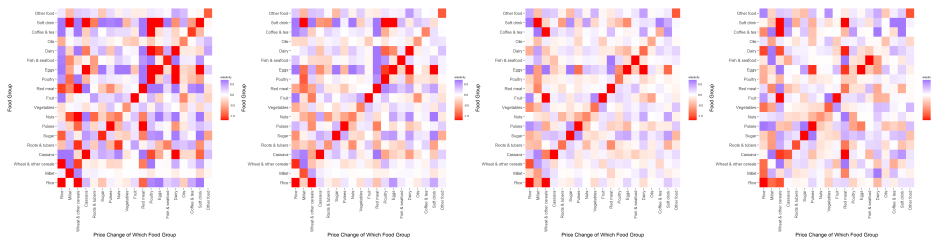


(f) Nigeria

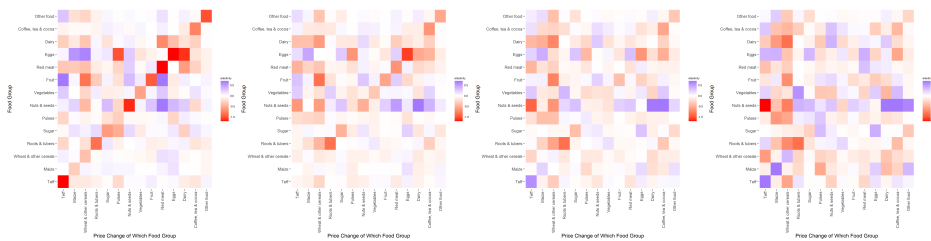
Figure D.7: Expenditure elasticities of food demand, separated by quartile, in (a) Malawi, (b) Niger, (c) Ethiopia, (d) Uganda, (e) Tanzania, and (f) Nigeria.



(a) Malawi



(b) Niger



(c) Ethiopia

Figure D.8: Price elasticities of food demand, separated by quartile, in (a) Malawi, (b) Niger, and (c) Ethiopia.

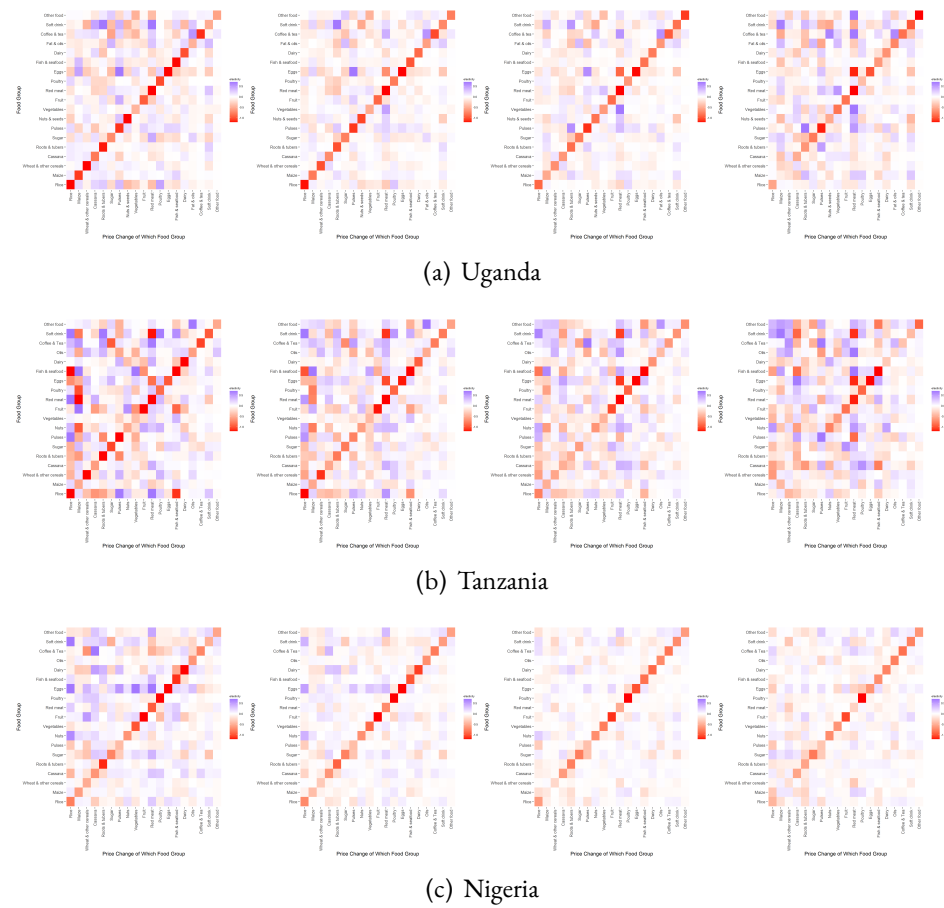


Figure D.9: Price elasticities of food demand, separated by quartile, in (a) Uganda, (b) Tanzania, and (c) Nigeria.

Table D.1: Descriptive statistics (Malawi)

	Average Share in Total Expenditures				Average Unit Value (MWK/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice	0.011	0.020	0.026	0.027	0.317	0.353	0.374	0.438
Maize	0.338	0.271	0.207	0.103	0.110	0.129	0.145	0.163
Wheat <sup>†</sup>	0.018	0.023	0.031	0.034	0.406	0.438	0.466	0.533
Cassava	0.019	0.017	0.013	0.006	0.083	0.089	0.094	0.105
Roots <sup>†</sup>	0.033	0.032	0.028	0.024	0.077	0.087	0.093	0.110
Sugar	0.031	0.040	0.039	0.026	0.234	0.261	0.277	0.315
Pulses	0.066	0.064	0.052	0.035	0.355	0.376	0.409	0.481
Nuts	0.009	0.008	0.008	0.004	0.849	0.913	0.961	1.065
Vegetables	0.090	0.070	0.058	0.041	0.149	0.172	0.192	0.235
Fruit	0.021	0.019	0.017	0.014	0.094	0.101	0.109	0.130
RedMeat	0.017	0.035	0.049	0.048	0.882	0.973	1.032	1.183
Poultry	0.010	0.027	0.041	0.037	0.861	0.950	1.084	1.243
Eggs	0.009	0.014	0.017	0.017	0.463	0.526	0.545	0.547
Dairy	0.001	0.005	0.011	0.018	0.939	1.028	1.055	1.199
Oils	0.031	0.040	0.035	0.030	0.718	0.793	0.837	1.012
Tea	0.002	0.005	0.007	0.005	2.466	2.686	2.758	2.967
SoftDrink <sup>†</sup>	0.002	0.004	0.009	0.019	0.433	0.468	0.493	0.508
OtherFood	0.022	0.013	0.010	0.007	0.387	0.433	0.469	0.510
Food (total)	0.730	0.707	0.657	0.494	0.174	0.242	0.303	0.305
Non-food	0.270	0.293	0.343	0.506				
N (total)	2483	2270	1862	1474				
N (rural)	2305	1864	1282	541				
N (urban)	178	406	580	933				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Rice 2. Maize 3. Wheat and other cereals 4. Cassava 5. Roots, Tubers and, other starches 6. Sugar 7. Pulses 8. Nuts 9. Vegetables 10. Fruit 11. Red meat 12. Poultry 13. Eggs 14. Dairy 15. Oils 16. Tea 17. Soft drink and juice 18. Other foods.

Table D.2: Descriptive statistics (Niger)

	Average Share in Total Expenditures				Average Unit Value (XOF/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice	0.043	0.067	0.091	0.078	0.495	0.497	0.499	0.502
Millet	0.315	0.251	0.157	0.071	0.191	0.202	0.216	0.228
Wheat <sup>†</sup>	0.091	0.101	0.093	0.069	0.310	0.321	0.327	0.334
Cassava	0.008	0.009	0.010	0.009	0.258	0.272	0.285	0.307
Roots <sup>†</sup>	0.002	0.004	0.008	0.013	0.364	0.353	0.374	0.402
Sugar	0.012	0.014	0.014	0.012	0.483	0.577	0.592	0.615
Pulses	0.020	0.019	0.019	0.012	0.311	0.323	0.343	0.366
Nuts <sup>†</sup>	0.005	0.006	0.006	0.004	0.427	0.476	0.469	0.445
Vegetables	0.026	0.025	0.029	0.032	0.311	0.338	0.361	0.374
Fruit	0.004	0.004	0.007	0.013	0.442	0.455	0.475	0.516
RedMeat	0.008	0.017	0.029	0.060	2.093	2.121	2.204	2.410
Poultry	0.005	0.012	0.020	0.024	0.961	0.890	0.977	1.137
Eggs	0.000	0.001	0.001	0.006	1.923	1.844	1.975	2.208
Fish <sup>†</sup>	0.001	0.002	0.003	0.007	0.737	0.856	1.176	1.845
Dairy	0.013	0.019	0.019	0.028	0.827	0.878	0.937	1.021
Oils <sup>†</sup>	0.029	0.031	0.032	0.026	0.877	0.902	0.914	0.894
Coffee <sup>†</sup>	0.005	0.004	0.005	0.005	1.390	1.672	1.642	1.413
SoftDrink <sup>†</sup>	0.000	0.001	0.002	0.008	1.006	1.106	1.115	1.095
OtherFood	0.046	0.032	0.026	0.019	0.227	0.255	0.275	0.284
Food (total)	0.633	0.619	0.572	0.497	0.210	0.260	0.308	0.427
Non-food	0.367	0.381	0.428	0.503				
N (total)	3025	3869	3713	2549				
N (rural)	2555	2745	1925	704				
N (urban)	470	1124	1788	1845				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Rice 2. Millet 3. Wheat and other cereals 4. Cassava 5. Roots, Tubers and, other starches 6. Sugar 7. Pulses 8. Nuts and seeds 9. Vegetables 10. Fruit 11. Red meat 12. Poultry 13. Eggs 14. Fish and seafood 15. Dairy 16. Fats and oils 17. Coffee, tea, and cocoa 18. Soft drink and juice 19. Other foods.

Table D.3: Descriptive statistics (Ethiopia)

	Average Share in Total Expenditures				Average Unit Value (ETB/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Teff	0.110	0.132	0.117	0.072	0.013	0.012	0.013	0.012
Maize	0.115	0.092	0.052	0.030	0.006	0.006	0.006	0.006
Wheat <sup>†</sup>	0.155	0.147	0.108	0.061	0.008	0.007	0.008	0.008
Roots <sup>†</sup>	0.023	0.017	0.020	0.026	0.009	0.008	0.009	0.008
Sugar	0.022	0.029	0.027	0.024	0.022	0.021	0.021	0.020
Pulses	0.074	0.063	0.061	0.060	0.017	0.015	0.016	0.016
Nuts <sup>†</sup>	0.001	0.002	0.001	0.001	0.023	0.017	0.018	0.017
Vegetables	0.029	0.027	0.023	0.019	0.011	0.011	0.011	0.011
Fruit	0.002	0.003	0.005	0.005	0.010	0.009	0.010	0.009
RedMeat	0.020	0.044	0.090	0.093	0.090	0.073	0.088	0.086
Eggs	0.001	0.003	0.006	0.012	0.038	0.032	0.035	0.035
Dairy	0.033	0.041	0.026	0.019	0.013	0.012	0.012	0.012
Coffee <sup>†</sup>	0.084	0.083	0.059	0.039	0.061	0.065	0.068	0.075
OtherFood	0.024	0.031	0.049	0.111	0.016	0.012	0.015	0.017
Food (total)	0.695	0.713	0.643	0.572	0.014	0.017	0.022	0.020
Non-food	0.305	0.287	0.357	0.428				
N (total)	7136	1503	925	189				
N (rural)	6587	1258	617	116				
N (urban)	549	245	308	73				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Teff 2. Maize 3. Wheat and other cereals 4. Roots, Tubers and, other starches 5. Sugar 6. Pulses 7. Nuts and seeds 8. Vegetables 9. Fruit 10. Red meat 11. Eggs 12. Dairy 13. Coffee, tea, and cocoa 14. Other foods.

Table D.4: Descriptive statistics (Uganda)

	Average Share in Total Expenditures				Average Unit Value (UGX/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice	0.008	0.014	0.015	0.014	2.413	2.606	2.620	2.639
Maize	0.077	0.058	0.039	0.019	1.451	1.623	1.738	1.890
Wheat <sup>†</sup>	0.040	0.023	0.016	0.009	1.726	1.945	2.086	2.326
Cassava	0.082	0.051	0.033	0.011	0.700	0.768	0.838	0.944
Roots <sup>†</sup>	0.118	0.116	0.100	0.062	0.380	0.434	0.486	0.618
Sugar	0.024	0.026	0.023	0.016	2.899	2.953	2.978	3.053
Pulses	0.086	0.065	0.043	0.020	2.066	2.311	2.319	2.433
Nuts <sup>†</sup>	0.030	0.028	0.024	0.016	2.583	3.032	3.222	3.285
Vegetables	0.056	0.036	0.028	0.017	1.367	1.612	1.885	2.284
Fruit	0.016	0.019	0.019	0.015	1.575	1.868	2.184	2.729
RedMeat	0.029	0.044	0.049	0.035	5.253	5.929	6.373	6.866
Poultry	0.007	0.011	0.012	0.012	3.959	4.802	5.458	6.181
Eggs	0.002	0.003	0.003	0.003	6.036	6.773	7.363	9.553
Fish <sup>†</sup>	0.024	0.025	0.023	0.016	2.442	2.687	2.715	3.210
Dairy	0.016	0.019	0.020	0.017	1.008	1.160	1.157	1.269
Fats <sup>†</sup>	0.015	0.014	0.012	0.009	4.257	5.541	6.290	8.105
Coffee <sup>†</sup>	0.003	0.002	0.002	0.001	2.505	3.436	4.168	4.738
SoftDrink <sup>†</sup>	0.001	0.003	0.004	0.006	2.540	2.720	2.821	2.853
OtherFood	0.009	0.005	0.003	0.001	0.982	1.013	1.037	1.032
Food (total)	0.643	0.563	0.468	0.300	1.030	1.178	1.146	0.906
Non-food	0.357	0.437	0.532	0.700				
N (total)	5327	3927	3088	2074				
N (rural)	4752	3170	2238	927				
N (urban)	575	757	850	1147				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Rice 2. Maize 3. Wheat and other cereals 4. Cassava 5. Roots, Tubers and, other starches 6. Sugar 7. Pulses 8. Nuts and seeds 9. Vegetables 10. Fruit 11. Red meat 12. Poultry 13. Eggs 14. Fish and seafood 15. Dairy 16. Fats and oils 17. Coffee, tea, and cocoa 18. Soft drink and juice 19. Other foods.

Table D.5: Descriptive statistics (Tanzania)

	Average Share in Total Expenditures				Average Unit Value (TSH/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice	0.031	0.057	0.071	0.061	1.240	1.280	1.322	1.368
Maize	0.210	0.179	0.129	0.058	0.609	0.701	0.778	0.875
Wheat <sup>†</sup>	0.035	0.031	0.031	0.033	1.500	1.560	1.619	1.625
Cassava	0.066	0.040	0.023	0.009	0.407	0.466	0.527	0.611
Roots <sup>†</sup>	0.048	0.052	0.051	0.036	0.556	0.604	0.667	0.779
Sugar	0.020	0.030	0.032	0.024	1.723	1.818	1.819	1.768
Pulses	0.065	0.054	0.041	0.023	1.252	1.295	1.352	1.463
Nuts <sup>†</sup>	0.022	0.017	0.011	0.008	1.588	1.737	1.875	2.027
Vegetables	0.103	0.074	0.059	0.042	0.938	0.959	1.018	1.090
Fruit	0.020	0.028	0.031	0.029	0.748	0.775	0.834	0.941
RedMeat	0.020	0.040	0.054	0.061	3.703	3.935	4.200	4.668
Poultry	0.009	0.019	0.023	0.024	3.889	4.326	4.646	5.035
Eggs	0.001	0.003	0.004	0.006	2.558	2.756	2.704	2.728
Fish <sup>†</sup>	0.035	0.035	0.034	0.028	2.729	2.849	3.013	3.549
Dairy	0.016	0.019	0.022	0.021	0.860	0.987	1.152	1.522
Fats <sup>†</sup>	0.024	0.027	0.026	0.020	2.592	2.773	2.855	2.873
Coffee <sup>†</sup>	0.003	0.005	0.006	0.004	8.934	9.576	9.667	9.645
SoftDrink <sup>†</sup>	0.003	0.004	0.003	0.002	0.445	0.498	0.552	0.614
OtherFood	0.011	0.007	0.005	0.003	0.886	0.858	0.855	0.885
Food (total)	0.742	0.722	0.654	0.493	0.849	1.048	1.142	1.089
Non-food	0.258	0.278	0.346	0.507				
N (total)	1731	2619	2552	2294				
N (rural)	1559	2125	1644	807				
N (urban)	172	494	908	1487				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Rice 2. Maize 3. Wheat and other cereals 4. Cassava 5. Roots, Tubers and, other starches 6. Sugar 7. Pulses 8. Nuts and seeds 9. Vegetables 10. Fruit 11. Red meat 12. Poultry 13. Eggs 14. Fish and seafood 15. Dairy 16. Fats and oils 17. Coffee, tea, and cocoa 18. Soft drink and juice 19. Other foods.

Table D.6: Descriptive statistics (Nigeria)

	Average Share in Total Expenditures				Average Unit Value (NGN/kg)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rice	0.099	0.096	0.081	0.060	0.215	0.219	0.223	0.229
Maize	0.043	0.029	0.018	0.009	0.107	0.109	0.112	0.113
Wheat <sup>†</sup>	0.133	0.091	0.066	0.050	0.186	0.195	0.200	0.210
Cassava	0.021	0.021	0.016	0.008	0.104	0.110	0.114	0.116
Roots <sup>†</sup>	0.089	0.101	0.101	0.087	0.105	0.105	0.108	0.114
Sugar	0.014	0.012	0.010	0.010	0.332	0.364	0.393	0.417
Pulses	0.051	0.047	0.038	0.029	0.221	0.232	0.239	0.251
Nuts <sup>†</sup>	0.008	0.007	0.006	0.005	0.441	0.448	0.449	0.463
Vegetables	0.077	0.066	0.057	0.047	0.168	0.166	0.171	0.186
Fruit	0.008	0.011	0.014	0.017	0.117	0.113	0.113	0.118
RedMeat	0.044	0.061	0.070	0.065	0.757	0.777	0.788	0.807
Poultry	0.004	0.007	0.013	0.021	0.810	0.811	0.810	0.806
Eggs	0.001	0.003	0.005	0.007	0.457	0.464	0.476	0.498
Fish <sup>†</sup>	0.064	0.070	0.072	0.073	0.578	0.633	0.678	0.730
Dairy	0.011	0.012	0.015	0.021	1.087	1.054	1.019	1.044
Oils <sup>†</sup>	0.075	0.059	0.046	0.035	0.286	0.289	0.294	0.293
Coffee <sup>†</sup>	0.003	0.006	0.010	0.013	1.891	1.788	1.731	1.799
SoftDrink <sup>†</sup>	0.006	0.009	0.014	0.017	0.094	0.093	0.092	0.095
OtherFood	0.012	0.010	0.008	0.005	0.314	0.343	0.362	0.357
Food (total)	0.763	0.718	0.658	0.579	0.219	0.239	0.254	0.275
Non-food	0.237	0.282	0.342	0.421				
N (total)	7082	8301	7067	3498				
N (rural)	6012	6063	4260	1676				
N (urban)	1070	2238	2807	1822				

Note: This table shows the mean value of each food group's share in total expenditures (and the non-food numéraire good's share) in columns 1-4 and each food group's mean unit value (and the non-food numéraire good's median unit value) in columns 5-8. Both budget shares and unit values are summarized by per-capita total expenditures quartile. Mean budget shares and prices are weighted using survey weights. The unit price for total food is also weighted by budget share. Food groups whose names have been shortened are marked with <sup>†</sup>; the full food group names are listed here: 1. Rice 2. Maize 3. Wheat and other cereals 4. Cassava 5. Roots, Tubers and, other starches 6. Sugar 7. Pulses 8. Nuts and seeds 9. Vegetables 10. Fruit 11. Red meat 12. Poultry 13. Eggs 14. Fish and seafood 15. Dairy 16. Fats and oils 17. Coffee, tea, and cocoa 18. Soft drink and juice 19. Other foods.

Table D.7: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
Kcal	-0.03 (0.03)	-0.42** (0.07)	0.03 (0.03)	-0.05 (0.04)	-0.14** (0.03)	-0.06** (0.01)	-0.09** (0.03)	-0.02 (0.02)	-0.04* (0.02)	-0.00 (0.01)	-0.09* (0.04)	-0.04 (0.07)	-0.02* (0.01)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.01)	0.02 (0.02)	-0.02** (0.01)	0.92** (0.11)
Protein	-0.02 (0.04)	-0.43** (0.08)	0.01 (0.04)	-0.04 (0.05)	-0.10** (0.04)	-0.02 (0.01)	-0.16** (0.04)	-0.03 (0.02)	-0.04 (0.02)	0.01 (0.01)	-0.10* (0.05)	-0.05 (0.08)	-0.00 (0.01)	0.02 (0.03)	0.01 (0.02)	-0.00 (0.01)	0.01 (0.03)	-0.03** (0.01)	0.95** (0.13)
Fat	0.07 (0.07)	-0.43** (0.10)	-0.08 (0.06)	-0.08 (0.07)	-0.13* (0.05)	0.02 (0.02)	-0.09 (0.06)	-0.04 (0.03)	-0.06 (0.04)	-0.06 (0.03)	-0.22* (0.08)	-0.11 (0.10)	-0.02 (0.02)	-0.07 (0.05)	-0.26** (0.05)	-0.01 (0.02)	-0.05 (0.05)	-0.03* (0.01)	1.58** (0.17)
Carbohydrates	-0.04 (0.03)	-0.41** (0.06)	0.04 (0.03)	-0.05 (0.04)	-0.14** (0.03)	-0.07** (0.01)	-0.01 (0.03)	-0.01 (0.02)	-0.04* (0.02)	0.00 (0.01)	-0.07 (0.04)	-0.02 (0.06)	-0.03* (0.01)	-0.01 (0.02)	0.02 (0.02)	-0.00 (0.01)	0.03 (0.02)	-0.02** (0.01)	0.84** (0.10)
Iron	-0.01 (0.05)	-0.40** (0.09)	0.01 (0.05)	-0.08 (0.06)	-0.20** (0.05)	-0.05** (0.02)	-0.18** (0.03)	-0.05 (0.03)	-0.08** (0.03)	0.01 (0.02)	-0.11 (0.06)	-0.07 (0.09)	-0.00 (0.02)	0.06 (0.04)	-0.01 (0.02)	-0.02 (0.01)	0.01 (0.03)	-0.02 (0.01)	1.01** (0.17)
Zinc	-0.01 (0.04)	-0.42** (0.07)	0.04 (0.03)	-0.01 (0.04)	-0.10** (0.03)	-0.02 (0.01)	-0.10** (0.03)	-0.01 (0.02)	-0.02 (0.02)	0.01 (0.01)	-0.09* (0.04)	-0.03 (0.07)	-0.01 (0.01)	-0.02 (0.03)	0.02 (0.02)	-0.00 (0.01)	0.01 (0.02)	-0.02** (0.01)	0.78** (0.11)
Vitamin A	0.10 (0.07)	-0.39** (0.11)	-0.01 (0.08)	-0.11 (0.07)	-0.39** (0.08)	-0.06* (0.02)	-0.07 (0.06)	-0.03 (0.03)	-0.09* (0.04)	-0.01 (0.03)	-0.13 (0.10)	-0.10 (0.16)	-0.00 (0.02)	-0.00 (0.04)	-0.20** (0.05)	-0.05* (0.02)	-0.02 (0.04)	-0.01 (0.02)	1.27** (0.21)
Total Folate	-0.01 (0.07)	-0.42** (0.13)	0.08 (0.06)	-0.13 (0.09)	-0.23** (0.07)	-0.04* (0.02)	-0.28** (0.08)	-0.07 (0.04)	-0.09* (0.04)	-0.01 (0.03)	-0.10 (0.09)	-0.13 (0.14)	0.02 (0.03)	0.06 (0.06)	-0.02 (0.03)	-0.02 (0.02)	-0.00 (0.05)	-0.03* (0.02)	1.09** (0.23)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.8: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Malawi

	Food Group																Exp.		
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy	Oils	Tea		SoftDrink	OtherFood
Kcal	-0.05* (0.02)	-0.28** (0.06)	0.02 (0.02)	-0.05 (0.03)	-0.10** (0.03)	-0.06** (0.01)	-0.08** (0.03)	-0.00 (0.01)	-0.05** (0.01)	-0.01 (0.01)	-0.05 (0.04)	-0.01 (0.05)	-0.02* (0.01)	-0.00 (0.02)	-0.01 (0.01)	0.00 (0.01)	0.02 (0.02)	-0.02** (0.00)	0.84** (0.11)
Protein	-0.03 (0.04)	-0.31** (0.07)	-0.01 (0.03)	-0.04 (0.04)	-0.08** (0.03)	-0.03* (0.01)	-0.17** (0.04)	-0.02 (0.02)	-0.05* (0.02)	0.00 (0.01)	-0.07 (0.04)	-0.03 (0.06)	-0.01 (0.01)	0.01 (0.02)	0.01 (0.02)	0.00 (0.01)	0.00 (0.02)	-0.02** (0.01)	0.91** (0.14)
Fat	0.06 (0.05)	-0.24** (0.06)	-0.03 (0.04)	-0.07 (0.05)	-0.10** (0.04)	0.02 (0.02)	-0.06 (0.04)	-0.03 (0.02)	-0.02 (0.03)	-0.05* (0.02)	-0.14* (0.06)	-0.10 (0.07)	-0.01 (0.02)	-0.03 (0.03)	-0.27** (0.04)	-0.01 (0.01)	-0.02 (0.03)	-0.03** (0.01)	1.32** (0.13)
Carbohydrates	-0.07** (0.03)	-0.28** (0.06)	0.03 (0.02)	-0.05 (0.03)	-0.10** (0.03)	-0.08** (0.01)	-0.07* (0.03)	0.00 (0.01)	-0.06** (0.01)	-0.00 (0.01)	-0.03 (0.04)	0.00 (0.05)	-0.03** (0.01)	0.00 (0.02)	0.02 (0.01)	0.00 (0.01)	0.03 (0.02)	-0.01** (0.00)	0.75** (0.10)
Iron	-0.00 (0.04)	-0.31** (0.08)	-0.00 (0.03)	-0.07 (0.05)	-0.16** (0.04)	-0.05** (0.01)	-0.21** (0.04)	-0.03 (0.02)	-0.10** (0.02)	0.00 (0.01)	-0.09 (0.05)	-0.03 (0.07)	-0.00 (0.01)	0.04 (0.03)	0.00 (0.02)	-0.01 (0.01)	0.01 (0.03)	-0.01 (0.01)	1.01** (0.16)
Zinc	-0.03 (0.03)	-0.29** (0.07)	0.02 (0.03)	-0.02 (0.04)	-0.08** (0.03)	-0.02* (0.01)	-0.11** (0.03)	-0.00 (0.01)	-0.03* (0.02)	0.00 (0.01)	-0.06 (0.04)	-0.01 (0.05)	-0.01 (0.01)	-0.01 (0.02)	0.02 (0.01)	0.01 (0.01)	0.01 (0.02)	-0.02** (0.01)	0.72** (0.12)
Vitamin A	0.10* (0.04)	-0.22** (0.06)	0.01 (0.05)	-0.08 (0.05)	-0.24** (0.04)	-0.05* (0.02)	-0.02 (0.04)	0.00 (0.02)	-0.07* (0.03)	-0.03 (0.02)	-0.06 (0.07)	-0.05 (0.08)	0.00 (0.02)	0.00 (0.03)	-0.24** (0.04)	-0.03* (0.01)	0.00 (0.03)	-0.01 (0.01)	1.01** (0.12)
Total Folate	-0.00 (0.06)	-0.32** (0.10)	0.02 (0.04)	-0.09 (0.07)	-0.16** (0.05)	-0.05** (0.02)	-0.30** (0.06)	-0.04 (0.03)	-0.11** (0.03)	-0.03 (0.02)	-0.08 (0.07)	-0.04 (0.10)	0.01 (0.02)	0.04 (0.04)	-0.01 (0.02)	-0.02 (0.01)	-0.01 (0.04)	-0.03* (0.01)	1.10** (0.21)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.9: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Malawi

	Food Group													Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs		Dairy	Oils	Tea	SoftDrink	OtherFood
Kcal	-0.07** (0.03)	-0.16** (0.06)	0.01 (0.02)	-0.04 (0.03)	-0.07** (0.02)	-0.06** (0.01)	-0.07** (0.03)	0.01 (0.01)	-0.05** (0.01)	-0.01 (0.01)	-0.00 (0.04)	0.01 (0.04)	-0.02* (0.01)	0.01 (0.02)	-0.01 (0.01)	0.01 (0.01)	0.03 (0.02)	-0.01 (0.00)	0.74** (0.10)
Protein	-0.04 (0.04)	-0.18** (0.07)	-0.02 (0.03)	-0.04 (0.04)	-0.07* (0.03)	-0.03** (0.01)	-0.16** (0.04)	-0.00 (0.02)	-0.04* (0.02)	-0.00 (0.01)	-0.04 (0.04)	0.01 (0.06)	-0.01 (0.01)	0.01 (0.02)	0.02 (0.02)	0.01 (0.01)	0.00 (0.03)	-0.01 (0.01)	0.87** (0.13)
Fat	0.06 (0.04)	-0.12* (0.05)	0.00 (0.04)	-0.06 (0.04)	-0.08* (0.03)	0.01 (0.02)	-0.03 (0.04)	-0.02 (0.02)	0.01 (0.03)	-0.05** (0.02)	-0.08 (0.06)	-0.07 (0.05)	-0.01 (0.02)	-0.01 (0.03)	-0.22** (0.03)	0.00 (0.01)	-0.00 (0.03)	-0.02** (0.01)	1.15** (0.12)
Carbohydrates	-0.10** (0.03)	-0.17** (0.06)	0.01 (0.02)	-0.04 (0.03)	-0.07** (0.02)	-0.07** (0.01)	-0.07 (0.03)	0.02 (0.01)	-0.07** (0.01)	-0.01 (0.01)	0.02 (0.04)	0.03 (0.04)	-0.03** (0.01)	0.02 (0.02)	0.02 (0.01)	0.01 (0.01)	0.04 (0.02)	-0.01 (0.01)	0.64** (0.10)
Iron	-0.00 (0.04)	-0.20** (0.07)	-0.02 (0.03)	-0.06 (0.05)	-0.12** (0.04)	-0.06** (0.01)	-0.20** (0.05)	-0.01 (0.02)	-0.11** (0.02)	-0.00 (0.01)	-0.07 (0.06)	0.03 (0.07)	-0.00 (0.01)	0.03 (0.02)	0.01 (0.02)	-0.01 (0.01)	0.00 (0.03)	-0.01 (0.01)	0.95** (0.14)
Zinc	-0.06 (0.03)	-0.16* (0.07)	-0.00 (0.02)	-0.02 (0.04)	-0.07* (0.03)	-0.03** (0.01)	-0.11** (0.04)	0.01 (0.02)	-0.04** (0.02)	0.00 (0.01)	-0.04 (0.04)	0.02 (0.05)	-0.01 (0.01)	0.01 (0.02)	0.02 (0.01)	0.01 (0.01)	0.01 (0.03)	-0.01 (0.01)	0.68** (0.12)
Vitamin A	0.09* (0.04)	-0.14** (0.05)	0.05 (0.04)	-0.07 (0.04)	-0.17** (0.04)	-0.04 (0.02)	0.01 (0.04)	0.02 (0.02)	-0.06* (0.03)	-0.03 (0.02)	-0.01 (0.07)	-0.03 (0.06)	0.01 (0.02)	0.02 (0.03)	-0.23** (0.04)	-0.02 (0.01)	0.02 (0.03)	-0.02 (0.01)	0.87** (0.11)
Total Folate	-0.00 (0.05)	-0.20* (0.08)	-0.02 (0.04)	-0.06 (0.06)	-0.10* (0.04)	-0.05** (0.02)	-0.28** (0.07)	-0.01 (0.03)	-0.12** (0.03)	-0.03* (0.02)	-0.04 (0.07)	0.03 (0.08)	-0.00 (0.02)	0.02 (0.03)	0.00 (0.02)	-0.01 (0.01)	-0.01 (0.04)	-0.02* (0.01)	1.01** (0.17)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.10: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
Kcal	-0.10*	-0.01	-0.00	-0.04	-0.02	-0.04**	-0.07	0.03	-0.06**	-0.02	0.09	0.05	-0.02	0.05	-0.01	0.02	0.04	0.00	0.68**
	(0.05)	(0.07)	(0.04)	(0.04)	(0.03)	(0.01)	(0.05)	(0.02)	(0.02)	(0.02)	(0.07)	(0.06)	(0.01)	(0.03)	(0.02)	(0.01)	(0.04)	(0.01)	(0.09)
Protein	-0.07	-0.00	-0.05	-0.05	-0.04	-0.05**	-0.17**	0.02	-0.04	-0.01	0.02	0.08	-0.01	0.03	0.04	0.01	0.01	0.00	0.81**
	(0.05)	(0.07)	(0.05)	(0.05)	(0.04)	(0.02)	(0.06)	(0.02)	(0.02)	(0.02)	(0.07)	(0.08)	(0.02)	(0.03)	(0.02)	(0.01)	(0.04)	(0.01)	(0.10)
Fat	0.08	-0.00	0.07	-0.06	-0.06	0.01	0.00	-0.00	0.05	-0.05*	0.07	-0.01	0.02	0.02	-0.17**	0.01	0.03	-0.02*	0.87**
	(0.06)	(0.05)	(0.05)	(0.06)	(0.04)	(0.03)	(0.06)	(0.02)	(0.04)	(0.02)	(0.08)	(0.07)	(0.02)	(0.03)	(0.04)	(0.01)	(0.04)	(0.01)	(0.10)
Carbohydrates	-0.16**	-0.01	-0.01	-0.03	-0.01	-0.05**	-0.07	0.04	-0.09**	-0.02	0.12	0.05	-0.02	0.05	0.02	0.02	0.02	0.01	0.61**
	(0.05)	(0.08)	(0.04)	(0.05)	(0.03)	(0.02)	(0.06)	(0.02)	(0.02)	(0.02)	(0.08)	(0.06)	(0.02)	(0.03)	(0.02)	(0.01)	(0.04)	(0.01)	(0.09)
Iron	0.00	-0.04	-0.05	-0.04	-0.05	-0.06**	-0.18*	0.03	-0.13**	-0.01	-0.06	0.14	-0.01	0.03	0.02	0.00	0.01	-0.01	0.84**
	(0.07)	(0.08)	(0.06)	(0.07)	(0.06)	(0.02)	(0.09)	(0.03)	(0.03)	(0.02)	(0.09)	(0.12)	(0.02)	(0.03)	(0.03)	(0.01)	(0.06)	(0.01)	(0.13)
Zinc	-0.10	0.03	-0.03	-0.03	-0.05	-0.04**	-0.12	0.02	-0.06**	-0.00	0.03	0.08	-0.00	0.04	0.02	0.02	0.02	0.00	0.69**
	(0.06)	(0.08)	(0.04)	(0.05)	(0.04)	(0.02)	(0.06)	(0.02)	(0.02)	(0.02)	(0.07)	(0.08)	(0.02)	(0.03)	(0.02)	(0.01)	(0.04)	(0.01)	(0.11)
Vitamin A	0.09	-0.06	0.10	-0.09	-0.07	-0.03	0.05	0.04	-0.04	-0.05	0.10	0.00	0.02	0.05	-0.21**	0.00	0.04	-0.03*	0.73**
	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.04)	(0.06)	(0.02)	(0.04)	(0.03)	(0.09)	(0.08)	(0.03)	(0.04)	(0.05)	(0.01)	(0.04)	(0.01)	(0.10)
Total Folate	0.00	-0.03	-0.08	-0.03	-0.03	-0.06**	-0.28**	0.02	-0.14**	-0.05*	0.03	0.14	-0.01	0.00	0.02	-0.00	-0.03	-0.01	0.88**
	(0.08)	(0.09)	(0.07)	(0.08)	(0.07)	(0.02)	(0.10)	(0.04)	(0.04)	(0.02)	(0.10)	(0.12)	(0.02)	(0.04)	(0.03)	(0.02)	(0.06)	(0.01)	(0.14)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.11: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Niger

	Food Group														Exp.					
	Rice	Millet	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
Kcal	-0.24 (0.23)	-0.71* (0.34)	0.11 (0.33)	0.04 (0.06)	0.03 (0.08)	-0.03 (0.05)	-0.06 (0.08)	-0.09 (0.05)	-0.01 (0.03)	-0.01 (0.03)	-0.18 (0.20)	0.05 (0.19)	0.05 (0.06)	0.00 (0.04)	-0.00 (0.12)	-0.04 (0.05)	0.04 (0.08)	-0.01 (0.18)	-0.05 (0.04)	1.16** (0.31)
Protein	-0.22 (0.26)	-0.64 (0.33)	0.01 (0.33)	0.10 (0.07)	-0.01 (0.08)	-0.05 (0.08)	-0.13* (0.06)	-0.13* (0.06)	0.01 (0.03)	0.02 (0.03)	-0.35 (0.33)	0.11 (0.20)	0.07 (0.07)	0.01 (0.04)	0.04 (0.12)	0.00 (0.04)	0.06 (0.08)	0.05 (0.19)	-0.11** (0.04)	1.29** (0.33)
Fat	-0.19 (0.17)	-0.67** (0.24)	0.17 (0.27)	0.03 (0.06)	0.05 (0.07)	-0.00 (0.05)	-0.11 (0.06)	-0.09* (0.04)	-0.04 (0.04)	-0.08* (0.04)	-0.22 (0.17)	-0.06 (0.16)	0.01 (0.06)	0.04 (0.04)	-0.06 (0.10)	-0.16** (0.04)	0.02 (0.07)	0.05 (0.13)	-0.02 (0.03)	1.08** (0.24)
Carbohydrates	-0.25 (0.26)	-0.75* (0.36)	0.12 (0.35)	0.03 (0.07)	0.03 (0.08)	-0.03 (0.08)	-0.04 (0.08)	-0.09 (0.06)	-0.01 (0.04)	0.01 (0.03)	-0.15 (0.21)	0.06 (0.20)	0.05 (0.06)	-0.01 (0.04)	0.00 (0.12)	-0.02 (0.05)	0.03 (0.08)	-0.04 (0.19)	-0.05 (0.05)	1.15** (0.32)
Iron	-0.02 (0.20)	-0.94** (0.31)	0.34 (0.32)	0.10 (0.07)	0.07 (0.07)	-0.07 (0.05)	0.01 (0.07)	-0.08 (0.05)	0.03 (0.04)	-0.03 (0.03)	-0.10 (0.15)	0.01 (0.13)	0.03 (0.06)	-0.00 (0.04)	0.06 (0.09)	0.06 (0.04)	0.01 (0.07)	-0.11 (0.15)	-0.24** (0.04)	0.96** (0.24)
Zinc	-0.15 (0.23)	-0.88** (0.32)	0.18 (0.33)	0.07 (0.06)	0.03 (0.07)	-0.02 (0.05)	-0.06 (0.07)	-0.09 (0.05)	-0.00 (0.03)	0.00 (0.03)	-0.22 (0.20)	0.04 (0.18)	0.05 (0.06)	0.00 (0.04)	0.01 (0.11)	-0.01 (0.05)	0.04 (0.07)	-0.05 (0.18)	-0.08 (0.04)	1.16** (0.29)
Vitamin A	-0.11 (0.16)	-0.18 (0.20)	0.19 (0.19)	-0.01 (0.07)	0.13 (0.07)	-0.17* (0.08)	0.12 (0.08)	-0.05 (0.04)	-0.15** (0.05)	-0.11* (0.05)	0.04 (0.14)	-0.08 (0.10)	0.05 (0.07)	0.08 (0.05)	0.06 (0.10)	-0.09 (0.08)	0.01 (0.06)	-0.03 (0.11)	-0.32** (0.05)	0.77** (0.18)
Total Folate	-0.07 (0.20)	-0.85** (0.30)	0.22 (0.32)	0.05 (0.06)	0.02 (0.07)	-0.02 (0.04)	-0.08 (0.08)	-0.10* (0.05)	-0.02 (0.03)	0.01 (0.03)	-0.12 (0.18)	-0.00 (0.16)	0.03 (0.06)	0.00 (0.04)	-0.06 (0.10)	-0.02 (0.03)	0.03 (0.07)	-0.09 (0.16)	-0.07 (0.04)	1.09** (0.27)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.12: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Niger

	Food Group																	Exp.		
	Rice	Millet	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee		SoftDrink	OtherFood
Kcal	-0.35 (0.18)	-0.42* (0.21)	0.06 (0.27)	0.01 (0.07)	-0.00 (0.05)	-0.02 (0.04)	-0.06 (0.08)	-0.07 (0.04)	-0.02 (0.03)	-0.02 (0.03)	-0.13 (0.13)	0.01 (0.12)	0.05 (0.05)	0.02 (0.04)	0.04 (0.09)	-0.05 (0.03)	0.03 (0.07)	0.01 (0.13)	-0.03 (0.04)	0.89** (0.29)
Protein	-0.29 (0.18)	-0.37 (0.20)	0.01 (0.25)	0.05 (0.07)	-0.04 (0.05)	-0.03 (0.04)	-0.13 (0.08)	-0.12** (0.04)	-0.01 (0.02)	0.00 (0.03)	-0.18 (0.13)	0.01 (0.12)	0.05 (0.05)	0.03 (0.04)	0.06 (0.09)	-0.02 (0.03)	0.03 (0.07)	0.04 (0.12)	-0.07 (0.03)	0.99** (0.28)
Fat	-0.19 (0.12)	-0.44** (0.16)	0.14 (0.20)	0.02 (0.05)	-0.01 (0.04)	-0.00 (0.04)	-0.12* (0.05)	-0.08** (0.03)	-0.00 (0.03)	-0.09** (0.03)	-0.12 (0.11)	-0.06 (0.10)	0.02 (0.04)	0.04 (0.03)	-0.01 (0.08)	-0.17** (0.04)	0.03 (0.06)	0.05 (0.10)	-0.04 (0.02)	0.94** (0.22)
Carbohydrates	-0.40* (0.20)	-0.43 (0.23)	0.05 (0.29)	0.01 (0.07)	0.01 (0.06)	-0.03 (0.04)	-0.03 (0.09)	-0.06 (0.04)	-0.03 (0.03)	-0.02 (0.03)	-0.13 (0.13)	0.03 (0.13)	0.05 (0.05)	0.01 (0.04)	0.04 (0.09)	-0.03 (0.03)	0.03 (0.08)	-0.01 (0.14)	-0.02 (0.04)	0.85** (0.32)
Iron	-0.10 (0.16)	-0.63** (0.21)	0.27 (0.27)	0.09 (0.07)	0.02 (0.05)	-0.09 (0.06)	0.03 (0.08)	-0.06 (0.04)	0.03 (0.03)	-0.02 (0.03)	-0.12 (0.11)	0.01 (0.09)	0.02 (0.05)	0.03 (0.04)	0.14 (0.09)	0.02 (0.03)	0.03 (0.07)	-0.06 (0.12)	-0.22** (0.04)	0.69** (0.27)
Zinc	-0.27 (0.16)	-0.52** (0.20)	0.12 (0.27)	0.03 (0.07)	-0.02 (0.05)	-0.02 (0.04)	-0.06 (0.08)	-0.08* (0.04)	-0.04 (0.03)	0.01 (0.03)	-0.14 (0.12)	-0.01 (0.12)	0.04 (0.05)	0.02 (0.04)	0.06 (0.08)	-0.02 (0.03)	0.04 (0.07)	-0.02 (0.13)	-0.03 (0.04)	0.85** (0.29)
Vitamin A	-0.12 (0.11)	-0.33* (0.15)	0.21 (0.15)	0.01 (0.05)	0.03 (0.05)	-0.21** (0.07)	0.08 (0.06)	-0.07* (0.03)	-0.15** (0.06)	-0.02 (0.04)	0.02 (0.08)	-0.04 (0.07)	0.08 (0.05)	0.07 (0.04)	0.14 (0.09)	-0.09* (0.04)	0.04 (0.05)	0.00 (0.08)	-0.35** (0.04)	1.03** (0.14)
Total Folate	-0.18 (0.12)	-0.52** (0.18)	0.15 (0.24)	0.03 (0.06)	-0.02 (0.04)	-0.03 (0.04)	-0.09 (0.07)	-0.11** (0.04)	-0.10** (0.03)	0.04 (0.03)	-0.11 (0.11)	-0.03 (0.09)	0.04 (0.05)	0.03 (0.03)	0.06 (0.08)	-0.03 (0.03)	0.04 (0.06)	-0.04 (0.12)	-0.02 (0.03)	0.85** (0.24)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.13: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Niger

	Food Group														Exp.					
	Rice	Millet	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
Kcal	-0.52** (0.19)	-0.22 (0.23)	0.04 (0.32)	-0.01 (0.09)	-0.02 (0.06)	-0.02 (0.06)	-0.05 (0.09)	-0.04 (0.04)	-0.03 (0.04)	-0.03 (0.05)	-0.14 (0.16)	-0.02 (0.10)	0.04 (0.06)	0.03 (0.05)	0.05 (0.14)	-0.05 (0.04)	0.02 (0.11)	0.01 (0.13)	-0.01 (0.05)	0.76* (0.32)
Protein	-0.42* (0.17)	-0.17 (0.22)	0.05 (0.30)	0.00 (0.09)	-0.03 (0.05)	0.01 (0.07)	-0.13 (0.09)	-0.07 (0.04)	-0.03 (0.03)	-0.01 (0.05)	-0.16 (0.15)	-0.05 (0.10)	0.00 (0.06)	0.03 (0.05)	0.05 (0.13)	-0.04 (0.04)	0.01 (0.11)	-0.01 (0.12)	-0.03 (0.04)	0.84** (0.31)
Fat	-0.21 (0.12)	-0.29 (0.15)	0.11 (0.21)	-0.01 (0.06)	-0.05 (0.04)	0.02 (0.05)	-0.15** (0.06)	-0.05 (0.03)	0.03 (0.03)	-0.11** (0.04)	-0.20 (0.11)	-0.04 (0.08)	0.03 (0.04)	0.05 (0.04)	0.02 (0.10)	-0.19** (0.05)	0.04 (0.08)	0.05 (0.10)	-0.06* (0.03)	1.05** (0.23)
Carbohydrates	-0.62** (0.22)	-0.21 (0.26)	0.01 (0.36)	-0.01 (0.10)	-0.01 (0.06)	-0.03 (0.07)	-0.01 (0.10)	-0.03 (0.05)	-0.05 (0.05)	-0.02 (0.06)	-0.12 (0.18)	-0.01 (0.11)	0.05 (0.07)	0.03 (0.06)	0.06 (0.15)	-0.03 (0.05)	0.02 (0.12)	0.01 (0.15)	0.00 (0.06)	0.68 (0.33)
Iron	-0.19 (0.17)	-0.37 (0.22)	0.21 (0.27)	0.10 (0.09)	-0.03 (0.06)	-0.10 (0.08)	0.04 (0.09)	-0.04 (0.04)	0.05 (0.04)	-0.01 (0.04)	-0.17 (0.15)	0.01 (0.09)	0.01 (0.06)	0.07 (0.06)	0.23 (0.15)	-0.04 (0.04)	0.05 (0.10)	-0.02 (0.13)	-0.24** (0.04)	0.63* (0.29)
Zinc	-0.46** (0.18)	-0.28 (0.23)	0.09 (0.32)	0.01 (0.09)	-0.03 (0.06)	-0.00 (0.06)	-0.05 (0.09)	-0.05 (0.04)	-0.07 (0.04)	0.01 (0.05)	-0.18 (0.16)	-0.04 (0.10)	0.02 (0.06)	0.04 (0.05)	0.09 (0.14)	-0.03 (0.04)	0.04 (0.11)	-0.02 (0.14)	-0.01 (0.05)	0.75* (0.32)
Vitamin A	-0.12 (0.10)	-0.30* (0.13)	0.17 (0.14)	0.01 (0.05)	-0.04 (0.04)	-0.13* (0.06)	-0.02 (0.05)	-0.04 (0.03)	-0.03 (0.06)	-0.05 (0.04)	-0.04 (0.09)	-0.02 (0.06)	0.04 (0.04)	0.04 (0.04)	0.10 (0.09)	-0.15** (0.05)	0.05 (0.05)	0.08 (0.08)	-0.22** (0.03)	1.22** (0.18)
Total Folate	-0.34* (0.15)	-0.25 (0.21)	0.14 (0.26)	-0.01 (0.08)	-0.02 (0.05)	0.00 (0.07)	-0.13 (0.09)	-0.09* (0.04)	-0.17** (0.04)	0.07 (0.05)	-0.14 (0.14)	-0.06 (0.09)	0.00 (0.05)	0.04 (0.05)	0.14 (0.12)	-0.03 (0.04)	0.04 (0.09)	-0.04 (0.13)	0.04 (0.04)	0.74** (0.29)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.14: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Niger

	Food Group																Exp.			
	Rice	Miller	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils		Coffee	SoftDrink	OtherFood
Kcal	-0.69* (0.39)	-0.04 (0.47)	0.05 (0.66)	-0.04 (0.13)	-0.06 (0.11)	-0.01 (0.14)	-0.04 (0.10)	-0.01 (0.07)	-0.05 (0.08)	-0.07 (0.09)	-0.09 (0.38)	-0.08 (0.17)	0.03 (0.09)	0.05 (0.08)	0.09 (0.27)	-0.06 (0.08)	0.00 (0.19)	0.01 (0.23)	-0.01 (0.07)	0.78 (0.90)
Protein	-0.54* (0.26)	0.01 (0.42)	0.12 (0.65)	-0.06 (0.14)	-0.05 (0.11)	0.05 (0.16)	-0.11 (0.11)	-0.03 (0.06)	-0.06 (0.07)	-0.02 (0.09)	-0.07 (0.37)	-0.13 (0.17)	-0.06 (0.08)	0.04 (0.07)	0.06 (0.26)	-0.05 (0.08)	-0.03 (0.18)	-0.04 (0.22)	-0.01 (0.07)	0.76 (0.89)
Fat	-0.17 (0.17)	-0.15 (0.27)	0.14 (0.41)	-0.06 (0.09)	-0.12 (0.07)	0.04 (0.09)	-0.19** (0.07)	-0.00 (0.04)	0.10 (0.05)	-0.14** (0.05)	-0.16 (0.24)	-0.05 (0.11)	0.01 (0.05)	0.05 (0.05)	0.03 (0.19)	-0.18* (0.07)	0.05 (0.12)	0.01 (0.15)	-0.12* (0.05)	1.20* (0.96)
Carbohydrates	-0.87* (0.33)	-0.01 (0.54)	-0.01 (0.76)	-0.02 (0.15)	-0.04 (0.12)	-0.04 (0.16)	0.02 (0.12)	0.00 (0.08)	-0.08 (0.10)	-0.07 (0.12)	-0.08 (0.43)	-0.08 (0.19)	0.05 (0.10)	0.05 (0.09)	0.11 (0.30)	-0.03 (0.11)	-0.00 (0.22)	0.03 (0.26)	0.03 (0.08)	0.68 (1.01)
Iron	-0.37 (0.24)	0.05 (0.42)	0.10 (0.45)	0.11 (0.13)	-0.15 (0.12)	-0.13 (0.16)	0.08 (0.11)	-0.01 (0.07)	0.06 (0.07)	-0.00 (0.07)	-0.28 (0.31)	-0.00 (0.15)	-0.02 (0.09)	0.15 (0.09)	0.37 (0.27)	-0.16 (0.11)	0.10 (0.17)	0.06 (0.22)	-0.28** (0.07)	0.88 (0.61)
Zinc	-0.71** (0.27)	0.02 (0.50)	0.05 (0.61)	-0.02 (0.14)	-0.08 (0.11)	0.01 (0.14)	-0.05 (0.11)	-0.01 (0.07)	-0.13 (0.08)	0.01 (0.09)	-0.22 (0.38)	-0.09 (0.17)	-0.02 (0.08)	0.08 (0.08)	0.17 (0.29)	-0.04 (0.09)	0.04 (0.19)	-0.03 (0.23)	0.02 (0.06)	0.84 (0.81)
Vitamin A	-0.27* (0.12)	-0.31* (0.13)	0.17 (0.19)	0.03 (0.05)	-0.13* (0.06)	-0.09 (0.06)	-0.13* (0.06)	-0.07 (0.04)	-0.12 (0.07)	0.07 (0.05)	-0.15 (0.15)	0.02 (0.07)	0.04 (0.04)	-0.01 (0.04)	0.17 (0.13)	-0.06 (0.06)	0.09 (0.07)	0.11 (0.09)	-0.11** (0.04)	1.45** (0.38)
Total Folate	-0.60* (0.24)	0.05 (0.42)	0.11 (0.48)	-0.03 (0.12)	-0.06 (0.10)	0.01 (0.14)	-0.17 (0.11)	-0.09 (0.06)	-0.29** (0.08)	0.11 (0.09)	-0.19 (0.32)	-0.10 (0.15)	-0.03 (0.07)	0.06 (0.07)	0.29 (0.23)	-0.01 (0.07)	0.05 (0.16)	-0.01 (0.21)	0.09 (0.06)	0.85 (0.70)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.15: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Ethiopia

	Food Group													Exp.	
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee		OtherFood
Kcal	-0.23* (0.09)	-0.12** (0.04)	-0.14* (0.06)	-0.03 (0.03)	0.00 (0.01)	-0.08* (0.03)	0.01 (0.03)	-0.02* (0.01)	-0.01 (0.02)	0.06 (0.08)	0.08* (0.03)	-0.04 (0.07)	-0.04* (0.02)	-0.03 (0.02)	0.96** (0.10)
Protein	-0.29** (0.09)	-0.09* (0.04)	-0.16** (0.06)	-0.03 (0.03)	-0.01 (0.01)	-0.11** (0.04)	0.00 (0.03)	-0.02* (0.01)	-0.01 (0.02)	0.03 (0.07)	0.03 (0.03)	-0.04 (0.06)	-0.05* (0.02)	-0.02 (0.02)	1.06** (0.10)
Fat	-0.22** (0.07)	-0.16** (0.05)	-0.15* (0.06)	-0.02 (0.02)	0.01 (0.01)	-0.07* (0.03)	0.02 (0.03)	-0.02 (0.01)	0.00 (0.01)	-0.08 (0.07)	0.06 (0.03)	-0.08 (0.05)	-0.07** (0.02)	-0.03 (0.02)	1.24** (0.14)
Carbohydrates	-0.21* (0.09)	-0.11** (0.04)	-0.14* (0.06)	-0.03 (0.03)	0.01 (0.01)	-0.07* (0.03)	0.01 (0.03)	-0.02 (0.01)	-0.01 (0.02)	0.08 (0.08)	0.09** (0.03)	-0.04 (0.07)	-0.04* (0.02)	-0.03 (0.03)	0.90** (0.10)
Iron	-0.42** (0.15)	-0.12** (0.05)	-0.13 (0.07)	-0.06* (0.03)	0.01 (0.01)	-0.10** (0.04)	0.01 (0.04)	-0.01 (0.01)	0.00 (0.02)	0.05 (0.10)	0.06 (0.04)	-0.04 (0.08)	-0.06** (0.02)	-0.01 (0.03)	1.15** (0.12)
Zinc	-0.46** (0.15)	-0.14** (0.05)	-0.11 (0.07)	-0.06 (0.03)	-0.00 (0.02)	-0.12** (0.04)	0.02 (0.04)	-0.01 (0.01)	0.01 (0.02)	0.00 (0.10)	0.04 (0.04)	-0.05 (0.08)	-0.07** (0.03)	-0.01 (0.04)	1.26** (0.13)
Vitamin A	-0.15 (0.26)	-0.04 (0.10)	-0.29 (0.18)	0.02 (0.07)	-0.09* (0.04)	-0.05 (0.07)	0.04 (0.10)	-0.05 (0.03)	-0.03 (0.04)	-0.32 (0.25)	-0.27** (0.10)	-0.16 (0.28)	-0.16* (0.07)	-0.02 (0.06)	1.60** (0.34)
Total Folate	-0.13 (0.10)	-0.04 (0.05)	-0.10 (0.06)	-0.02 (0.04)	-0.09** (0.03)	-0.16* (0.08)	-0.02 (0.05)	-0.05** (0.01)	-0.03 (0.03)	0.07 (0.07)	-0.10* (0.05)	0.05 (0.06)	0.01 (0.03)	-0.03 (0.03)	0.83** (0.10)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.16: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in in Ethiopia

	Food Group											Exp.			
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nurs	Vegetables	Fruit	RedMeat	Eggs		Dairy	Coffee	OtherFood
Kcal	-0.08 (0.12)	-0.07 (0.04)	-0.13 (0.07)	-0.06 (0.03)	-0.00 (0.01)	-0.09** (0.03)	-0.05 (0.04)	-0.02 (0.01)	-0.02 (0.02)	-0.03 (0.12)	0.06* (0.03)	-0.10 (0.09)	-0.05** (0.02)	-0.01 (0.03)	0.73** (0.13)
Protein	-0.11 (0.12)	-0.10* (0.04)	-0.17* (0.07)	-0.04 (0.03)	-0.00 (0.02)	-0.09* (0.04)	-0.06 (0.04)	-0.03* (0.01)	-0.02 (0.02)	-0.04 (0.11)	0.02 (0.03)	-0.09 (0.08)	-0.05** (0.02)	-0.01 (0.03)	0.86** (0.12)
Fat	-0.14 (0.10)	-0.10 (0.06)	-0.17* (0.07)	-0.04 (0.03)	0.00 (0.01)	-0.11** (0.03)	-0.03 (0.04)	-0.03** (0.01)	-0.01 (0.02)	-0.09 (0.08)	0.05 (0.03)	-0.10 (0.07)	-0.07** (0.02)	-0.00 (0.03)	1.04** (0.17)
Carbohydrates	-0.06 (0.12)	-0.06 (0.04)	-0.12 (0.07)	-0.06 (0.03)	-0.00 (0.01)	-0.09** (0.03)	-0.05 (0.04)	-0.02 (0.01)	-0.02 (0.02)	-0.02 (0.13)	0.07* (0.03)	-0.10 (0.10)	-0.05** (0.02)	-0.01 (0.03)	0.67** (0.13)
Iron	-0.07 (0.21)	-0.09 (0.05)	-0.16* (0.08)	-0.06 (0.04)	0.00 (0.02)	-0.10** (0.04)	-0.06 (0.05)	-0.01 (0.01)	-0.01 (0.02)	-0.05 (0.14)	0.06 (0.04)	-0.09 (0.10)	-0.06* (0.02)	0.01 (0.05)	0.87** (0.14)
Zinc	-0.08 (0.22)	-0.11 (0.06)	-0.18* (0.07)	-0.06 (0.03)	-0.00 (0.02)	-0.10* (0.04)	-0.06 (0.05)	-0.01 (0.01)	-0.00 (0.02)	-0.07 (0.13)	0.05 (0.04)	-0.09 (0.10)	-0.06* (0.02)	0.02 (0.05)	1.00** (0.14)
Vitamin A	-0.27 (0.22)	-0.20 (0.11)	-0.41 (0.21)	-0.02 (0.06)	-0.06 (0.03)	-0.16* (0.06)	0.09 (0.09)	-0.09** (0.03)	-0.05 (0.04)	-0.16 (0.26)	-0.17** (0.06)	-0.14 (0.29)	-0.23** (0.06)	-0.04 (0.06)	1.99** (0.37)
Total Folate	-0.15 (0.13)	-0.16* (0.07)	-0.20** (0.07)	-0.01 (0.04)	-0.03 (0.03)	-0.06 (0.09)	-0.05 (0.06)	-0.07** (0.02)	-0.02 (0.03)	-0.01 (0.08)	-0.08 (0.05)	-0.06 (0.07)	-0.05 (0.03)	0.00 (0.04)	0.84** (0.11)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.17: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Ethiopia

	Food Group													Exp.	
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee		OtherFood
Kcal	0.02 (0.20)	-0.04 (0.06)	-0.14 (0.11)	-0.07 (0.05)	-0.01 (0.02)	-0.12** (0.04)	-0.10 (0.06)	-0.02 (0.02)	-0.03 (0.03)	-0.08 (0.19)	0.06 (0.04)	-0.15 (0.15)	-0.07* (0.03)	-0.01 (0.05)	0.69** (0.19)
Protein	-0.00 (0.21)	-0.10 (0.06)	-0.19 (0.11)	-0.04 (0.05)	0.00 (0.02)	-0.10* (0.05)	-0.10 (0.06)	-0.03 (0.02)	-0.03 (0.03)	-0.09 (0.16)	0.03 (0.04)	-0.14 (0.12)	-0.07* (0.03)	-0.01 (0.05)	0.85** (0.18)
Fat	-0.12 (0.18)	-0.07 (0.07)	-0.22* (0.11)	-0.05 (0.04)	-0.00 (0.02)	-0.15** (0.04)	-0.05 (0.06)	-0.05** (0.02)	-0.02 (0.02)	-0.10 (0.16)	0.05 (0.04)	-0.10 (0.14)	-0.08** (0.03)	0.00 (0.04)	1.14** (0.25)
Carbohydrates	0.03 (0.21)	-0.02 (0.06)	-0.12 (0.12)	-0.08 (0.05)	-0.01 (0.02)	-0.12** (0.04)	-0.10 (0.07)	-0.02 (0.02)	-0.03 (0.03)	-0.08 (0.21)	0.07 (0.05)	-0.16 (0.16)	-0.07* (0.03)	-0.01 (0.05)	0.59** (0.19)
Iron	0.17 (0.37)	-0.07 (0.07)	-0.20 (0.12)	-0.06 (0.06)	-0.00 (0.02)	-0.10 (0.06)	-0.11 (0.09)	-0.01 (0.02)	-0.02 (0.04)	-0.11 (0.22)	0.06 (0.06)	-0.12 (0.17)	-0.05 (0.04)	0.02 (0.08)	0.80** (0.21)
Zinc	0.15 (0.37)	-0.08 (0.07)	-0.23* (0.12)	-0.05 (0.06)	-0.00 (0.02)	-0.10 (0.05)	-0.10 (0.09)	-0.01 (0.02)	-0.01 (0.03)	-0.11 (0.19)	0.06 (0.06)	-0.11 (0.15)	-0.06 (0.03)	0.02 (0.07)	0.94** (0.20)
Vitamin A	-0.28 (0.27)	-0.22 (0.14)	-0.45 (0.26)	-0.04 (0.09)	-0.01 (0.04)	-0.24** (0.09)	0.11 (0.12)	-0.10* (0.05)	-0.08 (0.05)	-0.04 (0.34)	-0.17 (0.10)	-0.09 (0.40)	-0.27** (0.06)	-0.07 (0.08)	2.21** (0.37)
Total Folate	-0.15 (0.17)	-0.22** (0.08)	-0.25* (0.10)	-0.01 (0.05)	0.02 (0.04)	-0.03 (0.11)	-0.07 (0.08)	-0.08** (0.02)	-0.01 (0.03)	-0.06 (0.12)	-0.05 (0.06)	-0.13 (0.11)	-0.09* (0.04)	0.00 (0.05)	0.91** (0.14)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.18: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Ethiopia

	Food Group														Exp.
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee	OtherFood	
Kcal	0.28 (0.26)	-0.05 (0.09)	-0.22 (0.16)	-0.15 (0.08)	-0.02 (0.04)	-0.12 (0.07)	-0.15 (0.08)	-0.01 (0.02)	-0.04 (0.03)	-0.13 (0.16)	0.07 (0.08)	-0.19 (0.15)	-0.13** (0.05)	0.01 (0.06)	0.74** (0.18)
Protein	0.28 (0.30)	-0.16 (0.09)	-0.25 (0.15)	-0.05 (0.07)	0.02 (0.03)	-0.07 (0.10)	-0.16 (0.09)	-0.04 (0.02)	-0.03 (0.03)	-0.12 (0.18)	0.03 (0.07)	-0.17 (0.15)	-0.09* (0.04)	0.01 (0.07)	0.85** (0.22)
Fat	0.03 (0.31)	-0.05 (0.10)	-0.28 (0.17)	-0.05 (0.08)	0.01 (0.03)	-0.16* (0.08)	-0.09 (0.10)	-0.06* (0.03)	-0.03 (0.04)	0.03 (0.36)	0.08 (0.07)	-0.05 (0.23)	-0.08 (0.05)	0.04 (0.08)	0.95* (0.48)
Carbohydrates	0.29 (0.27)	-0.03 (0.09)	-0.20 (0.17)	-0.18* (0.09)	-0.03 (0.04)	-0.12 (0.08)	-0.15 (0.08)	-0.00 (0.03)	-0.04 (0.03)	-0.16 (0.16)	0.07 (0.08)	-0.21 (0.14)	-0.14** (0.05)	0.01 (0.06)	0.69** (0.18)
Iron	0.69 (0.42)	-0.09 (0.11)	-0.37* (0.17)	-0.12 (0.11)	-0.02 (0.04)	-0.08 (0.09)	-0.17 (0.11)	0.01 (0.03)	-0.02 (0.04)	-0.18 (0.19)	0.07 (0.10)	-0.15 (0.18)	-0.09 (0.06)	0.05 (0.08)	0.87** (0.21)
Zinc	0.61 (0.38)	-0.12 (0.11)	-0.40* (0.17)	-0.14 (0.11)	-0.02 (0.05)	-0.07 (0.09)	-0.14 (0.10)	0.01 (0.03)	-0.02 (0.04)	-0.13 (0.20)	0.07 (0.10)	-0.12 (0.18)	-0.10 (0.06)	0.04 (0.08)	1.03** (0.21)
Vitamin A	-0.07 (0.45)	-0.14 (0.23)	-0.51 (0.38)	-0.05 (0.16)	0.11 (0.07)	-0.22 (0.16)	0.09 (0.20)	-0.06 (0.07)	-0.12 (0.09)	0.19 (0.49)	-0.10 (0.25)	0.10 (0.54)	-0.32** (0.09)	-0.09 (0.14)	2.01** (0.46)
Total Folate	-0.18 (0.25)	-0.31* (0.15)	-0.33* (0.15)	-0.00 (0.10)	0.08 (0.06)	0.04 (0.22)	-0.11 (0.12)	-0.09** (0.04)	-0.00 (0.05)	-0.14 (0.17)	-0.02 (0.12)	-0.23 (0.17)	-0.15* (0.06)	0.02 (0.08)	1.00** (0.21)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.19: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Uganda

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
Kcal	0.01 (0.06)	-0.13 (0.11)	-0.07* (0.03)	-0.16 (0.10)	-0.24* (0.11)	0.03 (0.03)	-0.18** (0.06)	-0.09 (0.05)	-0.03 (0.02)	-0.01 (0.03)	-0.01 (0.05)	-0.01 (0.14)	-0.00 (0.03)	-0.00 (0.09)	0.02 (0.05)	-0.09** (0.02)	0.02* (0.01)	0.11** (0.04)	-0.00 (0.00)	1.00** (0.16)
Protein	-0.01 (0.08)	-0.05 (0.15)	-0.11** (0.04)	-0.11 (0.14)	-0.14 (0.14)	-0.04 (0.04)	-0.16 (0.08)	-0.13 (0.07)	-0.03 (0.02)	0.01 (0.04)	-0.04 (0.06)	-0.02 (0.19)	0.02 (0.04)	-0.23* (0.12)	0.01 (0.07)	-0.02 (0.01)	-0.00 (0.01)	0.06 (0.04)	-0.01 (0.00)	1.21** (0.22)
Fat	-0.13 (0.08)	-0.11 (0.13)	-0.05 (0.06)	-0.05 (0.13)	-0.18 (0.15)	0.19** (0.07)	-0.05 (0.09)	-0.36** (0.08)	-0.08 (0.06)	-0.14** (0.05)	0.17 (0.14)	0.05 (0.16)	-0.09 (0.06)	-0.02 (0.10)	0.11 (0.07)	-0.29** (0.06)	0.06** (0.02)	0.15 (0.10)	-0.00 (0.01)	1.01** (0.19)
Carbohydrates	0.06 (0.06)	-0.15 (0.12)	-0.08* (0.04)	-0.20 (0.11)	-0.29* (0.12)	-0.02 (0.03)	-0.22** (0.07)	0.00 (0.05)	-0.01 (0.02)	0.02 (0.03)	-0.06 (0.06)	-0.03 (0.15)	0.03 (0.03)	0.05 (0.09)	-0.01 (0.06)	-0.03* (0.01)	0.00 (0.01)	0.09* (0.04)	-0.00 (0.00)	0.97** (0.17)
Iron	0.02 (0.06)	-0.12 (0.10)	-0.11** (0.03)	-0.16 (0.10)	-0.16 (0.10)	-0.01 (0.03)	-0.27** (0.06)	-0.06 (0.05)	-0.07** (0.02)	0.05 (0.03)	-0.03 (0.06)	-0.00 (0.13)	0.05 (0.03)	-0.00 (0.08)	0.03 (0.05)	-0.04** (0.01)	-0.00 (0.01)	0.05 (0.04)	-0.02** (0.00)	0.97** (0.15)
Zinc	-0.00 (0.06)	-0.13 (0.12)	-0.10** (0.03)	-0.14 (0.11)	-0.16 (0.11)	-0.01 (0.03)	-0.18** (0.06)	-0.12* (0.06)	-0.01 (0.01)	-0.01 (0.03)	-0.12* (0.05)	0.01 (0.15)	0.03 (0.03)	-0.04 (0.09)	-0.01 (0.05)	-0.03** (0.01)	0.00 (0.01)	0.06 (0.04)	-0.01** (0.00)	1.10** (0.17)
Vitamin A	-0.05 (0.06)	-0.08 (0.09)	-0.03 (0.07)	-0.05 (0.09)	-0.44** (0.12)	0.25** (0.07)	-0.14 (0.09)	-0.06 (0.06)	-0.10 (0.06)	-0.13* (0.06)	0.17 (0.15)	0.01 (0.08)	-0.08 (0.07)	0.04 (0.06)	0.09 (0.05)	-0.34** (0.07)	0.08** (0.02)	0.30** (0.11)	-0.01 (0.01)	0.87** (0.14)
Total Folate	0.03 (0.08)	-0.10 (0.13)	0.01 (0.04)	-0.20 (0.12)	-0.19 (0.13)	-0.02 (0.04)	-0.35** (0.08)	-0.20** (0.07)	-0.03 (0.02)	0.05 (0.04)	0.03 (0.08)	0.02 (0.16)	0.07 (0.05)	0.01 (0.10)	0.03 (0.06)	-0.04** (0.02)	-0.00 (0.01)	0.05 (0.06)	-0.01* (0.00)	1.02** (0.18)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.20: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Uganda

	Food Group																			Exp.
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Fats	Coffee	SoftDrink	OtherFood	
Kcal	-0.02 (0.03)	-0.10 (0.06)	-0.04 (0.03)	-0.12* (0.06)	-0.24** (0.07)	0.01 (0.02)	-0.15** (0.03)	-0.11** (0.03)	-0.00 (0.01)	-0.02 (0.02)	-0.01 (0.04)	0.01 (0.07)	-0.01 (0.02)	-0.03 (0.04)	-0.01 (0.03)	-0.11** (0.02)	0.02** (0.00)	0.07* (0.03)	-0.01 (0.00)	1.04** (0.09)
Protein	-0.02 (0.04)	-0.09 (0.08)	-0.07** (0.03)	-0.06 (0.08)	-0.08 (0.08)	-0.03 (0.02)	-0.18** (0.05)	-0.14** (0.04)	-0.02 (0.01)	0.01 (0.02)	0.02 (0.04)	-0.01 (0.10)	0.01 (0.02)	-0.01 (0.05)	-0.01 (0.03)	-0.03** (0.01)	-0.00 (0.00)	0.00 (0.03)	-0.00 (0.00)	1.05** (0.13)
Fat	-0.09 (0.09)	-0.06 (0.08)	-0.01 (0.05)	-0.05 (0.09)	-0.24* (0.11)	0.19** (0.06)	-0.16* (0.07)	-0.31** (0.09)	0.02 (0.05)	-0.10** (0.04)	0.04 (0.10)	0.04 (0.10)	-0.07 (0.04)	-0.02 (0.06)	0.02 (0.04)	-0.35** (0.05)	0.07** (0.01)	0.08 (0.07)	-0.01 (0.01)	1.24** (0.14)
Carbohydrates	0.01 (0.03)	-0.12 (0.07)	-0.05 (0.03)	-0.16* (0.06)	-0.27** (0.08)	-0.07** (0.02)	-0.13** (0.04)	-0.01 (0.03)	-0.01 (0.01)	0.01 (0.02)	-0.03 (0.04)	-0.00 (0.08)	0.02 (0.02)	0.01 (0.05)	-0.02 (0.03)	-0.02 (0.01)	-0.00 (0.00)	0.07* (0.03)	-0.00 (0.00)	0.93** (0.10)
Iron	0.01 (0.03)	-0.13* (0.06)	-0.06* (0.03)	-0.10 (0.06)	-0.10 (0.07)	-0.01 (0.02)	-0.27** (0.04)	-0.09** (0.03)	-0.05** (0.01)	0.04 (0.02)	0.07 (0.04)	0.02 (0.08)	0.04 (0.02)	-0.03 (0.05)	0.02 (0.03)	-0.04** (0.01)	0.00 (0.00)	0.02 (0.03)	-0.01** (0.00)	0.85** (0.10)
Zinc	-0.03 (0.03)	-0.14* (0.06)	-0.06* (0.02)	-0.09 (0.06)	-0.10 (0.07)	-0.01 (0.02)	-0.18** (0.04)	-0.15** (0.03)	-0.00 (0.01)	-0.01 (0.02)	-0.04 (0.03)	0.02 (0.08)	0.01 (0.02)	-0.07 (0.04)	-0.01 (0.03)	-0.03** (0.01)	0.00 (0.00)	0.00 (0.03)	-0.01** (0.00)	1.05** (0.10)
Vitamin A	-0.04 (0.05)	0.02 (0.07)	-0.03 (0.06)	-0.07 (0.07)	-0.45** (0.10)	0.22** (0.06)	-0.20** (0.07)	-0.05 (0.04)	-0.01 (0.06)	-0.11* (0.04)	0.01 (0.12)	0.06 (0.06)	-0.06 (0.05)	0.01 (0.04)	0.01 (0.04)	-0.43** (0.06)	0.08** (0.02)	0.23** (0.08)	-0.02 (0.01)	1.17** (0.11)
Total Folate	-0.00 (0.04)	-0.11 (0.07)	-0.01 (0.03)	-0.10 (0.07)	-0.08 (0.08)	-0.01 (0.03)	-0.31** (0.05)	-0.23** (0.04)	-0.02 (0.02)	0.03 (0.03)	0.11 (0.06)	0.02 (0.08)	0.04 (0.03)	-0.03 (0.05)	0.03 (0.03)	-0.05** (0.01)	0.00 (0.00)	-0.03 (0.04)	-0.01* (0.00)	0.84** (0.12)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.2i: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Uganda

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
Kcal	-0.04 (0.02)	-0.06 (0.05)	-0.03 (0.03)	-0.10* (0.04)	-0.21** (0.06)	0.02 (0.02)	-0.12** (0.03)	-0.10** (0.02)	0.03 (0.02)	-0.02 (0.02)	-0.03 (0.04)	0.03 (0.05)	-0.01 (0.02)	-0.05 (0.03)	-0.03 (0.02)	-0.13** (0.02)	0.02** (0.00)	0.05 (0.03)	-0.01** (0.00)	0.95** (0.08)
Protein	-0.04 (0.03)	-0.11 (0.06)	-0.06* (0.03)	-0.03 (0.05)	-0.04 (0.07)	-0.01 (0.02)	-0.17** (0.03)	-0.14** (0.03)	-0.00 (0.01)	0.01 (0.01)	0.01 (0.04)	0.00 (0.07)	-0.01 (0.02)	-0.24** (0.04)	-0.03 (0.03)	-0.03** (0.01)	0.00 (0.00)	-0.05 (0.03)	-0.00 (0.00)	1.00** (0.11)
Fat	-0.06 (0.05)	-0.00 (0.07)	0.01 (0.05)	-0.03 (0.07)	-0.25** (0.09)	0.21** (0.06)	-0.22** (0.07)	-0.25** (0.05)	0.11* (0.05)	-0.07* (0.03)	-0.05 (0.10)	0.05 (0.07)	-0.06 (0.04)	-0.02 (0.05)	-0.04 (0.04)	-0.37** (0.05)	0.08** (0.01)	0.03 (0.07)	-0.02* (0.01)	1.05** (0.12)
Carbohydrates	-0.02 (0.03)	-0.07 (0.06)	-0.04 (0.03)	-0.14** (0.05)	-0.23** (0.07)	-0.08** (0.02)	-0.06 (0.04)	-0.02 (0.02)	-0.01 (0.01)	-0.00 (0.02)	-0.02 (0.04)	0.03 (0.06)	0.01 (0.02)	-0.03 (0.03)	-0.02 (0.03)	-0.02 (0.01)	-0.01 (0.00)	0.07* (0.03)	-0.00 (0.00)	0.87** (0.09)
Iron	-0.01 (0.03)	-0.12* (0.05)	-0.06 (0.03)	-0.06 (0.05)	-0.04 (0.07)	-0.00 (0.02)	-0.24** (0.03)	-0.12** (0.02)	-0.04** (0.02)	0.02 (0.02)	0.10* (0.04)	0.03 (0.06)	0.02 (0.02)	-0.07* (0.03)	0.02 (0.03)	-0.04** (0.01)	0.00 (0.00)	-0.02 (0.03)	-0.01** (0.00)	0.83** (0.09)
Zinc	-0.05* (0.02)	-0.12* (0.05)	-0.05 (0.03)	-0.06 (0.05)	-0.05 (0.06)	-0.01 (0.02)	-0.15** (0.03)	-0.15** (0.02)	0.02 (0.01)	-0.02 (0.01)	-0.06 (0.03)	0.02 (0.05)	-0.01 (0.02)	-0.09** (0.03)	-0.03 (0.02)	-0.03** (0.01)	0.01 (0.00)	-0.04 (0.03)	-0.00 (0.00)	1.00** (0.09)
Vitamin A	-0.03 (0.03)	0.13 (0.07)	-0.01 (0.06)	-0.07 (0.07)	-0.44** (0.09)	0.23** (0.07)	-0.24** (0.08)	-0.04 (0.05)	0.08 (0.06)	-0.08* (0.04)	-0.10 (0.13)	0.10* (0.05)	-0.04 (0.05)	-0.01 (0.04)	-0.04 (0.04)	-0.48** (0.06)	0.09** (0.02)	0.20** (0.07)	-0.03** (0.01)	0.99** (0.10)
Total Folate	-0.02 (0.03)	-0.13* (0.05)	-0.02 (0.04)	-0.03 (0.06)	-0.01 (0.08)	-0.00 (0.03)	-0.28** (0.04)	-0.24** (0.03)	-0.02 (0.02)	0.01 (0.02)	0.17** (0.06)	0.01 (0.06)	0.03 (0.03)	-0.05 (0.03)	0.03 (0.03)	-0.05** (0.02)	0.01 (0.00)	-0.09* (0.04)	-0.01 (0.00)	0.81** (0.11)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.22: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Uganda

	Food Group																Exp.			
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Fats		Coffee	SoftDrink	OtherFood
Kcal	-0.04 (0.04)	0.03 (0.07)	-0.03 (0.04)	-0.07 (0.05)	-0.16* (0.08)	0.02 (0.03)	-0.10 (0.06)	-0.08 (0.04)	0.08** (0.03)	-0.02 (0.02)	-0.06 (0.06)	0.06 (0.07)	-0.02 (0.02)	-0.08 (0.04)	-0.05 (0.03)	-0.14** (0.02)	0.03** (0.01)	0.00 (0.05)	-0.01** (0.00)	0.71** (0.09)
Protein	-0.04 (0.04)	-0.16 (0.10)	-0.06 (0.04)	0.01 (0.07)	0.01 (0.10)	0.02 (0.03)	-0.19** (0.06)	-0.10* (0.05)	0.02 (0.02)	0.01 (0.02)	0.02 (0.06)	0.00 (0.11)	-0.03 (0.02)	-0.23** (0.07)	-0.06 (0.05)	-0.04* (0.01)	0.02* (0.01)	-0.12** (0.05)	-0.00 (0.00)	0.88** (0.12)
Fat	0.00 (0.07)	0.07 (0.10)	0.04 (0.07)	0.00 (0.09)	-0.24* (0.11)	0.24** (0.07)	-0.31** (0.10)	-0.45* (0.07)	0.24** (0.06)	-0.01 (0.04)	-0.15 (0.14)	0.04 (0.09)	-0.04 (0.04)	-0.00 (0.06)	-0.11* (0.05)	-0.39** (0.06)	0.10** (0.02)	-0.05 (0.10)	-0.03** (0.01)	0.58** (0.15)
Carbohydrates	-0.06 (0.04)	0.04 (0.09)	-0.06 (0.05)	-0.12 (0.07)	-0.16 (0.11)	-0.11** (0.03)	0.06 (0.06)	-0.03 (0.04)	-0.02 (0.02)	-0.04 (0.02)	-0.01 (0.07)	0.09 (0.10)	-0.01 (0.02)	-0.08 (0.06)	-0.01 (0.05)	-0.02 (0.02)	-0.01 (0.01)	0.05 (0.05)	-0.00 (0.00)	0.77** (0.12)
Iron	-0.03 (0.04)	-0.10 (0.09)	-0.07 (0.05)	0.02 (0.07)	0.06 (0.11)	0.01 (0.03)	-0.21** (0.06)	-0.13* (0.05)	-0.05* (0.02)	-0.01 (0.02)	0.17* (0.07)	0.03 (0.10)	-0.01 (0.02)	-0.12* (0.06)	0.03 (0.05)	-0.04* (0.02)	0.01 (0.01)	-0.10* (0.05)	-0.01** (0.00)	0.80** (0.11)
Zinc	-0.06 (0.03)	-0.10 (0.09)	-0.06 (0.04)	-0.02 (0.07)	0.04 (0.11)	0.01 (0.03)	-0.12* (0.06)	-0.12** (0.05)	0.06** (0.02)	-0.03 (0.02)	-0.06 (0.07)	0.02 (0.08)	-0.04* (0.02)	-0.11* (0.05)	-0.03 (0.04)	-0.04** (0.01)	0.02* (0.01)	-0.12** (0.05)	-0.00 (0.00)	0.81** (0.09)
Vitamin A	-0.01 (0.09)	0.30** (0.10)	0.01 (0.08)	-0.07 (0.10)	-0.40** (0.13)	0.24** (0.09)	-0.29* (0.12)	-0.01 (0.07)	0.22* (0.08)	-0.04 (0.06)	-0.26 (0.19)	0.17* (0.08)	-0.01 (0.06)	-0.02 (0.06)	-0.13* (0.06)	-0.54** (0.08)	0.10** (0.02)	0.15 (0.11)	-0.04** (0.01)	0.53** (0.13)
Total Folate	-0.03 (0.05)	-0.17 (0.10)	-0.04 (0.06)	0.07 (0.08)	0.09 (0.13)	0.03 (0.04)	-0.25** (0.07)	-0.21** (0.07)	-0.02 (0.03)	-0.01 (0.03)	0.25** (0.09)	-0.03 (0.10)	-0.00 (0.03)	-0.09 (0.06)	0.03 (0.05)	-0.05* (0.03)	0.02* (0.01)	-0.19** (0.07)	-0.01 (0.00)	0.79** (0.12)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.23: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Tanzania

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
Kcal	-0.04 (0.07)	-0.31** (0.06)	-0.09* (0.04)	-0.11* (0.05)	-0.16** (0.04)	0.02 (0.02)	-0.11* (0.04)	-0.15** (0.04)	-0.09** (0.03)	0.04 (0.03)	-0.03 (0.07)	-0.03 (0.05)	0.00 (0.02)	0.04 (0.04)	0.02 (0.05)	-0.02 (0.01)	0.02* (0.01)	-0.01 (0.02)	-0.00 (0.01)	0.95** (0.10)
Protein	0.02 (0.10)	-0.32** (0.07)	-0.09 (0.05)	-0.05 (0.05)	-0.20** (0.05)	0.04 (0.03)	-0.21** (0.06)	-0.12** (0.04)	-0.08 (0.05)	0.01 (0.04)	-0.07 (0.07)	-0.02 (0.05)	0.00 (0.02)	-0.09 (0.05)	-0.01 (0.05)	-0.02 (0.02)	0.03* (0.01)	-0.01 (0.03)	-0.02* (0.01)	1.14** (0.10)
Fat	0.19* (0.09)	-0.51** (0.07)	0.00 (0.05)	-0.03 (0.06)	0.01 (0.06)	-0.00 (0.03)	-0.17** (0.06)	-0.18** (0.06)	-0.20** (0.05)	0.09 (0.05)	-0.03 (0.07)	0.03 (0.07)	-0.02 (0.02)	0.03 (0.05)	-0.07 (0.06)	-0.14** (0.04)	0.02 (0.02)	-0.02 (0.03)	0.06** (0.02)	1.37** (0.13)
Carbohydrates	-0.08 (0.08)	-0.28** (0.06)	-0.12* (0.05)	-0.13* (0.06)	-0.18** (0.04)	0.03 (0.03)	-0.08 (0.05)	-0.13** (0.04)	-0.07* (0.03)	0.03 (0.04)	-0.03 (0.08)	-0.04 (0.06)	0.01 (0.02)	0.06 (0.05)	0.04 (0.05)	-0.00 (0.01)	0.02* (0.01)	-0.01 (0.03)	-0.01 (0.01)	0.86** (0.11)
Iron	0.07 (0.08)	-0.37** (0.06)	-0.09 (0.05)	-0.07 (0.04)	-0.21** (0.05)	0.05 (0.03)	-0.19** (0.05)	-0.14** (0.04)	-0.11** (0.04)	0.06 (0.04)	-0.09 (0.07)	-0.05 (0.05)	0.01 (0.02)	0.09* (0.04)	0.04 (0.05)	-0.02 (0.02)	0.03** (0.01)	-0.02 (0.03)	-0.01 (0.01)	0.90** (0.09)
Zinc	0.03 (0.07)	-0.38** (0.06)	-0.07 (0.04)	-0.06 (0.04)	-0.20** (0.04)	0.04 (0.03)	-0.16** (0.04)	-0.14** (0.03)	-0.09** (0.03)	0.06 (0.03)	-0.09 (0.06)	-0.04 (0.04)	-0.00 (0.01)	0.03 (0.04)	0.01 (0.04)	-0.02 (0.01)	0.03** (0.01)	-0.02 (0.02)	-0.01 (0.01)	1.03** (0.08)
Vitamin A	0.00 (0.09)	-0.32** (0.06)	0.13 (0.07)	0.02 (0.05)	-0.09 (0.06)	-0.07 (0.05)	-0.42** (0.08)	-0.06 (0.04)	-0.35** (0.08)	-0.11* (0.05)	0.18* (0.08)	-0.04 (0.05)	0.01 (0.02)	0.15** (0.06)	-0.01 (0.05)	-0.23** (0.08)	0.01 (0.03)	0.02 (0.03)	0.11** (0.04)	1.29** (0.11)
Total Folate	0.17 (0.12)	-0.33** (0.08)	0.04 (0.07)	-0.08 (0.06)	-0.36** (0.08)	0.03 (0.05)	-0.49** (0.10)	-0.11* (0.05)	-0.23** (0.07)	-0.05 (0.05)	0.05 (0.10)	-0.02 (0.06)	0.02 (0.02)	0.06 (0.06)	0.04 (0.06)	-0.06 (0.03)	0.02 (0.02)	-0.01 (0.04)	-0.04* (0.02)	1.09** (0.12)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.24: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Tanzania

	Food Group																Exp.			
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Fats		Coffee	SoftDrink	OtherFood
Kcal	-0.08 (0.05)	-0.28** (0.04)	-0.04 (0.03)	-0.11** (0.03)	-0.15** (0.03)	-0.02 (0.02)	-0.07* (0.03)	-0.09** (0.02)	-0.08** (0.02)	0.01 (0.02)	0.01 (0.05)	-0.03 (0.03)	-0.00 (0.01)	-0.01 (0.03)	-0.01 (0.03)	-0.02* (0.01)	0.02** (0.01)	-0.00 (0.02)	0.00 (0.01)	0.96** (0.06)
Protein	-0.03 (0.07)	-0.26** (0.06)	-0.04 (0.04)	-0.05 (0.04)	-0.17** (0.03)	0.01 (0.02)	-0.14** (0.04)	-0.07* (0.03)	-0.05 (0.03)	-0.03 (0.03)	-0.08 (0.06)	-0.03 (0.04)	-0.02 (0.02)	-0.12* (0.03)	-0.04 (0.03)	-0.02 (0.02)	0.03** (0.01)	-0.00 (0.02)	-0.01 (0.01)	1.09** (0.08)
Fat	0.10 (0.07)	-0.33** (0.05)	0.06 (0.04)	-0.03 (0.05)	-0.01 (0.04)	-0.01 (0.03)	-0.18** (0.05)	-0.10* (0.04)	-0.16** (0.04)	0.01 (0.03)	-0.01 (0.06)	-0.00 (0.05)	-0.05* (0.02)	-0.01 (0.04)	-0.05 (0.04)	-0.12** (0.04)	0.03* (0.01)	-0.03 (0.02)	0.05* (0.02)	1.28** (0.09)
Carbohydrates	-0.12* (0.06)	-0.28** (0.04)	-0.06 (0.03)	-0.13** (0.04)	-0.18** (0.03)	-0.02 (0.02)	-0.04 (0.04)	-0.10** (0.03)	-0.07** (0.02)	0.02 (0.03)	0.02 (0.06)	-0.04 (0.04)	0.01 (0.02)	0.02 (0.04)	-0.00 (0.03)	-0.00 (0.01)	0.02* (0.01)	0.00 (0.02)	-0.00 (0.01)	0.86** (0.07)
Iron	0.04 (0.06)	-0.35** (0.04)	-0.02 (0.04)	-0.07 (0.03)	-0.19** (0.03)	0.02 (0.02)	-0.14** (0.04)	-0.11** (0.03)	-0.09** (0.03)	0.02 (0.03)	-0.06 (0.06)	-0.06 (0.03)	-0.00 (0.01)	0.06 (0.04)	0.01 (0.03)	-0.02 (0.01)	0.03** (0.01)	-0.00 (0.02)	-0.01 (0.01)	0.86** (0.06)
Zinc	-0.02 (0.06)	-0.33** (0.04)	-0.04 (0.03)	-0.06* (0.03)	-0.17** (0.03)	0.01 (0.02)	-0.10** (0.03)	-0.08** (0.02)	-0.07** (0.02)	0.01 (0.02)	-0.08 (0.05)	-0.05 (0.03)	-0.02 (0.01)	-0.00 (0.03)	-0.02 (0.02)	-0.01 (0.01)	0.03** (0.01)	-0.00 (0.02)	-0.01 (0.01)	1.01** (0.06)
Vitamin A	-0.06 (0.07)	-0.14** (0.04)	0.13* (0.06)	0.01 (0.04)	-0.05 (0.04)	-0.06 (0.04)	-0.34** (0.07)	-0.05 (0.03)	-0.32** (0.06)	-0.04 (0.04)	0.25** (0.07)	-0.03 (0.04)	-0.01 (0.02)	0.07 (0.05)	-0.01 (0.03)	-0.25** (0.08)	0.02 (0.02)	0.00 (0.02)	0.08* (0.03)	1.04** (0.08)
Total Folate	0.09 (0.09)	-0.26** (0.05)	0.01 (0.06)	-0.04 (0.05)	-0.28** (0.06)	0.02 (0.03)	-0.30** (0.09)	-0.09* (0.04)	-0.18** (0.05)	-0.06 (0.04)	-0.01 (0.08)	0.00 (0.04)	0.01 (0.02)	0.03 (0.06)	0.01 (0.04)	-0.07* (0.03)	0.03* (0.02)	-0.02 (0.03)	-0.02 (0.01)	0.97** (0.09)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.25: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Tanzania

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
Kcal	-0.10* (0.05)	-0.21** (0.03)	-0.03 (0.03)	-0.12** (0.03)	-0.13** (0.03)	-0.04* (0.02)	-0.04 (0.04)	-0.05* (0.02)	-0.08** (0.02)	-0.02 (0.02)	0.03 (0.05)	-0.05 (0.03)	-0.01 (0.01)	-0.03 (0.03)	-0.04* (0.02)	-0.02 (0.01)	0.02* (0.01)	0.01 (0.01)	0.01 (0.01)	0.91** (0.05)
Protein	-0.06 (0.07)	-0.17** (0.05)	-0.03 (0.04)	-0.05 (0.06)	-0.14** (0.03)	0.00 (0.03)	-0.06 (0.06)	-0.02 (0.03)	-0.03 (0.03)	-0.06* (0.03)	-0.11 (0.08)	-0.05 (0.04)	-0.04 (0.02)	-0.11 (0.06)	-0.06* (0.03)	-0.02 (0.02)	0.03* (0.01)	0.00 (0.02)	-0.00 (0.01)	1.02** (0.08)
Fat	0.02 (0.07)	-0.17** (0.04)	0.09* (0.04)	-0.03 (0.06)	-0.03 (0.04)	-0.01 (0.04)	-0.21** (0.06)	-0.03 (0.04)	-0.14** (0.04)	-0.02 (0.03)	0.01 (0.07)	-0.04 (0.06)	-0.07* (0.03)	-0.01 (0.05)	-0.03 (0.04)	-0.09 (0.05)	0.04* (0.02)	-0.03 (0.03)	0.04 (0.02)	1.14** (0.09)
Carbohydrates	-0.13* (0.05)	-0.23** (0.04)	-0.06 (0.03)	-0.15** (0.04)	-0.16** (0.03)	-0.05** (0.02)	0.00 (0.04)	-0.06** (0.02)	-0.07** (0.03)	-0.01 (0.03)	0.05 (0.06)	-0.06 (0.04)	0.01 (0.02)	-0.01 (0.04)	-0.04 (0.02)	0.00 (0.01)	0.01 (0.01)	0.02 (0.02)	0.00 (0.01)	0.83** (0.06)
Iron	0.02 (0.06)	-0.29** (0.04)	-0.00 (0.04)	-0.07 (0.04)	-0.16** (0.03)	0.01 (0.02)	-0.07 (0.05)	-0.08** (0.02)	-0.07* (0.03)	-0.02 (0.03)	-0.04 (0.07)	-0.07* (0.03)	-0.02 (0.02)	0.06 (0.04)	-0.03 (0.03)	-0.01 (0.02)	0.03** (0.01)	0.01 (0.02)	-0.00 (0.01)	0.80** (0.06)
Zinc	-0.04 (0.05)	-0.24** (0.04)	-0.04 (0.03)	-0.07 (0.04)	-0.14** (0.03)	-0.01 (0.02)	-0.05 (0.04)	-0.03 (0.02)	-0.05* (0.02)	-0.03 (0.02)	-0.10 (0.06)	-0.07 (0.04)	-0.04* (0.02)	-0.00 (0.04)	-0.05* (0.02)	-0.01 (0.00)	0.03** (0.01)	0.01 (0.02)	0.00 (0.01)	0.93** (0.06)
Vitamin A	-0.11 (0.08)	-0.02 (0.04)	0.15* (0.07)	-0.00 (0.05)	-0.04 (0.04)	-0.05 (0.05)	-0.32** (0.09)	-0.03 (0.03)	-0.32** (0.06)	0.02 (0.04)	0.33** (0.08)	-0.04 (0.04)	-0.04 (0.02)	0.01 (0.05)	-0.00 (0.03)	-0.24* (0.10)	0.04 (0.02)	-0.01 (0.02)	0.06 (0.04)	0.89** (0.08)
Total Folate	0.03 (0.09)	-0.20** (0.05)	-0.02 (0.06)	-0.01 (0.06)	-0.21** (0.05)	0.02 (0.05)	-0.11 (0.12)	-0.06 (0.03)	-0.13** (0.05)	-0.07 (0.04)	-0.07 (0.10)	0.02 (0.05)	-0.01 (0.02)	0.01 (0.07)	-0.03 (0.04)	-0.08* (0.03)	0.05* (0.02)	-0.02 (0.03)	-0.01 (0.02)	0.85** (0.10)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.26: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Tanzania

	Food Group																Exp.			
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Fats		Coffee	SoftDrink	OtherFood
Kcal	-0.11 (0.07)	-0.09* (0.04)	-0.04 (0.05)	-0.14** (0.05)	-0.07 (0.04)	-0.05 (0.03)	-0.02 (0.06)	0.02 (0.03)	-0.10** (0.03)	-0.06 (0.03)	0.05 (0.08)	-0.07 (0.05)	-0.03 (0.03)	-0.04 (0.05)	-0.08** (0.03)	0.00 (0.02)	0.02 (0.01)	0.03 (0.02)	0.01 (0.01)	0.82** (0.07)
Protein	-0.10 (0.09)	-0.04 (0.03)	-0.04 (0.03)	-0.06 (0.12)	-0.05 (0.06)	-0.01 (0.04)	0.02 (0.09)	0.05 (0.05)	-0.02 (0.04)	-0.10* (0.04)	-0.17 (0.13)	-0.07 (0.11)	-0.09 (0.06)	-0.07 (0.10)	-0.08 (0.05)	-0.01 (0.02)	0.03 (0.02)	0.00 (0.04)	0.01 (0.02)	0.90** (0.14)
Fat	-0.10 (0.10)	0.04 (0.06)	0.17* (0.07)	-0.02 (0.10)	-0.03 (0.06)	0.01 (0.06)	-0.29** (0.11)	0.04 (0.06)	-0.12 (0.07)	-0.03 (0.05)	0.07 (0.13)	-0.09 (0.12)	-0.13* (0.06)	-0.01 (0.09)	-0.02 (0.05)	-0.02 (0.09)	0.07* (0.03)	-0.02 (0.04)	0.02 (0.02)	0.90** (0.14)
Carbohydrates	-0.12 (0.08)	-0.16** (0.03)	-0.10 (0.06)	-0.20** (0.05)	-0.09 (0.05)	-0.08** (0.03)	0.06 (0.07)	-0.00 (0.03)	-0.11** (0.04)	-0.06 (0.04)	0.10 (0.09)	-0.07 (0.05)	0.01 (0.02)	-0.03 (0.05)	-0.11** (0.03)	0.02 (0.02)	0.01 (0.01)	0.05* (0.03)	0.01 (0.01)	0.77** (0.06)
Iron	-0.04 (0.08)	-0.16** (0.06)	-0.03 (0.06)	-0.09 (0.07)	-0.07 (0.05)	-0.03 (0.03)	0.08 (0.10)	-0.03 (0.04)	-0.07 (0.04)	-0.08* (0.04)	-0.01 (0.09)	-0.07 (0.05)	-0.04 (0.02)	0.03 (0.05)	-0.10** (0.03)	-0.00 (0.02)	0.03 (0.01)	0.04 (0.03)	0.04 (0.03)	0.74** (0.08)
Zinc	-0.06 (0.08)	-0.09* (0.04)	-0.07 (0.05)	-0.07 (0.08)	-0.06 (0.05)	-0.03 (0.04)	-0.00 (0.07)	0.06 (0.04)	-0.05 (0.04)	-0.10* (0.04)	-0.15 (0.12)	-0.09 (0.06)	-0.08 (0.03)	0.03 (0.05)	-0.08* (0.04)	0.01 (0.02)	0.03 (0.01)	0.02 (0.03)	0.02 (0.01)	0.82** (0.08)
Vitamin A	-0.21 (0.13)	0.16* (0.07)	0.19 (0.11)	-0.00 (0.09)	-0.04 (0.07)	-0.04 (0.09)	-0.35* (0.16)	-0.01 (0.05)	-0.38** (0.10)	0.15* (0.07)	0.47** (0.14)	-0.06 (0.08)	-0.11** (0.04)	-0.07 (0.09)	0.02 (0.05)	-0.18 (0.15)	0.07 (0.04)	-0.02 (0.04)	0.03 (0.05)	0.73** (0.13)
Total Folate	-0.10 (0.13)	-0.09 (0.07)	-0.09 (0.10)	0.05 (0.11)	-0.07 (0.09)	0.01 (0.09)	0.22 (0.23)	-0.02 (0.06)	-0.09 (0.07)	-0.08 (0.07)	-0.17 (0.19)	0.05 (0.10)	-0.06 (0.05)	-0.01 (0.11)	-0.09 (0.06)	-0.09 (0.05)	0.07 (0.03)	-0.02 (0.04)	0.00 (0.03)	0.73** (0.16)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 9) and total household expenditures (the last column).

Table D.27: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
Kcal	-0.14** (0.02)	-0.07** (0.02)	-0.22** (0.03)	-0.11** (0.02)	-0.04* (0.02)	-0.06** (0.01)	-0.10** (0.01)	0.04** (0.01)	-0.07** (0.01)	0.03** (0.01)	0.07** (0.02)	0.02 (0.03)	0.04** (0.01)	-0.04* (0.02)	-0.01 (0.01)	-0.11** (0.01)	0.01 (0.01)	0.02* (0.01)	-0.02** (0.00)	1.04** (0.04)
Protein	-0.10** (0.03)	-0.09** (0.02)	-0.29** (0.03)	-0.04** (0.02)	0.03 (0.02)	-0.08** (0.01)	-0.14** (0.02)	0.03** (0.01)	-0.06** (0.01)	0.04** (0.01)	0.02 (0.02)	-0.00 (0.02)	0.05** (0.02)	-0.10** (0.02)	-0.04* (0.02)	-0.03** (0.01)	0.01 (0.01)	0.03** (0.01)	-0.03** (0.00)	1.09** (0.04)
Fat	-0.06** (0.02)	0.01 (0.01)	-0.07** (0.02)	-0.04** (0.02)	0.01 (0.02)	-0.01 (0.01)	-0.10** (0.02)	-0.01 (0.01)	-0.07** (0.01)	-0.01 (0.01)	0.01 (0.02)	-0.04* (0.02)	0.04** (0.01)	-0.04** (0.02)	0.02 (0.01)	-0.40** (0.02)	-0.01 (0.01)	-0.04** (0.01)	-0.02** (0.00)	0.92** (0.03)
Carbohydrates	-0.18** (0.03)	-0.09** (0.02)	-0.25** (0.03)	-0.14** (0.02)	-0.07** (0.03)	-0.07** (0.01)	-0.10** (0.02)	0.06** (0.01)	-0.07** (0.01)	0.05** (0.01)	0.09** (0.02)	0.05 (0.03)	0.04** (0.01)	-0.03 (0.02)	-0.02 (0.02)	-0.03** (0.01)	0.02 (0.01)	0.04** (0.01)	-0.02** (0.00)	1.07** (0.04)
Iron	-0.08** (0.03)	-0.10** (0.02)	-0.33** (0.04)	-0.07** (0.02)	0.00 (0.03)	-0.06** (0.01)	-0.11** (0.02)	0.03** (0.01)	-0.09** (0.01)	0.05** (0.01)	0.06* (0.02)	0.04 (0.03)	0.03 (0.02)	-0.07** (0.02)	-0.01 (0.02)	-0.02** (0.01)	0.01 (0.01)	0.04** (0.01)	-0.05** (0.00)	1.06** (0.04)
Zinc	-0.13** (0.02)	-0.12** (0.02)	-0.24** (0.03)	-0.07** (0.02)	-0.02 (0.02)	-0.06** (0.01)	-0.12** (0.02)	0.04** (0.01)	-0.07** (0.01)	0.03** (0.01)	0.02 (0.02)	0.02 (0.03)	0.05** (0.01)	-0.05** (0.02)	-0.01 (0.01)	-0.03** (0.01)	0.02** (0.01)	0.03** (0.01)	-0.02** (0.00)	1.11** (0.04)
Vitamin A	-0.11** (0.03)	0.05** (0.02)	0.03 (0.02)	-0.06** (0.02)	-0.01 (0.03)	-0.09** (0.01)	-0.09** (0.02)	-0.00 (0.01)	-0.10** (0.02)	-0.04** (0.01)	0.06 (0.03)	-0.06** (0.02)	0.04* (0.02)	-0.02 (0.02)	0.07** (0.02)	-0.59** (0.03)	-0.01 (0.01)	-0.07** (0.02)	-0.02** (0.01)	0.79** (0.04)
Total Folate	-0.13** (0.03)	-0.11** (0.02)	-0.26** (0.03)	-0.03 (0.02)	-0.02 (0.02)	-0.08** (0.01)	-0.15** (0.02)	0.03** (0.01)	-0.10** (0.01)	0.01 (0.01)	0.01 (0.02)	0.01 (0.03)	0.05** (0.02)	-0.04* (0.02)	0.01 (0.02)	-0.05** (0.01)	0.03* (0.01)	0.03* (0.01)	-0.03** (0.00)	1.10** (0.04)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.28: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line but under \$3.2 poverty line in Nigeria

	Food Group																	Exp.		
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee		SoftDrink	OtherFood
Kcal	-0.18** (0.02)	-0.05** (0.01)	-0.12** (0.02)	-0.10** (0.01)	-0.11** (0.02)	-0.03** (0.01)	-0.11** (0.01)	0.03** (0.01)	-0.07** (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.02)	0.04** (0.01)	-0.06** (0.01)	-0.01 (0.01)	-0.12** (0.01)	0.01 (0.01)	0.01 (0.01)	-0.02** (0.01)	1.11** (0.03)
Protein	-0.16** (0.02)	-0.06** (0.01)	-0.16** (0.02)	-0.04** (0.01)	-0.05** (0.02)	-0.05** (0.01)	-0.13** (0.01)	0.01 (0.01)	-0.05** (0.01)	0.01 (0.01)	-0.02 (0.01)	-0.01 (0.02)	0.04** (0.01)	-0.12** (0.01)	-0.03** (0.01)	-0.04** (0.01)	0.01 (0.01)	0.01 (0.01)	-0.02** (0.01)	1.14** (0.03)
Fat	-0.05** (0.02)	0.01 (0.01)	-0.03* (0.01)	-0.03** (0.01)	-0.03 (0.01)	0.01 (0.01)	-0.12** (0.01)	-0.00 (0.01)	-0.09** (0.01)	-0.02* (0.01)	-0.02 (0.02)	-0.04** (0.01)	0.03* (0.01)	-0.06** (0.01)	0.01 (0.01)	-0.44** (0.02)	-0.01* (0.01)	-0.03** (0.01)	-0.00 (0.01)	0.97** (0.03)
Carbohydrates	-0.22** (0.02)	-0.07** (0.02)	-0.14** (0.02)	-0.13** (0.01)	-0.15** (0.02)	-0.04** (0.01)	-0.10** (0.01)	0.04** (0.01)	-0.06** (0.01)	0.02* (0.01)	0.03 (0.02)	0.03 (0.02)	0.04** (0.01)	-0.05** (0.02)	-0.02 (0.01)	-0.03** (0.01)	0.02* (0.01)	0.02** (0.01)	-0.02** (0.01)	1.16** (0.04)
Iron	-0.13** (0.02)	-0.07** (0.02)	-0.18** (0.02)	-0.07** (0.01)	-0.08** (0.02)	-0.04** (0.01)	-0.09** (0.01)	0.01 (0.01)	-0.09** (0.01)	0.02* (0.01)	0.01 (0.02)	0.02 (0.02)	0.03** (0.01)	-0.07** (0.02)	-0.02 (0.01)	-0.03** (0.01)	0.01 (0.01)	0.01* (0.01)	-0.04** (0.01)	1.10** (0.04)
Zinc	-0.18** (0.02)	-0.07** (0.02)	-0.14** (0.02)	-0.08** (0.01)	-0.10** (0.02)	-0.04** (0.01)	-0.12** (0.01)	0.02* (0.01)	-0.06** (0.01)	0.01 (0.01)	-0.01 (0.01)	0.01 (0.02)	0.04** (0.01)	-0.08** (0.01)	-0.01 (0.01)	-0.05** (0.01)	0.02** (0.01)	0.01* (0.01)	-0.01** (0.01)	1.19** (0.03)
Vitamin A	-0.05* (0.02)	0.03* (0.01)	0.03 (0.02)	-0.03** (0.01)	-0.03 (0.02)	0.02* (0.01)	-0.14** (0.01)	0.02** (0.01)	-0.14** (0.01)	-0.04** (0.01)	0.03 (0.02)	-0.04* (0.02)	0.03* (0.01)	-0.05** (0.02)	0.04* (0.01)	-0.62** (0.03)	-0.02* (0.01)	-0.04** (0.01)	0.01 (0.01)	0.84** (0.04)
Total Folate	-0.17** (0.02)	-0.06** (0.01)	-0.15** (0.02)	-0.05** (0.01)	-0.09** (0.02)	-0.06** (0.01)	-0.16** (0.02)	0.01 (0.01)	-0.09** (0.01)	-0.01 (0.01)	-0.00 (0.02)	0.00 (0.02)	0.05** (0.01)	-0.05** (0.01)	0.01 (0.01)	-0.07** (0.01)	0.02* (0.01)	0.02** (0.01)	-0.01** (0.01)	1.11** (0.03)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.29: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line but under \$5.5 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
Kcal	-0.18** (0.02)	-0.03** (0.01)	-0.07** (0.02)	-0.08** (0.01)	-0.17** (0.01)	-0.01* (0.01)	-0.10** (0.01)	0.02* (0.01)	-0.06** (0.01)	-0.01 (0.01)	-0.03* (0.01)	-0.00 (0.02)	0.03** (0.01)	-0.07** (0.01)	-0.01 (0.01)	-0.12** (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.01** (0.00)	1.07** (0.03)
Protein	-0.19** (0.02)	-0.02* (0.01)	-0.09** (0.02)	-0.03** (0.01)	-0.10** (0.02)	-0.03** (0.01)	-0.11** (0.01)	-0.00 (0.01)	-0.04** (0.01)	-0.01 (0.01)	-0.05** (0.01)	-0.03 (0.02)	0.03** (0.01)	-0.13** (0.01)	-0.02* (0.01)	-0.05** (0.00)	0.01 (0.01)	-0.00 (0.00)	-0.01** (0.00)	1.13** (0.03)
Fat	-0.02 (0.02)	0.00 (0.01)	-0.02 (0.02)	-0.01 (0.01)	-0.05** (0.02)	0.02 (0.01)	-0.14** (0.01)	0.01 (0.01)	-0.11** (0.01)	-0.02** (0.01)	-0.05** (0.02)	-0.03 (0.02)	0.02 (0.01)	-0.08** (0.01)	-0.02 (0.01)	-0.45** (0.02)	-0.01 (0.01)	-0.02* (0.01)	0.02** (0.00)	0.95** (0.03)
Carbohydrates	-0.23** (0.02)	-0.05** (0.02)	-0.08** (0.02)	-0.11** (0.01)	-0.22** (0.02)	-0.02** (0.01)	-0.09** (0.01)	0.02* (0.01)	-0.05** (0.01)	-0.00 (0.01)	-0.02 (0.02)	0.01 (0.02)	0.03** (0.01)	-0.05** (0.02)	-0.00 (0.01)	-0.02** (0.00)	0.01* (0.01)	0.00 (0.01)	-0.02** (0.00)	1.10** (0.04)
Iron	-0.15** (0.02)	-0.03 (0.01)	-0.10** (0.02)	-0.07** (0.01)	-0.14** (0.02)	-0.02* (0.01)	-0.07** (0.01)	-0.00 (0.01)	-0.08** (0.01)	0.00 (0.01)	-0.03* (0.01)	0.01 (0.02)	0.03** (0.01)	-0.07** (0.01)	-0.01 (0.01)	-0.04** (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.03** (0.00)	1.08** (0.03)
Zinc	-0.20** (0.02)	-0.03* (0.02)	-0.08** (0.02)	-0.08** (0.01)	-0.15** (0.01)	-0.02** (0.01)	-0.11** (0.01)	0.00 (0.01)	-0.05** (0.01)	-0.00 (0.01)	-0.04** (0.01)	-0.00 (0.02)	0.03** (0.01)	-0.09** (0.01)	-0.01 (0.01)	-0.05** (0.00)	0.01* (0.01)	-0.00 (0.00)	-0.01** (0.00)	1.15** (0.03)
Vitamin A	0.01 (0.02)	-0.00 (0.01)	0.04 (0.02)	-0.00 (0.01)	-0.05* (0.02)	0.03** (0.01)	-0.17** (0.02)	0.05** (0.01)	-0.16** (0.02)	-0.03** (0.01)	0.01 (0.02)	-0.02 (0.02)	0.02 (0.01)	-0.07** (0.02)	0.00 (0.02)	-0.64** (0.03)	-0.02* (0.01)	-0.01 (0.01)	0.03** (0.00)	0.80** (0.05)
Total Folate	-0.19** (0.02)	-0.02 (0.01)	-0.07** (0.02)	-0.05** (0.01)	-0.15** (0.02)	-0.05** (0.01)	-0.15** (0.02)	-0.00 (0.01)	-0.08** (0.01)	-0.03** (0.01)	-0.00 (0.01)	-0.00 (0.02)	0.04** (0.01)	-0.05** (0.01)	0.01 (0.01)	-0.08** (0.01)	0.01 (0.01)	0.01 (0.01)	-0.00 (0.00)	1.07** (0.03)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.30: Nutrient intake elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Nigeria

	Food Group																			Exp.
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee	SoftDrink	OtherFood	
Kcal	-0.14** (0.02)	-0.04** (0.01)	-0.03 (0.02)	-0.05** (0.01)	-0.19** (0.02)	0.00 (0.01)	-0.11** (0.01)	0.01 (0.01)	-0.05** (0.01)	-0.02** (0.01)	-0.06** (0.01)	-0.01 (0.03)	0.01 (0.01)	-0.07** (0.02)	-0.01 (0.01)	-0.14** (0.01)	0.01 (0.01)	-0.01 (0.01)	0.00 (0.00)	0.88** (0.04)
Protein	-0.21** (0.02)	-0.01 (0.01)	-0.05* (0.02)	-0.03** (0.01)	-0.13** (0.02)	-0.01 (0.01)	-0.09** (0.01)	-0.01 (0.01)	-0.03** (0.01)	-0.02* (0.01)	-0.07** (0.02)	-0.05 (0.04)	0.01 (0.01)	-0.14** (0.02)	-0.02* (0.01)	-0.05** (0.01)	0.01 (0.01)	-0.02** (0.01)	0.00 (0.00)	1.04** (0.05)
Fat	0.03 (0.03)	-0.02 (0.02)	-0.00 (0.03)	0.02 (0.01)	-0.06** (0.02)	0.02 (0.01)	-0.17** (0.02)	0.03** (0.01)	-0.12** (0.02)	-0.02 (0.01)	-0.07** (0.03)	-0.03 (0.04)	0.00 (0.02)	-0.10** (0.02)	-0.05** (0.02)	-0.50** (0.03)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.95** (0.06)
Carbohydrates	-0.19** (0.03)	-0.06** (0.02)	-0.03 (0.02)	-0.08** (0.02)	-0.25** (0.02)	-0.00 (0.01)	-0.09** (0.01)	-0.00 (0.01)	-0.02** (0.01)	-0.02* (0.01)	-0.06** (0.02)	0.00 (0.03)	0.02 (0.01)	-0.05* (0.02)	0.01 (0.01)	-0.00 (0.01)	0.02 (0.01)	-0.02 (0.01)	-0.02** (0.00)	0.86** (0.05)
Iron	-0.16** (0.02)	-0.01 (0.02)	-0.03 (0.03)	-0.07** (0.01)	-0.19** (0.02)	-0.00 (0.01)	-0.05** (0.01)	-0.02 (0.01)	-0.07** (0.01)	-0.01 (0.01)	-0.05** (0.02)	-0.01 (0.02)	0.03* (0.01)	-0.07** (0.02)	-0.00 (0.01)	-0.04** (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.02** (0.00)	0.94** (0.04)
Zinc	-0.20** (0.02)	-0.02 (0.01)	-0.04* (0.02)	-0.07** (0.01)	-0.16** (0.02)	-0.01 (0.01)	-0.09** (0.01)	-0.02 (0.01)	-0.04** (0.01)	-0.01 (0.01)	-0.05** (0.02)	-0.02 (0.03)	0.01 (0.01)	-0.09** (0.01)	-0.01 (0.01)	-0.05** (0.01)	0.01* (0.01)	-0.01 (0.01)	0.00 (0.00)	0.99** (0.04)
Vitamin A	0.10** (0.04)	-0.04 (0.02)	0.06 (0.03)	0.04* (0.02)	-0.07* (0.03)	0.04* (0.02)	-0.23** (0.03)	0.08** (0.02)	-0.18** (0.02)	-0.02 (0.02)	-0.03 (0.03)	0.01 (0.05)	0.01 (0.02)	-0.10** (0.03)	-0.05 (0.02)	-0.69** (0.04)	-0.02 (0.01)	0.03 (0.02)	0.06** (0.01)	0.68** (0.07)
Total Folate	-0.20** (0.02)	-0.01 (0.02)	-0.00 (0.03)	-0.06** (0.01)	-0.18** (0.03)	-0.04** (0.01)	-0.13** (0.02)	-0.02 (0.01)	-0.08** (0.01)	-0.04** (0.01)	0.00 (0.02)	-0.01 (0.02)	0.04** (0.01)	-0.05* (0.02)	0.00 (0.02)	-0.09** (0.01)	0.00 (0.01)	0.01 (0.01)	0.02** (0.00)	0.96** (0.04)

Note: This table shows the sample-wide median elasticity of macro- and micro-nutrient intake (quantity demanded) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.31: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
1. Rice	-1.64** (0.62)	-0.78 (0.52)	-0.24 (0.34)	-0.68 (0.41)	0.04 (0.34)	0.05 (0.15)	-0.19 (0.46)	-0.05 (0.19)	0.22 (0.24)	-0.32 (0.18)	0.59 (0.50)	0.15 (0.54)	0.08 (0.14)	-0.22 (0.33)	0.23 (0.24)	-0.02 (0.10)	0.04 (0.28)	-0.02 (0.07)	3.33** (0.82)
2. Maize	-0.00 (0.04)	-0.37** (0.05)	0.05 (0.03)	0.06 (0.04)	-0.04 (0.03)	-0.01 (0.01)	0.01 (0.03)	0.02 (0.01)	0.01 (0.02)	0.01 (0.01)	-0.03 (0.05)	0.03 (0.06)	-0.03** (0.01)	-0.08** (0.02)	0.04* (0.02)	0.01 (0.01)	0.03 (0.03)	-0.02** (0.01)	0.40** (0.07)
3. Wheat	-0.21 (0.29)	0.04 (0.39)	-1.57** (0.42)	0.06 (0.31)	0.34 (0.30)	0.30* (0.12)	0.20 (0.27)	0.11 (0.13)	-0.55** (0.21)	0.50** (0.17)	-0.73 (0.41)	0.77 (0.88)	-0.16 (0.11)	0.70** (0.24)	-0.23 (0.15)	0.04 (0.06)	0.36 (0.22)	0.01 (0.04)	1.95** (0.75)
4. Cassava	-0.51 (0.38)	-0.26 (0.51)	0.04 (0.33)	-0.92 (0.60)	-0.80* (0.33)	-0.30* (0.14)	-0.64 (0.41)	-0.34 (0.20)	0.12 (0.19)	-0.18 (0.16)	-0.49 (0.54)	-0.52 (0.65)	-0.05 (0.12)	0.27 (0.28)	-0.12 (0.21)	-0.06 (0.08)	-0.04 (0.29)	0.04 (0.07)	2.88** (0.90)
5. Roots	0.08 (0.30)	-1.00 (0.56)	0.30 (0.32)	-0.83* (0.37)	-2.13** (0.41)	-0.20 (0.11)	-0.28 (0.26)	-0.34* (0.17)	-0.03 (0.18)	0.36* (0.15)	-0.78 (0.46)	-0.68 (0.75)	-0.02 (0.12)	0.27 (0.19)	-0.17 (0.14)	-0.23* (0.09)	-0.01 (0.17)	0.01 (0.06)	2.87** (1.03)
6. Sugar	0.11 (0.15)	-0.62** (0.20)	0.33** (0.13)	-0.32* (0.14)	-0.20* (0.10)	-1.41** (0.15)	0.06 (0.13)	0.07 (0.03)	-0.68** (0.13)	-0.14 (0.08)	0.27 (0.19)	-0.17 (0.18)	-0.19* (0.08)	0.21 (0.11)	0.16 (0.08)	-0.03 (0.03)	-0.05 (0.09)	-0.05 (0.06)	2.15** (0.28)
7. Pulses	-0.03 (0.34)	-0.42 (0.34)	0.12 (0.18)	-0.33 (0.27)	-0.12 (0.16)	0.03 (0.07)	-1.11** (0.27)	-0.17 (0.12)	-0.25 (0.14)	-0.03 (0.08)	-0.06 (0.27)	-0.37 (0.36)	0.13 (0.08)	0.30 (0.19)	-0.04 (0.11)	0.05 (0.04)	-0.09 (0.17)	-0.09 (0.06)	1.97** (0.64)
8. Nuts	-0.08 (0.48)	-0.45 (0.63)	0.23 (0.40)	-0.85 (0.61)	-0.82 (0.49)	0.10 (0.13)	-0.81 (0.53)	-1.30** (0.27)	-0.26 (0.27)	-0.26 (0.19)	-0.50 (0.65)	-0.98 (0.91)	0.13 (0.14)	0.34 (0.34)	0.09 (0.20)	-0.13 (0.11)	-0.37 (0.38)	-0.03 (0.08)	3.27* (1.45)
9. Vegetables	0.19 (0.08)	0.14 (0.08)	-0.19** (0.07)	0.19** (0.07)	0.09 (0.06)	-0.23** (0.04)	-0.10 (0.06)	-0.01 (0.03)	-0.40** (0.08)	-0.20** (0.05)	0.34** (0.12)	0.16 (0.11)	0.08* (0.03)	0.25** (0.05)	0.02 (0.05)	-0.01 (0.02)	-0.01 (0.05)	0.09* (0.02)	0.18 (0.12)
10. Fruit	-0.34 (0.21)	-0.19 (0.20)	0.66** (0.21)	-0.24 (0.20)	0.56** (0.15)	-0.18 (0.10)	-0.09 (0.18)	-0.14 (0.08)	-0.67** (0.17)	-1.08** (0.18)	0.23 (0.28)	-0.02 (0.17)	0.06 (0.08)	-0.28 (0.16)	-0.25 (0.14)	0.13* (0.05)	0.08 (0.15)	-0.03 (0.04)	1.73** (0.30)
11. RedMeat	0.35 (0.33)	-1.91** (0.69)	-0.53 (0.31)	-0.45 (0.40)	-0.70* (0.31)	0.03 (0.13)	-0.36 (0.34)	-0.19 (0.17)	0.06 (0.33)	0.04 (0.15)	-2.52** (0.69)	-0.75 (0.51)	-0.22 (0.12)	0.20 (0.27)	-0.20 (0.19)	0.12 (0.09)	-0.39 (0.31)	-0.03 (0.08)	5.91** (1.19)
12. Poultry	0.05 (0.25)	-1.85** (0.66)	0.35 (0.48)	-0.45 (0.35)	-0.57 (0.38)	-0.24* (0.10)	-0.77* (0.35)	-0.31 (0.16)	-0.32 (0.22)	-0.10 (0.08)	-0.68 (0.37)	-2.37* (1.21)	-0.06 (0.10)	-0.16 (0.19)	-0.19 (0.12)	-0.04 (0.06)	-0.32 (0.25)	-0.09 (0.07)	6.80** (1.65)
13. Eggs	0.15 (0.19)	-0.67** (0.21)	-0.26 (0.16)	-0.10 (0.18)	-0.04 (0.17)	-0.31** (0.10)	0.41* (0.17)	0.10 (0.07)	0.23 (0.12)	0.07 (0.08)	-0.47* (0.23)	-0.08 (0.29)	0.05 (0.15)	0.17 (0.15)	-0.06 (0.09)	-0.02 (0.04)	-0.14 (0.13)	0.00 (0.05)	1.67** (0.35)
14. Dairy	-0.52 (0.64)	-4.00** (1.02)	1.52** (0.48)	0.63 (0.63)	0.50 (0.40)	0.25 (0.21)	0.92 (0.61)	0.32 (0.26)	0.57 (0.30)	-0.64* (0.27)	0.67 (0.80)	-0.71 (0.74)	0.20 (0.22)	-2.52** (0.65)	-1.05** (0.33)	-0.04 (0.14)	0.46 (0.37)	-0.20 (0.12)	8.51** (1.73)
15. Oils	0.24 (0.20)	-0.18 (0.17)	-0.17 (0.13)	-0.08 (0.18)	-0.14 (0.12)	0.13* (0.07)	-0.07 (0.15)	0.06 (0.06)	-0.09 (0.12)	-0.16 (0.09)	-0.07 (0.22)	-0.06 (0.12)	-0.02 (0.06)	-0.29* (0.12)	-0.82** (0.17)	-0.05 (0.04)	-0.09 (0.12)	-0.06 (0.04)	1.95** (0.39)
16. Tea	-0.09 (0.40)	-1.29* (0.53)	0.09 (0.30)	-0.36 (0.35)	-1.19** (0.31)	-0.23 (0.14)	-0.68* (0.34)	-0.28 (0.17)	-0.49 (0.27)	0.31 (0.17)	0.78 (0.38)	-0.24 (0.54)	-0.07 (0.14)	-0.05 (0.30)	-0.37 (0.24)	-0.60** (0.12)	-0.39 (0.26)	-0.21* (0.09)	5.68** (1.07)
17. SoftDrink	0.04 (0.70)	-1.38 (1.15)	0.78 (0.61)	-0.20 (0.81)	-0.19 (0.47)	-0.31 (0.23)	-0.79 (0.76)	-0.48 (0.37)	-0.59 (0.45)	0.05 (0.31)	-1.52 (1.19)	-1.38 (1.30)	-0.25 (0.26)	0.48 (0.50)	-0.47 (0.40)	-0.25 (0.16)	-0.46 (0.67)	-0.03 (0.14)	7.22** (2.35)
18. OtherFood	0.06 (0.08)	-0.02 (0.11)	0.08 (0.08)	0.23* (0.10)	0.14 (0.08)	-0.02 (0.08)	-0.20* (0.08)	0.03 (0.04)	0.43** (0.09)	0.00 (0.04)	0.20 (0.13)	0.09 (0.14)	0.03 (0.05)	-0.04 (0.07)	-0.05 (0.06)	-0.05* (0.02)	0.08 (0.06)	-0.77** (0.06)	-0.39* (0.18)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.32: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
1. Rice	-1.17** (0.35)	-0.72** (0.27)	-0.21 (0.19)	-0.35 (0.23)	0.14 (0.18)	-0.03 (0.10)	-0.01 (0.26)	0.10 (0.11)	0.17 (0.13)	-0.23* (0.10)	0.46 (0.29)	0.06 (0.28)	0.02 (0.09)	-0.00 (0.19)	0.14 (0.14)	-0.02 (0.05)	0.10 (0.16)	-0.04 (0.04)	2.69** (0.48)
2. Maize	-0.04 (0.03)	-0.24** (0.05)	0.05 (0.03)	0.05 (0.04)	-0.03 (0.02)	-0.01 (0.01)	0.01 (0.04)	0.02 (0.01)	0.00 (0.02)	0.02 (0.01)	0.01 (0.04)	0.03 (0.05)	-0.02 (0.01)	-0.05* (0.02)	0.04** (0.01)	0.02** (0.01)	0.04 (0.02)	-0.01* (0.01)	0.22* (0.09)
3. Wheat	-0.19 (0.17)	-0.02 (0.21)	-0.83** (0.23)	-0.01 (0.18)	0.16 (0.16)	0.17* (0.07)	-0.13 (0.18)	0.00 (0.08)	-0.22 (0.11)	0.26** (0.09)	-0.22 (0.24)	0.25 (0.43)	-0.06 (0.07)	0.36** (0.13)	-0.06 (0.10)	-0.00 (0.04)	0.34* (0.14)	0.02 (0.03)	1.71** (0.49)
4. Cassava	-0.32 (0.24)	-0.38 (0.33)	-0.04 (0.19)	-0.85* (0.40)	-0.54** (0.21)	-0.26** (0.09)	-0.42 (0.30)	-0.19 (0.13)	0.01 (0.13)	-0.06 (0.10)	-0.42 (0.34)	-0.19 (0.43)	-0.13 (0.09)	0.14 (0.17)	-0.14 (0.13)	-0.06 (0.05)	-0.09 (0.18)	0.01 (0.04)	3.12** (0.74)
5. Roots	0.17 (0.18)	-0.64* (0.30)	0.15 (0.18)	-0.53* (0.22)	-1.37** (0.19)	-0.17* (0.08)	0.16 (0.17)	-0.14 (0.09)	-0.10 (0.11)	0.25** (0.09)	-0.82* (0.33)	-0.26 (0.41)	-0.05 (0.08)	0.20 (0.12)	-0.15 (0.09)	-0.15** (0.06)	0.03 (0.11)	-0.02 (0.04)	2.36** (0.66)
6. Sugar	0.04 (0.11)	-0.30** (0.10)	0.20* (0.08)	-0.21** (0.08)	-0.14* (0.07)	-0.99** (0.10)	0.06 (0.08)	0.05 (0.03)	-0.46** (0.08)	-0.10* (0.05)	0.14 (0.12)	-0.09 (0.09)	-0.18** (0.06)	0.14* (0.07)	0.14* (0.06)	-0.00 (0.02)	-0.00 (0.06)	0.03 (0.04)	1.39** (0.16)
7. Pulses	0.04 (0.18)	-0.42 (0.23)	-0.07 (0.13)	-0.21 (0.20)	-0.09 (0.11)	0.00 (0.05)	-1.09** (0.20)	-0.10 (0.08)	-0.25* (0.11)	-0.04 (0.06)	-0.06 (0.19)	-0.14 (0.26)	0.08 (0.06)	0.16 (0.12)	-0.01 (0.08)	-0.05 (0.03)	-0.12 (0.13)	-0.07 (0.04)	2.16** (0.59)
8. Nuts	0.23 (0.32)	-0.41 (0.39)	-0.02 (0.24)	-0.49 (0.39)	-0.37 (0.27)	0.03 (0.09)	-0.50 (0.33)	-1.11** (0.16)	-0.38 (0.20)	-0.18 (0.11)	-0.49 (0.42)	-0.36 (0.55)	0.10 (0.10)	0.16 (0.19)	0.05 (0.12)	-0.11 (0.07)	-0.26 (0.24)	-0.04 (0.05)	3.39** (1.20)
9. Vegetables	0.20** (0.07)	-0.04 (0.06)	-0.09 (0.06)	0.13 (0.07)	0.01 (0.05)	-0.24** (0.04)	-0.14* (0.06)	-0.05 (0.03)	-0.50** (0.08)	-0.18** (0.04)	0.42** (0.11)	0.07 (0.09)	0.13** (0.04)	0.17** (0.03)	0.03 (0.05)	-0.02 (0.02)	0.02 (0.04)	0.08** (0.02)	0.42** (0.11)
10. Fruit	-0.30* (0.14)	-0.03 (0.11)	0.40** (0.13)	-0.04 (0.14)	0.40** (0.10)	-0.15* (0.06)	-0.07 (0.12)	-0.09 (0.05)	-0.47** (0.11)	-1.01** (0.11)	0.27 (0.18)	-0.04 (0.11)	-0.01 (0.06)	-0.19 (0.10)	-0.21* (0.09)	0.07* (0.03)	0.11 (0.10)	0.00 (0.02)	1.33** (0.18)
11. RedMeat	0.25 (0.18)	-0.83** (0.31)	-0.18 (0.16)	-0.28 (0.21)	-0.56** (0.17)	-0.02 (0.07)	-0.22 (0.19)	-0.13 (0.09)	0.16 (0.12)	0.05 (0.08)	-1.88** (0.36)	-0.27 (0.27)	-0.15 (0.07)	0.16 (0.13)	-0.07 (0.10)	0.08 (0.05)	-0.25 (0.15)	0.01 (0.04)	4.01** (0.71)
12. Poultry	0.01 (0.13)	-0.59* (0.27)	0.08 (0.21)	-0.13 (0.20)	-0.20 (0.18)	-0.14** (0.05)	-0.26 (0.19)	-0.09 (0.09)	-0.13 (0.09)	-0.06 (0.04)	-0.25 (0.21)	-1.43* (0.36)	-0.02 (0.05)	-0.09 (0.10)	-0.15* (0.07)	0.00 (0.03)	-0.09 (0.12)	-0.03 (0.03)	3.47** (0.79)
13. Eggs	0.05 (0.14)	-0.43** (0.13)	-0.11 (0.12)	-0.20 (0.14)	-0.09 (0.13)	-0.29** (0.09)	0.22 (0.12)	0.08 (0.05)	0.26** (0.10)	-0.02 (0.06)	-0.32 (0.18)	-0.00 (0.16)	-0.06 (0.13)	0.20* (0.10)	-0.02 (0.07)	-0.02 (0.03)	-0.10 (0.09)	0.01 (0.04)	1.65** (0.20)
14. Dairy	-0.04 (0.35)	-1.44** (0.42)	0.71** (0.23)	0.28 (0.33)	0.34 (0.21)	0.17 (0.12)	0.36 (0.30)	0.12 (0.13)	0.33* (0.15)	-0.33* (0.14)	0.53 (0.46)	-0.40 (0.38)	0.23 (0.13)	-1.66** (0.32)	-0.47** (0.17)	-0.01 (0.07)	0.26 (0.21)	-0.03 (0.06)	4.04** (0.79)
15. Oils	0.19 (0.12)	-0.01 (0.09)	-0.03 (0.09)	-0.05 (0.10)	-0.10 (0.07)	0.13* (0.05)	0.04 (0.09)	0.05 (0.04)	0.00 (0.07)	-0.12* (0.06)	0.07 (0.14)	-0.10 (0.10)	0.00 (0.04)	-0.15* (0.07)	-0.76** (0.11)	-0.02 (0.02)	-0.03 (0.07)	-0.06* (0.03)	1.17** (0.17)
16. Tea	-0.09 (0.21)	-0.24 (0.21)	-0.05 (0.15)	-0.24 (0.18)	-0.62** (0.16)	-0.08 (0.07)	-0.37* (0.18)	-0.18* (0.09)	-0.27* (0.12)	0.15 (0.08)	0.54 (0.29)	0.05 (0.24)	-0.07 (0.08)	0.01 (0.14)	-0.17 (0.10)	-0.65** (0.07)	-0.20 (0.14)	-0.10* (0.04)	3.01** (0.46)
17. SoftDrink	0.16 (0.38)	-0.98 (0.62)	0.66 (0.35)	-0.29 (0.43)	-0.08 (0.27)	-0.20 (0.14)	-0.77 (0.44)	-0.30 (0.20)	-0.29 (0.21)	0.07 (0.17)	-1.06 (0.60)	-0.48 (0.66)	-0.20 (0.16)	0.28 (0.28)	-0.30 (0.22)	-0.15 (0.09)	-0.76** (0.37)	-0.04 (0.07)	6.29** (1.69)
18. OtherFood	-0.04 (0.10)	-0.08 (0.12)	0.13 (0.09)	0.18 (0.11)	0.04 (0.09)	0.18 (0.10)	-0.20* (0.10)	0.00 (0.04)	0.48** (0.11)	0.04 (0.05)	0.32 (0.17)	0.06 (0.13)	0.06 (0.07)	0.01 (0.08)	-0.15 (0.08)	-0.06* (0.02)	0.05 (0.07)	-0.85** (0.07)	-0.45 (0.24)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.33: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
1. Rice	-0.92** (0.29)	-0.61** (0.19)	-0.19 (0.15)	-0.16 (0.19)	0.22 (0.13)	-0.04 (0.09)	0.11 (0.08)	0.18* (0.08)	0.16 (0.10)	-0.18* (0.08)	0.42 (0.25)	0.02 (0.22)	-0.01 (0.07)	0.12 (0.15)	0.12 (0.10)	-0.02 (0.04)	0.14 (0.13)	-0.05 (0.09)	1.92** (0.33)
2. Maize	-0.09* (0.04)	-0.11 (0.07)	0.04 (0.03)	0.03 (0.05)	-0.04 (0.03)	-0.01 (0.01)	0.01 (0.05)	0.02 (0.02)	-0.02 (0.02)	0.03* (0.01)	0.06 (0.06)	0.03 (0.05)	-0.01 (0.01)	-0.02 (0.02)	0.03 (0.02)	0.05* (0.01)	0.04 (0.03)	-0.01 (0.01)	0.17 (0.11)
3. Wheat	-0.16 (0.15)	-0.01 (0.14)	-0.41* (0.20)	-0.04 (0.13)	0.06 (0.12)	0.11 (0.07)	-0.30* (0.15)	-0.06 (0.06)	-0.02 (0.09)	0.12 (0.07)	0.08 (0.21)	-0.04 (0.26)	-0.01 (0.06)	0.17 (0.10)	0.04 (0.09)	-0.02 (0.03)	0.31** (0.12)	0.02 (0.03)	1.34** (0.38)
4. Cassava	-0.19 (0.22)	-0.29 (0.25)	-0.10 (0.14)	-0.78** (0.37)	-0.35* (0.17)	-0.21** (0.08)	-0.24 (0.28)	-0.09 (0.12)	-0.04 (0.11)	0.04 (0.09)	-0.38 (0.30)	0.04 (0.37)	-0.19* (0.09)	0.05 (0.14)	-0.12 (0.11)	-0.06 (0.04)	-0.13 (0.16)	-0.01 (0.03)	2.81** (0.57)
5. Roots	0.25 (0.16)	-0.45* (0.20)	0.06 (0.14)	-0.32 (0.18)	-0.82** (0.17)	-0.15 (0.08)	-0.08 (0.17)	0.01 (0.08)	-0.16 (0.10)	0.17* (0.07)	-0.86** (0.31)	0.05 (0.31)	-0.08 (0.08)	0.15 (0.10)	-0.13 (0.09)	-0.10* (0.04)	0.06 (0.11)	-0.04 (0.03)	1.97** (0.50)
6. Sugar	-0.00 (0.11)	-0.20** (0.07)	0.15 (0.08)	-0.16* (0.07)	-0.12 (0.07)	-0.71** (0.11)	0.06 (0.07)	0.04 (0.03)	-0.38** (0.08)	-0.09* (0.04)	0.09 (0.12)	-0.05 (0.07)	-0.18** (0.06)	0.12* (0.05)	0.14* (0.07)	0.01 (0.02)	0.03 (0.06)	0.09* (0.04)	1.01** (0.13)
7. Pulses	0.10 (0.16)	-0.31 (0.19)	-0.24 (0.14)	-0.12 (0.19)	-0.05 (0.12)	-0.00 (0.05)	-1.06** (0.22)	-0.05 (0.08)	-0.23* (0.10)	-0.04 (0.05)	-0.06 (0.19)	0.05 (0.25)	0.05 (0.06)	0.04 (0.09)	0.03 (0.07)	-0.05 (0.03)	-0.16 (0.14)	-0.05 (0.03)	2.03** (0.47)
8. Nuts	0.47 (0.29)	-0.22 (0.27)	-0.21 (0.20)	-0.23 (0.32)	-0.02 (0.21)	0.02 (0.08)	-0.24 (0.32)	-0.97** (0.14)	-0.45* (0.19)	-0.11 (0.09)	-0.49 (0.38)	0.11 (0.44)	0.09 (0.09)	0.03 (0.14)	0.05 (0.11)	-0.10 (0.06)	-0.21 (0.20)	-0.05 (0.04)	3.00** (0.88)
9. Vegetables	0.19* (0.08)	-0.14* (0.06)	0.02 (0.07)	0.06 (0.07)	-0.06 (0.06)	-0.25** (0.05)	-0.17** (0.06)	-0.10** (0.03)	-0.59** (0.08)	-0.16** (0.04)	0.49** (0.12)	-0.02 (0.08)	0.17** (0.04)	0.08 (0.05)	0.05 (0.05)	-0.03* (0.01)	0.06 (0.04)	0.07** (0.02)	0.52** (0.13)
10. Fruit	-0.27* (0.12)	0.04 (0.09)	0.21* (0.11)	0.11 (0.13)	0.29** (0.08)	-0.13* (0.05)	-0.05 (0.10)	-0.05 (0.04)	-0.34** (0.09)	-0.96** (0.09)	0.31 (0.16)	-0.05 (0.10)	-0.12 (0.05)	-0.18* (0.08)	0.14 (0.08)	0.04 (0.02)	0.14 (0.08)	0.02 (0.02)	1.10** (0.16)
11. RedMeat	0.22 (0.15)	-0.33* (0.16)	-0.00 (0.13)	-0.19 (0.16)	-0.49** (0.13)	-0.03 (0.06)	-0.12 (0.16)	-0.10 (0.07)	0.21* (0.09)	0.07 (0.06)	-1.54** (0.29)	-0.02 (0.21)	-0.11 (0.06)	0.14 (0.09)	0.02 (0.07)	0.06 (0.03)	-0.18 (0.11)	0.02 (0.03)	2.92** (0.44)
12. Poultry	-0.00 (0.11)	-0.25 (0.15)	-0.06 (0.13)	0.02 (0.16)	-0.00 (0.14)	-0.07* (0.04)	-0.01 (0.16)	0.02 (0.07)	-0.10 (0.05)	-0.04 (0.03)	-0.03 (0.17)	-0.95* (0.38)	-0.00 (0.04)	-0.06 (0.07)	-0.12* (0.05)	0.03 (0.02)	0.02 (0.09)	-0.02 (0.02)	2.38** (0.53)
13. Eggs	-0.00 (0.12)	-0.24* (0.10)	-0.02 (0.10)	-0.25* (0.13)	-0.11 (0.10)	-0.27** (0.08)	0.12 (0.11)	0.07 (0.05)	0.29** (0.09)	-0.06 (0.05)	-0.23 (0.16)	0.04 (0.12)	-0.13 (0.12)	0.21** (0.08)	0.02 (0.07)	-0.02 (0.01)	-0.08 (0.15)	0.02 (0.04)	1.44** (0.16)
14. Dairy	0.19 (0.28)	-0.52* (0.24)	0.27 (0.19)	0.09 (0.24)	0.22 (0.16)	0.13 (0.09)	0.03 (0.22)	0.02 (0.09)	0.08 (0.12)	-0.17 (0.10)	0.45 (0.30)	-0.23 (0.28)	0.22* (0.10)	-1.21** (0.22)	-0.17 (0.12)	0.01 (0.05)	0.15 (0.17)	0.02 (0.04)	2.55** (0.53)
15. Oils	0.17 (0.10)	0.01 (0.07)	0.07 (0.09)	-0.04 (0.09)	-0.07 (0.07)	0.13* (0.05)	0.12 (0.09)	0.05 (0.03)	0.05 (0.07)	-0.10* (0.05)	0.18 (0.12)	-0.12 (0.08)	0.03 (0.04)	-0.05 (0.06)	-0.70** (0.10)	-0.01 (0.02)	0.00 (0.07)	-0.07** (0.02)	0.77** (0.15)
16. Tea	-0.08 (0.16)	0.10 (0.13)	-0.11 (0.12)	-0.19 (0.14)	-0.34** (0.12)	0.01 (0.06)	-0.24 (0.15)	-0.13* (0.06)	-0.21** (0.07)	0.06 (0.06)	0.45* (0.21)	0.22 (0.16)	-0.06 (0.06)	0.04 (0.09)	-0.07 (0.07)	-0.67** (0.06)	-0.11 (0.11)	-0.06* (0.03)	1.91** (0.28)
17. SoftDrink	0.22 (0.30)	-0.43 (0.35)	0.56* (0.28)	-0.29 (0.30)	0.01 (0.22)	-0.08 (0.11)	-0.62 (0.37)	-0.18 (0.14)	-0.07 (0.13)	0.10 (0.12)	-0.75 (0.41)	0.01 (0.42)	-0.16 (0.12)	0.16 (0.21)	-0.14 (0.16)	-0.08 (0.07)	-0.92** (0.28)	-0.04 (0.05)	4.49** (1.10)
18. OtherFood	-0.17 (0.14)	-0.07 (0.14)	0.17 (0.11)	0.08 (0.12)	-0.10 (0.11)	0.41** (0.14)	-0.16 (0.12)	-0.04 (0.05)	0.47** (0.13)	0.09 (0.06)	0.41 (0.21)	0.01 (0.12)	0.10 (0.10)	0.09 (0.09)	-0.28** (0.11)	-0.05 (0.03)	0.01 (0.09)	-0.98** (0.09)	-0.24 (0.31)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.3.4: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Malawi

	Food Group														Exp.				
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Dairy		Oils	Tea	SoftDrink	OtherFood
1. Rice	-0.61 (0.35)	-0.63** (0.20)	-0.15 (0.19)	0.03 (0.23)	0.32* (0.15)	-0.06 (0.10)	0.26 (0.20)	0.30** (0.09)	0.14 (0.11)	-0.13 (0.09)	0.44 (0.29)	0.01 (0.29)	-0.03 (0.08)	0.27 (0.16)	0.11 (0.12)	-0.02 (0.04)	0.21 (0.16)	-0.08* (0.04)	1.08** (0.26)
2. Maize	-0.22** (0.08)	0.13 (0.13)	0.01 (0.06)	-0.02 (0.08)	-0.05 (0.05)	-0.04 (0.02)	-0.01 (0.09)	0.02 (0.03)	-0.08** (0.03)	0.03 (0.02)	0.15 (0.11)	0.01 (0.09)	0.01 (0.02)	0.05 (0.05)	-0.01 (0.12)	0.04** (0.01)	0.04 (0.06)	0.01 (0.01)	0.27* (0.13)
3. Wheat	-0.14 (0.19)	-0.04 (0.14)	0.10 (0.31)	-0.08 (0.14)	-0.03 (0.15)	0.05 (0.08)	-0.50** (0.17)	-0.12 (0.07)	0.18 (0.11)	-0.01 (0.07)	0.41 (0.29)	-0.32 (0.43)	0.06 (0.06)	-0.02 (0.12)	0.16 (0.11)	-0.05 (0.09)	0.32* (0.15)	-0.05 (0.03)	0.85** (0.39)
4. Cassava	0.01 (0.28)	-0.23 (0.25)	-0.16 (0.18)	-0.66 (0.46)	-0.09 (0.19)	-0.43 (0.09)	0.02 (0.34)	0.05 (0.14)	-0.13 (0.13)	0.20 (0.12)	-0.27 (0.39)	0.43 (0.45)	-0.27* (0.11)	-0.07 (0.18)	-0.08 (0.13)	-0.05 (0.05)	-0.20 (0.20)	-0.05 (0.04)	1.90** (0.45)
5. Roots	0.39 (0.32)	-0.28 (0.17)	-0.06 (0.21)	-0.07 (0.21)	-0.04 (0.34)	-0.11 (0.11)	0.03 (0.24)	0.21 (0.11)	-0.27 (0.15)	0.09 (0.08)	-0.94* (0.39)	0.50 (0.44)	-0.11 (0.08)	0.11 (0.12)	-0.10 (0.12)	-0.02 (0.04)	0.10 (0.15)	-0.08* (0.04)	1.40** (0.39)
6. Sugar	-0.06 (0.15)	-0.17* (0.08)	0.09 (0.11)	-0.11 (0.09)	-0.10 (0.11)	-0.24 (0.10)	0.05 (0.10)	0.03 (0.04)	-0.33** (0.11)	-0.08 (0.05)	0.03 (0.17)	0.03 (0.10)	-0.22** (0.07)	0.11 (0.06)	0.17 (0.10)	0.05 (0.03)	0.10 (0.15)	0.05 (0.03)	0.54** (0.14)
7. Pulses	0.21 (0.20)	-0.15 (0.21)	-0.49* (0.22)	0.04 (0.27)	0.02 (0.08)	0.00 (0.07)	-0.99** (0.35)	0.04 (0.13)	-0.20 (0.12)	-0.03 (0.07)	-0.02 (0.29)	0.37 (0.36)	0.01 (0.07)	-0.14 (0.13)	0.12 (0.11)	-0.04 (0.05)	-0.22 (0.21)	-0.01 (0.03)	1.51** (0.39)
8. Nuts	0.89* (0.39)	0.01 (0.26)	-0.44 (0.28)	0.13 (0.38)	0.50 (0.29)	0.02 (0.10)	0.12 (0.45)	-0.75** (0.22)	-0.57* (0.23)	-0.01 (0.10)	-0.43 (0.51)	0.85 (0.57)	0.09 (0.11)	-0.14 (0.18)	0.09 (0.14)	-0.08 (0.07)	-0.11 (0.26)	-0.07 (0.05)	1.89** (0.65)
9. Vegetables	0.17 (0.11)	-0.26** (0.08)	0.21 (0.11)	-0.05 (0.11)	-0.19 (0.10)	-0.23** (0.08)	-0.19 (0.10)	-0.17** (0.05)	-0.77** (0.11)	-0.10 (0.05)	0.58** (0.17)	-0.19 (0.12)	0.23** (0.05)	-0.07 (0.07)	0.07 (0.08)	-0.05** (0.02)	0.12 (0.07)	0.06* (0.03)	0.55** (0.14)
10. Fruit	-0.24 (0.16)	0.08 (0.12)	-0.01 (0.13)	0.33* (0.17)	0.15 (0.15)	-0.11 (0.06)	-0.05 (0.13)	0.00 (0.06)	-0.19 (0.10)	-0.88** (0.10)	0.39 (0.23)	-0.07 (0.13)	-0.12* (0.06)	-0.04 (0.11)	-0.15 (0.09)	-0.01 (0.03)	0.18 (0.11)	-0.01 (0.03)	0.87** (0.17)
11. RedMeat	0.24 (0.17)	0.05 (0.14)	0.22 (0.16)	-0.11 (0.08)	-0.44** (0.15)	-0.02 (0.07)	-0.03 (0.17)	-0.08 (0.09)	0.26** (0.10)	0.10 (0.07)	-1.18** (0.34)	0.28 (0.24)	-0.06 (0.06)	0.15 (0.11)	0.14 (0.09)	0.06 (0.04)	-0.11 (0.13)	0.03 (0.03)	1.64** (0.27)
12. Poultry	-0.01 (0.16)	-0.10 (0.13)	-0.21 (0.18)	0.20 (0.19)	0.19 (0.17)	-0.01 (0.04)	0.21 (0.19)	0.14 (0.08)	-0.14* (0.07)	-0.03 (0.04)	0.24 (0.22)	-0.35 (0.30)	0.03 (0.05)	-0.02 (0.09)	-0.11 (0.06)	0.06* (0.03)	0.15 (0.12)	0.06* (0.03)	1.56** (0.34)
13. Eggs	-0.05 (0.13)	-0.06 (0.09)	0.09 (0.10)	-0.33* (0.14)	-0.14 (0.10)	-0.25** (0.08)	0.03 (0.13)	0.06 (0.05)	0.34** (0.09)	-0.11* (0.05)	-0.13 (0.18)	0.11 (0.14)	-0.13 (0.12)	0.23** (0.08)	0.06 (0.13)	-0.02 (0.02)	-0.06 (0.09)	0.03 (0.03)	1.07** (0.13)
14. Dairy	0.39 (0.30)	0.04 (0.21)	-0.07 (0.22)	-0.07 (0.26)	0.12 (0.17)	0.08 (0.08)	-0.29 (0.24)	-0.07 (0.10)	-0.17 (0.13)	-0.05 (0.11)	0.40 (0.35)	-0.07 (0.32)	0.23* (0.10)	-0.85** (0.25)	0.05 (0.13)	0.03 (0.05)	0.07 (0.19)	0.05 (0.05)	1.89** (0.37)
15. Oils	0.16 (0.14)	-0.05 (0.09)	0.21 (0.13)	-0.03 (0.12)	-0.06 (0.10)	0.13 (0.08)	0.21 (0.13)	0.05 (0.05)	0.09 (0.09)	-0.09 (0.06)	0.36* (0.17)	-0.16 (0.12)	0.06 (0.05)	0.08 (0.08)	-0.60** (0.13)	0.02 (0.03)	0.06 (0.09)	-0.09** (0.03)	0.45** (0.17)
16. Tea	-0.07 (0.18)	0.31* (0.15)	-0.20 (0.14)	-0.16 (0.17)	-0.07 (0.13)	0.11 (0.08)	-0.14 (0.19)	-0.09 (0.07)	-0.22** (0.08)	-0.02 (0.07)	0.45 (0.25)	0.49* (0.21)	-0.05 (0.06)	0.09 (0.12)	0.04 (0.10)	-0.61** (0.07)	-0.01 (0.14)	-0.03 (0.03)	1.06** (0.21)
17. SoftDrink	0.32 (0.30)	-0.02 (0.26)	0.53 (0.39)	-0.28 (0.30)	0.12 (0.22)	0.06 (0.11)	-0.49 (0.38)	-0.07 (0.14)	0.11 (0.13)	0.14 (0.12)	-0.39 (0.41)	0.50 (0.44)	-0.10 (0.11)	0.06 (0.19)	0.03 (0.15)	-0.01 (0.06)	-1.06** (0.27)	-0.05 (0.05)	2.40** (0.58)
18. OtherFood	-0.42 (0.23)	0.08 (0.21)	0.19 (0.19)	-0.13 (0.17)	-0.36* (0.17)	0.78** (0.25)	-0.04 (0.19)	-0.10 (0.09)	0.36* (0.18)	0.17 (0.09)	0.45 (0.36)	-0.12 (0.19)	0.14 (0.12)	0.22 (0.14)	-0.49** (0.17)	-0.04 (0.05)	-0.10 (0.16)	-1.24** (0.16)	0.35 (0.31)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 18) and total household expenditures (the last column).

Table D.35: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Niger

Exp.	Food Group																			
	Rice	Millet	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee	SoftDrink	OtherFood	
1. Rice	-2.32** (0.72)	0.03 (0.43)	-2.10** (0.63)	0.36 (0.09)	-0.08 (0.17)	-0.37* (0.07)	0.07 (0.22)	-0.05 (0.15)	-0.14 (0.13)	0.19 (0.13)	-0.92* (0.41)	0.63* (0.30)	1.12** (0.29)	0.24* (0.12)	0.34 (0.21)	-0.31 (0.16)	0.44** (0.15)	0.75* (0.33)	0.01 (0.13)	2.36** (0.47)
2. Millet	0.10 (0.13)	-1.45** (0.31)	0.62 (0.39)	0.07 (0.07)	0.08 (0.06)	0.02 (0.04)	0.01 (0.05)	-0.05 (0.05)	0.01 (0.03)	-0.01 (0.05)	0.03 (0.13)	-0.14 (0.07)	-0.02 (0.05)	-0.02 (0.05)	-0.11 (0.11)	-0.00 (0.03)	-0.01 (0.07)	-0.22 (0.17)	-0.06 (0.05)	0.84** (0.21)
3. Wheat	-1.32 (1.03)	1.41 (0.98)	-1.08 (0.63)	-0.09 (0.09)	-0.15 (0.21)	-0.05 (0.16)	-0.25 (0.26)	-0.24 (0.22)	-0.01 (0.12)	0.01 (0.11)	-0.79 (0.77)	0.75 (0.66)	0.02 (0.18)	-0.03 (0.12)	0.42 (0.40)	0.01 (0.11)	0.16 (0.29)	0.46 (0.49)	0.05 (0.10)	2.09* (0.97)
4. Cassava	0.83 (0.51)	0.78 (0.47)	-0.24 (0.47)	-1.92** (0.37)	0.21 (0.20)	0.43* (0.19)	0.35 (0.23)	0.65** (0.24)	-0.17 (0.11)	0.02 (0.09)	2.14* (0.83)	-1.03 (0.58)	-0.52 (0.30)	-0.05 (0.17)	-1.21* (0.50)	-0.24 (0.13)	-0.23 (0.19)	-0.91 (0.51)	0.34* (0.14)	0.34 (0.48)
5. Roots	-0.39 (0.65)	0.37 (0.71)	-1.12 (0.73)	0.33 (0.30)	-0.32 (0.45)	0.45 (0.24)	-0.45 (0.33)	-1.11** (0.32)	0.03 (0.17)	0.48** (0.17)	-0.08 (0.59)	0.19 (0.40)	-0.42 (0.35)	-0.77** (0.29)	0.36 (0.41)	0.29 (0.18)	0.42 (0.27)	-0.68 (0.61)	0.17 (0.18)	3.73** (0.89)
6. Sugar	-0.95 (0.64)	0.32 (0.31)	-0.11 (0.65)	0.52 (0.31)	0.35 (0.27)	-1.14** (0.24)	0.22 (0.31)	-0.24 (0.22)	-0.31 (0.21)	0.14 (0.16)	-0.77 (0.57)	0.55 (0.45)	0.60 (0.34)	0.03 (0.19)	0.68 (0.42)	0.17 (0.18)	-0.02 (0.23)	0.82 (0.38)	-0.57* (0.27)	0.65 (0.35)
7. Pulses	0.18 (0.43)	-0.25 (0.31)	-0.91 (0.61)	0.35 (0.24)	-0.25 (0.20)	0.17 (0.17)	-1.26** (0.24)	-0.47* (0.22)	0.30 (0.18)	0.11 (0.14)	-1.44* (0.65)	0.33 (0.29)	0.08 (0.24)	-0.03 (0.14)	-0.65 (0.38)	-0.14 (0.15)	0.16 (0.19)	0.33 (0.39)	0.20 (0.14)	2.05** (0.67)
8. Nuts	-0.16 (0.52)	1.00 (0.60)	-1.21* (0.60)	0.87** (0.29)	-0.90** (0.28)	-0.29 (0.19)	-0.65* (0.30)	-0.81** (0.24)	-0.07 (0.15)	0.30 (0.16)	-0.77 (0.56)	0.31 (0.40)	0.77* (0.34)	0.28 (0.18)	0.79** (0.30)	-0.08 (0.15)	0.16 (0.17)	1.11* (0.47)	-0.22 (0.11)	2.06** (0.55)
9. Vegetables	-0.22 (0.29)	0.02 (0.23)	0.07 (0.30)	-0.18* (0.09)	0.05 (0.10)	-0.24 (0.11)	0.29* (0.14)	-0.03 (0.10)	-0.67** (0.17)	0.12 (0.10)	0.31 (0.20)	-0.08 (0.13)	0.55** (0.13)	0.12 (0.06)	-0.01 (0.12)	-0.32** (0.11)	0.10 (0.06)	-0.24 (0.18)	0.14 (0.09)	0.89** (0.19)
10. Fruit	0.70 (0.55)	-0.22 (0.47)	0.05 (0.33)	0.03 (0.18)	0.50** (0.19)	0.20 (0.19)	0.18 (0.31)	0.38 (0.19)	0.22 (0.22)	-1.81** (0.27)	-0.05 (0.40)	0.35 (0.23)	-0.27 (0.27)	-0.02 (0.15)	0.15 (0.22)	-0.71** (0.23)	-0.16 (0.14)	0.19 (0.35)	-0.28 (0.15)	1.16** (0.39)
11. RedMeat	-1.07* (0.52)	-0.75 (0.83)	-1.53 (0.82)	1.00* (0.41)	-0.02 (0.20)	-0.34 (0.23)	-0.70* (0.28)	-0.28 (0.22)	0.08 (0.11)	-0.02 (0.11)	-4.86** (1.34)	1.42 (0.83)	1.12* (0.44)	0.19 (0.26)	1.40* (0.62)	-0.14 (0.15)	0.61 (0.32)	1.42* (0.56)	-0.20 (0.20)	4.15** (1.18)
12. Poultry	0.55 (0.30)	-0.89* (0.45)	0.98* (0.48)	-0.45 (0.25)	0.05 (0.11)	0.18 (0.12)	0.11 (0.15)	0.09 (0.13)	-0.06 (0.06)	0.08 (0.05)	1.28* (0.62)	-2.21** (0.75)	-0.31 (0.24)	0.35* (0.16)	-1.21** (0.43)	-0.20* (0.09)	-0.39 (0.20)	-0.58* (0.29)	0.03 (0.07)	2.14** (0.82)
13. Eggs	5.73** (1.37)	-0.36 (1.15)	0.07 (1.05)	-1.24* (0.58)	-0.58 (0.48)	1.14** (0.40)	0.16 (0.53)	1.30** (0.47)	0.85** (0.30)	-0.37 (0.27)	5.51** (1.51)	-1.70 (1.12)	-2.30** (0.85)	-0.23 (0.43)	-3.80** (1.02)	-0.25 (0.28)	-0.33 (0.38)	-3.96** (1.28)	0.25 (0.27)	1.65 (1.07)
14. Fish	0.67 (0.42)	-0.72 (0.62)	-0.27 (0.51)	-0.07 (0.26)	-0.60* (0.25)	0.01 (0.19)	-0.06 (0.23)	0.26 (0.18)	0.13 (0.08)	-0.02 (0.12)	0.55 (0.68)	1.10* (0.54)	-0.13 (0.31)	-1.17** (0.31)	0.85* (0.40)	0.11 (0.13)	0.10 (0.23)	0.55 (0.48)	-0.00 (0.11)	2.65** (0.73)
15. Dairy	0.59 (0.40)	-0.27 (0.38)	1.14 (0.89)	-0.81 (0.42)	0.16 (0.18)	0.38 (0.21)	-0.37 (0.22)	0.40* (0.20)	0.03 (0.09)	0.06 (0.08)	2.02 (1.08)	-1.82 (0.95)	-1.06* (0.50)	0.44 (0.25)	-2.78** (0.92)	-0.13 (0.12)	-0.13 (0.27)	-0.23 (0.45)	-0.47* (0.20)	-0.84 (0.92)
16. Oils	-0.51 (0.33)	-0.02 (0.21)	0.12 (0.28)	-0.22* (0.11)	0.19 (0.11)	0.12 (0.10)	-0.09 (0.14)	-0.03 (0.09)	-0.28* (0.12)	-0.35** (0.13)	-0.09 (0.23)	-0.32 (0.18)	-0.08 (0.13)	0.10 (0.08)	-0.22 (0.14)	-0.74** (0.13)	-0.03 (0.09)	0.18 (0.22)	0.37** (0.11)	0.82** (0.25)
17. Coffee	1.48 (0.79)	0.10 (0.91)	0.88 (1.23)	-0.32 (0.32)	0.38 (0.30)	-0.00 (0.26)	0.25 (0.35)	0.18 (0.21)	0.18 (0.12)	-0.13 (0.12)	1.92 (1.18)	-1.33 (0.90)	-0.20 (0.34)	0.11 (0.24)	-0.26 (0.62)	-0.02 (0.15)	-1.09* (0.54)	-0.44 (0.72)	0.02 (0.13)	-0.10 (1.20)
18. SoftDrink	3.36 (2.58)	-3.98 (3.34)	3.24 (3.40)	-1.84 (1.56)	-0.80 (1.03)	1.35 (1.05)	0.64 (1.17)	1.61 (1.05)	-0.45 (0.55)	0.23 (0.46)	5.97 (3.89)	-2.72 (2.09)	-3.37 (2.06)	0.82 (0.96)	-0.68 (1.75)	0.45 (0.62)	-0.61 (1.19)	-1.28 (2.68)	-0.06 (0.43)	-0.54 (2.72)
19. OtherFood	0.12 (0.29)	-0.43 (0.32)	0.27 (0.28)	0.23 (0.13)	0.13 (0.12)	-0.34* (0.16)	0.19 (0.15)	-0.09 (0.08)	0.11 (0.10)	-0.12 (0.08)	-0.11 (0.21)	0.13 (0.14)	0.09 (0.13)	0.04 (0.07)	0.45* (0.21)	0.34* (0.15)	-0.01 (0.08)	-0.05 (0.16)	-0.95** (0.08)	0.72** (0.23)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.36: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Niger

	Food Group														Exp.						
	Rice	Miller	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood	
1. Rice	-2.07** (0.37)	-0.31 (0.24)	-1.54** (0.39)	0.20 (0.10)	-0.08 (0.09)	-0.21* (0.09)	0.13 (0.11)	-0.01 (0.08)	-0.21** (0.07)	0.17* (0.07)	-0.38 (0.20)	0.19 (0.13)	0.54** (0.15)	0.11 (0.07)	-0.02 (0.10)	-0.12 (0.08)	0.17* (0.08)	0.46* (0.18)	0.08 (0.06)	1.49** (0.27)	
2. Millet	-0.03 (0.10)	-1.01** (0.20)	0.47 (0.42)	0.10 (0.07)	0.03 (0.05)	0.00 (0.04)	0.03 (0.07)	-0.03 (0.04)	-0.02 (0.03)	0.00 (0.03)	-0.09 (0.13)	-0.09 (0.09)	-0.02 (0.06)	0.02 (0.05)	0.04 (0.09)	-0.02 (0.03)	0.05 (0.07)	-0.16 (0.15)	-0.05 (0.04)	0.50 (0.31)	
3. Wheat	-1.14 (0.77)	0.87 (0.57)	-0.37 (0.55)	-0.16 (0.14)	-0.05 (0.10)	0.03 (0.10)	-0.20 (0.11)	-0.13 (0.11)	0.05 (0.07)	-0.13 (0.10)	-0.26 (0.33)	0.37 (0.31)	0.09 (0.12)	-0.03 (0.08)	0.12 (0.21)	0.03 (0.08)	0.03 (0.06)	-0.07 (0.17)	0.21 (0.27)	0.07 (0.07)	1.37** (0.52)
4. Cassava	0.51 (0.35)	0.66 (0.41)	-0.54 (0.42)	-1.54** (0.35)	0.16 (0.15)	0.33* (0.15)	0.06 (0.14)	0.33* (0.14)	-0.12 (0.08)	0.04 (0.07)	0.81 (0.47)	-0.56 (0.37)	-0.30 (0.21)	-0.19 (0.14)	-0.59 (0.31)	-0.17 (0.09)	0.01 (0.14)	-0.34 (0.34)	0.25* (0.10)	1.15* (0.49)	
5. Roots	-0.44 (0.33)	-0.27 (0.46)	-0.48 (0.46)	0.23 (0.17)	-0.65** (0.23)	0.31* (0.14)	-0.12 (0.18)	-0.68** (0.20)	-0.06 (0.09)	0.27** (0.10)	-0.49 (0.33)	-0.04 (0.24)	-0.21 (0.20)	-0.31 (0.17)	0.27 (0.24)	0.01 (0.10)	0.22 (0.16)	-0.57 (0.38)	-0.03 (0.09)	3.48** (0.67)	
6. Sugar	-0.67 (0.47)	-0.08 (0.44)	0.13 (0.57)	0.42 (0.35)	0.29 (0.21)	-1.30** (0.23)	0.44 (0.30)	-0.20 (0.18)	-0.26 (0.16)	-0.00 (0.10)	-0.28 (0.40)	0.47 (0.35)	0.52 (0.20)	0.06 (0.15)	0.50 (0.35)	0.13 (0.13)	0.11 (0.21)	0.65 (0.46)	-0.51* (0.24)	1.10 (0.59)	
7. Pulses	0.38 (0.28)	0.16 (0.32)	-0.69 (0.41)	0.06 (0.12)	-0.05 (0.11)	0.37* (0.16)	-1.33** (0.21)	-0.40* (0.17)	0.10 (0.08)	0.13 (0.09)	-0.77* (0.36)	-0.00 (0.14)	-0.20 (0.16)	-0.02 (0.09)	-0.36 (0.19)	-0.22 (0.12)	0.00 (0.12)	0.07 (0.23)	0.25* (0.11)	1.03** (0.38)	
8. Nuts	-0.07 (0.33)	-0.47 (0.39)	-0.64 (0.39)	0.46** (0.17)	-0.64** (0.20)	-0.24 (0.13)	-0.56** (0.21)	-0.76** (0.17)	-0.18 (0.10)	0.20 (0.11)	-0.22 (0.36)	0.00 (0.23)	0.47* (0.23)	0.17 (0.13)	0.59** (0.22)	-0.02 (0.10)	0.08 (0.12)	0.74* (0.32)	-0.14 (0.07)	1.53** (0.42)	
9. Vegetables	-0.51* (0.21)	-0.27 (0.19)	0.19 (0.22)	-0.13 (0.07)	-0.00 (0.09)	-0.21** (0.07)	0.09 (0.09)	-0.11 (0.07)	-0.76** (0.11)	0.30** (0.09)	0.12 (0.13)	-0.10 (0.09)	0.24** (0.11)	0.09* (0.04)	0.13 (0.22)	-0.07 (0.10)	0.09 (0.12)	-0.14 (0.32)	0.24** (0.07)	1.29** (0.19)	
10. Fruit	0.70* (0.33)	-0.18 (0.36)	-0.79 (0.44)	0.07 (0.12)	0.31* (0.13)	-0.01 (0.12)	0.19 (0.19)	0.23 (0.12)	0.48** (0.16)	-1.56** (0.18)	0.07 (0.26)	0.29* (0.14)	-0.02 (0.15)	-0.07 (0.10)	-0.13 (0.15)	-0.65** (0.17)	-0.07 (0.10)	0.13 (0.23)	-0.18 (0.09)	1.77** (0.34)	
11. RedMeat	-0.54* (0.26)	-0.85 (0.53)	-0.55 (0.48)	0.32 (0.19)	-0.13 (0.12)	-0.12 (0.12)	-0.34* (0.14)	-0.07 (0.11)	0.01 (0.06)	0.01 (0.06)	-2.97** (0.69)	0.64 (0.40)	0.49* (0.22)	0.28 (0.16)	0.44 (0.30)	-0.07 (0.08)	0.29 (0.19)	0.49 (0.29)	-0.12 (0.08)	3.07** (0.74)	
12. Poultry	0.04 (0.19)	-0.96* (0.39)	0.24 (0.45)	-0.24 (0.19)	-0.01 (0.09)	0.11 (0.09)	-0.05 (0.12)	-0.01 (0.07)	-0.09* (0.04)	0.06 (0.03)	0.57 (0.37)	-1.35** (0.40)	-0.19 (0.14)	0.17 (0.10)	-0.61* (0.27)	-0.16** (0.06)	-0.15 (0.15)	-0.27 (0.20)	-0.02 (0.05)	3.77** (0.71)	
13. Eggs	2.93** (0.80)	-0.84 (0.88)	0.44 (0.78)	-0.69 (0.38)	-0.32 (0.31)	0.89** (0.28)	-0.45 (0.36)	0.71* (0.30)	0.48** (0.18)	-0.04 (0.15)	2.54** (0.86)	-1.09 (0.64)	-2.14** (0.55)	-0.30 (0.23)	-2.45** (0.67)	-0.01 (0.17)	-0.20 (0.23)	-2.10** (0.79)	0.07 (0.17)	3.31** (1.07)	
14. Fish	0.32 (0.27)	-0.04 (0.43)	-0.22 (0.41)	-0.26 (0.19)	-0.26 (0.18)	0.05 (0.13)	-0.05 (0.16)	0.15 (0.13)	0.09 (0.06)	-0.06 (0.08)	0.82 (0.50)	0.55 (0.37)	-0.17 (0.21)	-1.23** (0.24)	0.24 (0.26)	0.04 (0.09)	0.06 (0.18)	0.35 (0.32)	0.07 (0.08)	2.06** (0.56)	
15. Dairy	-0.00 (0.25)	0.13 (0.50)	0.27 (0.64)	-0.38 (0.27)	0.14 (0.16)	0.27 (0.19)	-0.22 (0.19)	0.28 (0.17)	0.09 (0.08)	-0.05 (0.07)	0.78 (0.63)	-0.92 (0.63)	-0.71 (0.39)	0.13 (0.17)	-1.65** (0.52)	-0.11 (0.26)	0.08 (0.26)	-0.03 (0.41)	0.32 (0.17)	0.99 (0.79)	
16. Oils	-0.24 (0.20)	-0.25 (0.17)	0.11 (0.21)	-0.14 (0.08)	0.05 (0.07)	0.09 (0.08)	-0.18 (0.11)	-0.01 (0.06)	-0.05 (0.06)	-0.32** (0.10)	-0.01 (0.15)	-0.16 (0.11)	0.03 (0.08)	0.05 (0.10)	-0.14 (0.10)	-0.63** (0.13)	0.01 (0.07)	0.16 (0.15)	0.13* (0.05)	1.09** (0.21)	
17. Coffee	0.66 (0.49)	0.48 (0.86)	-0.30 (1.06)	0.02 (0.24)	0.23 (0.23)	0.13 (0.24)	0.01 (0.27)	0.09 (0.17)	0.14 (0.10)	-0.06 (0.08)	1.00 (0.81)	-0.50 (0.59)	-0.12 (0.22)	0.07 (0.23)	0.18 (0.35)	0.02 (0.12)	-0.75 (0.51)	0.16 (0.65)	0.02 (0.10)	0.90 (1.19)	
18. SoftDrink	2.05 (1.73)	-2.75 (2.59)	1.11 (2.46)	-0.64 (0.95)	-0.70 (0.88)	0.94 (0.84)	0.09 (0.81)	0.96 (0.77)	-0.31 (0.38)	0.13 (0.32)	2.13 (2.13)	-1.28 (1.35)	-1.76 (1.29)	0.36 (1.41)	-0.13 (0.45)	0.30 (0.98)	0.20 (0.98)	-0.20 (2.10)	-0.00 (0.32)	2.96 (2.79)	
19. OtherFood	0.28 (0.25)	-0.45 (0.30)	0.31 (0.39)	0.28* (0.13)	0.03 (0.09)	-0.43* (0.17)	0.26 (0.15)	-0.08 (0.07)	0.26* (0.12)	-0.10 (0.07)	-0.14 (0.17)	0.15 (0.12)	0.06 (0.10)	0.08 (0.08)	0.52* (0.21)	0.17* (0.08)	0.01 (0.07)	0.03 (0.14)	-0.96** (0.06)	0.69* (0.27)	

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.37: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Niger

Exp.	Food Group																			
	Rice	Millet	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee	SoftDrink	OtherFood	
1. Rice	-1.85** (0.34)	-0.32* (0.22)	-1.20** (0.33)	0.11 (0.08)	-0.07 (0.07)	-0.12 (0.07)	0.16 (0.09)	0.01 (0.06)	-0.24** (0.07)	0.16** (0.06)	-0.09 (0.14)	-0.03 (0.08)	0.22* (0.10)	0.04 (0.05)	-0.21* (0.09)	-0.01 (0.07)	0.03 (0.05)	0.28* (0.13)	0.12* (0.06)	0.91** (0.23)
2. Millet	-0.24 (0.17)	-0.60* (0.28)	0.32 (0.38)	0.15 (0.10)	-0.02 (0.07)	-0.03 (0.06)	0.06 (0.09)	-0.01 (0.06)	-0.05 (0.05)	0.02 (0.04)	-0.26 (0.20)	-0.04 (0.12)	-0.02 (0.08)	0.08 (0.08)	0.23 (0.16)	-0.05 (0.05)	0.14 (0.11)	-0.11 (0.17)	-0.05 (0.05)	0.52 (0.37)
3. Wheat	-1.02 (0.78)	0.53 (0.59)	0.26 (0.91)	-0.22 (0.17)	0.03 (0.10)	0.09 (0.18)	-0.16 (0.18)	-0.04 (0.09)	0.11 (0.11)	-0.25 (0.19)	0.16 (0.32)	0.11 (0.21)	0.14 (0.15)	-0.03 (0.09)	-0.10 (0.24)	0.06 (0.12)	-0.25 (0.23)	0.03 (0.28)	0.09 (0.09)	0.44 (0.73)
4. Cassava	0.25 (0.26)	0.63 (0.43)	-0.78 (0.47)	-1.27** (0.20)	0.13 (0.14)	0.26* (0.13)	-0.15 (0.14)	0.11 (0.10)	-0.09 (0.07)	0.06 (0.06)	-0.15 (0.35)	-0.23 (0.24)	-0.14 (0.17)	-0.30* (0.15)	-0.15 (0.23)	-0.12 (0.08)	0.18 (0.15)	0.07 (0.28)	0.19* (0.09)	1.80** (0.54)
5. Roots	-0.39 (0.25)	-0.44 (0.40)	-0.02 (0.37)	0.17 (0.14)	-0.85** (0.17)	0.22* (0.11)	0.08 (0.15)	-0.42** (0.15)	-0.10 (0.07)	0.15 (0.08)	-0.71* (0.31)	-0.17 (0.21)	-0.09 (0.15)	-0.04 (0.13)	0.23 (0.21)	-0.12 (0.09)	0.11 (0.12)	-0.48 (0.30)	-0.14 (0.08)	2.37** (0.47)
6. Sugar	-0.49 (0.40)	-0.34 (0.42)	0.29 (0.51)	0.33 (0.21)	0.22 (0.17)	-1.40** (0.32)	0.58 (0.32)	-0.17 (0.15)	-0.23 (0.14)	-0.11 (0.10)	0.06 (0.33)	0.39 (0.28)	0.45 (0.27)	0.09 (0.13)	0.36 (0.30)	0.09 (0.12)	0.20 (0.20)	0.51 (0.38)	-0.45* (0.22)	1.57** (0.60)
7. Pulses	0.58 (0.37)	0.41 (0.44)	-0.52 (0.47)	-0.14 (0.13)	0.10 (0.13)	0.54* (0.28)	-1.39** (0.27)	-0.36 (0.19)	-0.03 (0.09)	0.15 (0.11)	-0.29 (0.29)	-0.24 (0.18)	-0.43 (0.23)	-0.02 (0.10)	-0.15 (0.19)	-0.28 (0.15)	-0.11 (0.15)	-0.12 (0.25)	0.28 (0.15)	0.08 (0.62)
8. Nuts	0.01 (0.28)	-0.15 (0.39)	-0.23 (0.35)	0.16 (0.13)	-0.45* (0.19)	-0.20 (0.13)	-0.50* (0.20)	-0.73** (0.17)	-0.26* (0.10)	0.13 (0.09)	0.19 (0.31)	-0.22 (0.19)	0.24 (0.20)	0.09 (0.12)	0.44 (0.23)	0.01 (0.09)	0.03 (0.12)	0.47 (0.28)	-0.08 (0.07)	1.25** (0.41)
9. Vegetables	-0.68** (0.20)	-0.41* (0.18)	0.29 (0.48)	-0.07 (0.06)	-0.04 (0.06)	-0.17** (0.06)	-0.05 (0.09)	-0.17** (0.06)	-0.85** (0.09)	0.41** (0.08)	-0.01 (0.10)	-0.09 (0.23)	0.14* (0.06)	0.06 (0.04)	0.22** (0.09)	0.11 (0.06)	0.08 (0.04)	-0.06 (0.10)	0.30** (0.07)	1.32** (0.17)
10. Fruit	0.62* (0.27)	-0.05 (0.31)	-1.30** (0.47)	0.09 (0.10)	0.17 (0.12)	-0.14 (0.10)	0.18 (0.15)	0.12 (0.10)	0.62** (0.16)	-1.36** (0.13)	0.20 (0.20)	0.23* (0.11)	0.13 (0.11)	-0.10 (0.08)	-0.31* (0.14)	-0.37** (0.14)	-0.01 (0.08)	0.08 (0.18)	-0.11 (0.07)	2.05** (0.32)
11. RedMeat	-0.18 (0.18)	-0.73 (0.44)	0.08 (0.37)	-0.06 (0.12)	-0.20 (0.12)	0.01 (0.09)	-0.13 (0.10)	0.04 (0.08)	-0.02 (0.04)	0.03 (0.05)	-1.84** (0.41)	0.19 (0.23)	0.13 (0.13)	0.32* (0.15)	-0.07 (0.21)	-0.01 (0.06)	0.10 (0.14)	-0.03 (0.22)	-0.07 (0.05)	1.94** (0.52)
12. Poultry	-0.28 (0.17)	-0.62 (0.36)	-0.16 (0.48)	-0.11 (0.09)	-0.06 (0.09)	0.07 (0.08)	-0.14 (0.11)	-0.07 (0.05)	-0.11** (0.03)	0.04 (0.03)	0.13 (0.27)	-0.85** (0.26)	-0.12 (0.08)	0.06 (0.09)	-0.26 (0.21)	-0.12* (0.05)	-0.01 (0.14)	-0.08 (0.18)	-0.04 (0.04)	4.01** (0.67)
13. Eggs	1.10 (0.57)	-0.61 (0.76)	0.72 (0.67)	-0.32 (0.31)	-0.15 (0.27)	0.71** (0.24)	-0.86** (0.32)	0.32 (0.25)	0.23 (0.13)	0.16 (0.12)	0.64 (0.60)	-0.70 (0.39)	-2.00** (0.43)	-0.34 (0.22)	-1.53** (0.50)	0.15 (0.13)	-0.11 (0.21)	-0.88 (0.53)	-0.03 (0.14)	3.48** (0.95)
14. Fish	0.09 (0.23)	0.38 (0.42)	-0.19 (0.38)	-0.39* (0.18)	-0.04 (0.17)	0.07 (0.11)	-0.04 (0.14)	0.07 (0.12)	0.05 (0.06)	-0.09 (0.07)	1.01* (0.47)	0.20 (0.34)	-0.20 (0.18)	-1.27** (0.23)	-0.17 (0.25)	-0.01 (0.08)	0.04 (0.17)	0.06 (0.27)	0.11 (0.07)	1.82** (0.51)
15. Dairy	-0.50 (0.34)	0.50 (0.61)	-0.35 (0.73)	-0.09 (0.18)	0.12 (0.16)	0.18 (0.16)	-0.12 (0.18)	0.19 (0.14)	0.12 (0.10)	-0.13 (0.09)	-0.12 (0.47)	-0.32 (0.38)	-0.46 (0.29)	-0.08 (0.14)	-0.88* (0.39)	-0.11 (0.09)	0.23 (0.27)	0.11 (0.38)	0.22 (0.15)	2.46* (1.02)
16. Oils	-0.06 (0.20)	-0.39* (0.17)	0.10 (0.20)	-0.09 (0.07)	-0.05 (0.07)	0.08 (0.07)	-0.25* (0.11)	0.01 (0.06)	0.11 (0.06)	-0.31** (0.09)	0.04 (0.14)	-0.06 (0.08)	0.10 (0.06)	0.01 (0.05)	-0.09 (0.09)	-0.53** (0.15)	0.04 (0.06)	0.16 (0.14)	-0.03 (0.04)	1.30** (0.20)
17. Coffee	0.04 (0.33)	0.72 (0.96)	-1.20 (1.35)	0.24 (0.27)	0.11 (0.20)	0.21 (0.25)	-0.16 (0.28)	0.02 (0.15)	0.08 (0.09)	-0.02 (0.07)	0.33 (0.65)	0.01 (0.50)	-0.07 (0.18)	0.04 (0.22)	0.47 (0.61)	0.02 (0.11)	-0.50 (0.55)	0.58 (0.68)	0.01 (0.09)	2.29 (1.41)
18. SoftDrink	0.92 (1.09)	-1.77 (1.99)	-0.27 (2.46)	0.07 (0.64)	-0.61 (0.80)	0.59 (0.68)	-0.26 (0.72)	0.49 (0.57)	-0.25 (0.28)	0.05 (0.25)	-0.24 (1.56)	-0.40 (0.97)	-0.70 (0.76)	0.07 (0.49)	0.15 (1.21)	0.13 (0.38)	0.66 (0.97)	0.43 (1.90)	0.04 (0.26)	5.64 (3.81)
19. OtherFood	0.43 (0.26)	-0.40 (0.26)	0.31 (0.28)	0.26* (0.11)	-0.08 (0.08)	-0.42* (0.17)	0.28 (0.15)	-0.06 (0.06)	0.39** (0.15)	-0.06 (0.06)	-0.14 (0.14)	0.14 (0.11)	0.02 (0.10)	0.13 (0.08)	0.49* (0.20)	-0.02 (0.06)	0.04 (0.06)	0.12 (0.14)	-0.98** (0.06)	0.70* (0.28)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.38: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Niger

	Food Group																	Exp.		
	Rice	Miller	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils	Coffee		SoftDrink	OtherFood
1. Rice	-1.80** (0.58)	-0.89** (0.34)	-1.01** (0.39)	0.03 (0.11)	-0.07 (0.10)	-0.05 (0.10)	0.22 (0.15)	0.03 (0.09)	-0.30** (0.11)	0.18 (0.10)	0.22 (0.19)	-0.27* (0.13)	-0.06 (0.12)	-0.02 (0.07)	-0.44** (0.16)	0.09 (0.13)	-0.10 (0.08)	0.15 (0.19)	0.16 (0.10)	0.37 (0.36)
2. Millet	-0.90* (0.44)	0.42 (0.79)	-0.20 (0.41)	0.27 (0.16)	-0.17 (0.15)	-0.13 (0.11)	0.10 (0.12)	0.03 (0.10)	-0.19 (0.10)	0.04 (0.06)	-0.76 (0.41)	0.05 (0.20)	-0.03 (0.12)	0.23 (0.14)	0.69 (0.37)	-0.19 (0.10)	0.34 (0.22)	0.04 (0.35)	-0.08 (0.06)	1.49* (0.38)
3. Wheat	-0.87 (1.11)	-0.02 (1.20)	1.24 (3.34)	-0.31 (0.33)	0.16 (0.28)	-0.12 (0.32)	0.07 (0.21)	0.23 (0.33)	-0.40 (0.43)	-0.40 (0.99)	0.80 (0.99)	-0.19 (0.46)	0.24 (0.34)	-0.02 (0.18)	-0.37 (0.62)	0.12 (0.27)	-0.50 (0.52)	-0.20 (0.72)	0.11 (0.22)	-1.19 (2.99)
4. Cassava	-0.05 (0.29)	0.75 (0.54)	-1.09 (0.60)	-0.98** (0.23)	0.09 (0.17)	-0.40 (0.13)	-0.13 (0.21)	-0.07 (0.15)	-0.07 (0.08)	0.07 (0.09)	-1.31* (0.62)	0.11 (0.26)	0.02 (0.18)	-0.45* (0.20)	0.34 (0.32)	-0.08 (0.09)	0.38 (0.21)	0.55 (0.39)	0.14 (0.09)	2.69** (0.86)
5. Roots	-0.24 (0.35)	-0.62 (0.55)	0.44 (0.46)	0.13 (0.21)	-1.01** (0.17)	0.16 (0.14)	0.28 (0.20)	-0.18 (0.15)	-0.10 (0.10)	0.05 (0.10)	-0.82 (0.47)	-0.26 (0.30)	0.02 (0.20)	0.20 (0.18)	0.22 (0.32)	-0.21 (0.12)	0.01 (0.14)	-0.38 (0.33)	-0.22* (0.11)	0.86 (0.55)
6. Sugar	-0.31 (0.39)	-0.60 (0.45)	0.49 (0.48)	0.24 (0.18)	0.15 (0.14)	-1.54** (0.28)	0.77* (0.36)	-0.14 (0.14)	-0.21 (0.14)	-0.23 (0.14)	0.41 (0.34)	0.29 (0.24)	0.38 (0.24)	0.11 (0.12)	0.20 (0.28)	0.05 (0.12)	0.31 (0.21)	0.36 (0.33)	-0.40* (0.19)	2.36** (0.73)
7. Pulses	0.98 (0.86)	0.62 (1.06)	-0.36 (0.88)	-0.43 (0.33)	0.34 (0.34)	0.84 (0.64)	-1.51** (0.54)	-0.34 (0.30)	-0.19 (0.19)	0.22 (0.25)	0.36 (0.57)	-0.57 (0.46)	-0.78 (0.50)	-0.01 (0.18)	0.13 (0.63)	-0.39 (0.29)	-0.28 (0.32)	-0.38 (0.60)	0.34 (0.30)	-1.45 (1.75)
8. Nuts	0.10 (0.39)	0.17 (0.52)	0.24 (0.49)	-0.20 (0.19)	-0.24 (0.25)	-0.18 (0.17)	-0.46 (0.24)	-0.66** (0.25)	-0.41** (0.15)	0.04 (0.12)	0.74 (0.43)	-0.55 (0.28)	-0.02 (0.26)	-0.00 (0.16)	0.27 (0.33)	0.06 (0.14)	-0.04 (0.15)	0.17 (0.34)	-0.03 (0.10)	1.18* (0.52)
9. Vegetables	-0.85** (0.28)	-0.54* (0.23)	0.42 (0.26)	-0.02 (0.07)	-0.09 (0.08)	-0.12 (0.09)	-0.21 (0.12)	-0.23** (0.08)	-0.93** (0.11)	0.52** (0.11)	-0.16 (0.14)	-0.09 (0.08)	0.04 (0.08)	0.02 (0.05)	0.34** (0.12)	0.32** (0.10)	0.06 (0.05)	0.01 (0.01)	0.38** (0.09)	1.18** (0.16)
10. Fruit	0.53 (0.29)	0.13 (0.30)	-1.70** (0.52)	0.10 (0.12)	0.04 (0.12)	-0.27* (0.11)	0.17 (0.16)	0.03 (0.10)	0.72** (0.18)	-1.19** (0.12)	0.17 (0.20)	0.16 (0.11)	0.27* (0.12)	-0.13* (0.06)	-0.48** (0.18)	-0.45** (0.13)	0.04 (0.08)	0.03 (0.19)	-0.03 (0.07)	2.08** (0.30)
11. RedMeat	0.20 (0.22)	-0.73 (0.47)	0.65 (0.50)	-0.40 (0.21)	-0.24 (0.18)	0.13 (0.13)	0.06 (0.19)	0.15 (0.06)	-0.04 (0.06)	0.06 (0.06)	-0.82 (0.43)	-0.19 (0.29)	-0.19 (0.17)	0.35 (0.20)	-0.33 (0.33)	0.05 (0.10)	-0.06 (0.14)	-0.50 (0.53)	-0.03 (0.06)	0.70 (0.69)
12. Poultry	-0.50** (0.19)	-0.11 (0.35)	-0.46 (0.40)	0.02 (0.10)	-0.11 (0.11)	0.05 (0.09)	-0.21* (0.10)	-0.12** (0.06)	-0.11** (0.04)	0.01 (0.04)	-0.33 (0.29)	-0.31 (0.31)	-0.06 (0.08)	-0.06 (0.11)	0.11 (0.24)	-0.05 (0.06)	0.14 (0.17)	0.10 (0.25)	-0.03 (0.05)	3.54** (0.65)
13. Eggs	-0.48 (0.58)	-0.23 (0.74)	0.98 (0.66)	0.03 (0.31)	0.01 (0.30)	0.50 (0.26)	-1.12** (0.38)	-0.02 (0.27)	0.02 (0.14)	0.34* (0.16)	-1.11 (0.68)	-0.30 (0.38)	-1.80** (0.44)	-0.35 (0.22)	-0.61 (0.44)	0.32* (0.16)	-0.02 (0.22)	0.23 (0.48)	-0.10 (0.17)	2.87** (0.77)
14. Fish	-0.16 (0.28)	0.73 (0.51)	-0.17 (0.42)	-0.52* (0.23)	0.19 (0.20)	0.10 (0.13)	-0.03 (0.14)	-0.01 (0.13)	0.01 (0.07)	-0.12 (0.08)	1.16* (0.57)	-0.17 (0.41)	-0.23 (0.19)	-1.31** (0.28)	-0.60 (0.36)	-0.06 (0.09)	0.01 (0.19)	-0.14 (0.31)	0.14 (0.08)	1.74** (0.60)
15. Dairy	-1.06 (0.61)	1.13 (0.81)	-1.03 (1.02)	0.21 (0.20)	0.08 (0.15)	0.07 (0.14)	-0.02 (0.16)	0.10 (0.12)	0.13 (0.13)	-0.25* (0.13)	-1.16 (0.83)	0.29 (0.33)	-0.20 (0.17)	-0.32 (0.20)	-0.06 (0.65)	-0.10 (0.08)	0.39 (0.30)	0.35 (0.36)	0.13 (0.11)	4.01* (1.6)
16. Oils	0.16 (0.28)	-0.56** (0.20)	0.11 (0.24)	-0.04 (0.08)	-0.18* (0.09)	0.06 (0.09)	-0.35** (0.13)	0.03 (0.07)	-0.32** (0.11)	-0.32** (0.09)	0.09 (0.08)	0.06 (0.10)	0.21* (0.08)	-0.03 (0.05)	-0.04 (0.11)	-0.38 (0.19)	0.08 (0.07)	0.16 (0.16)	-0.24** (0.07)	1.52** (0.22)
17. Coffee	-0.72 (0.54)	1.21 (1.17)	-2.33 (1.98)	0.49 (0.37)	-0.02 (0.20)	0.29 (0.27)	-0.38 (0.33)	-0.05 (0.13)	-0.01 (0.08)	-0.00 (0.07)	-0.44 (0.27)	0.52 (0.59)	-0.02 (0.16)	0.01 (0.19)	0.77 (0.75)	0.02 (0.12)	-0.21 (0.62)	1.06 (0.84)	0.01 (0.10)	4.70* (3.96)
18. SoftDrink	-0.06 (0.79)	-0.36 (1.40)	-1.30 (2.65)	0.61 (0.71)	-0.51 (0.67)	0.25 (0.46)	-0.49 (0.67)	0.10 (0.36)	-0.20 (0.22)	-0.06 (0.21)	-2.27 (2.21)	0.23 (0.77)	0.14 (0.45)	-0.19 (0.37)	0.31 (0.99)	0.01 (0.29)	0.92 (0.99)	0.71 (1.74)	0.08 (0.22)	7.82 (5.38)
19. OtherFood	0.64 (0.38)	-0.28 (0.28)	0.29 (0.30)	0.24 (0.13)	-0.27* (0.14)	-0.41* (0.18)	0.32 (0.18)	-0.02 (0.08)	0.38** (0.21)	-0.00 (0.07)	-0.14 (0.19)	0.12 (0.13)	-0.04 (0.14)	0.20* (0.10)	0.44* (0.21)	-0.34* (0.15)	0.09 (0.08)	0.26 (0.17)	-1.00** (0.09)	0.78** (0.28)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.39: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Ethiopia

	Food Group													Exp.	
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee		OtherFood
1. Teff	-1.24* (0.52)	-0.14 (0.13)	-0.14 (0.18)	-0.08 (0.08)	-0.02 (0.04)	-0.23* (0.11)	0.02 (0.14)	0.02 (0.04)	0.09 (0.06)	-0.02 (0.28)	0.04 (0.12)	-0.11 (0.25)	-0.15* (0.07)	0.06 (0.11)	2.09** (0.36)
2. Maize	-0.00 (0.13)	-0.31** (0.10)	0.05 (0.09)	0.03 (0.05)	0.07* (0.03)	0.05 (0.07)	0.05 (0.07)	0.01 (0.02)	0.01 (0.03)	0.06 (0.10)	0.15* (0.07)	0.01 (0.09)	-0.01 (0.04)	-0.06 (0.05)	0.55** (0.12)
3. Wheat	0.08 (0.14)	0.02 (0.07)	-0.39** (0.13)	-0.02 (0.05)	0.04 (0.03)	-0.01 (0.06)	-0.03 (0.06)	-0.04 (0.02)	-0.08* (0.03)	0.16 (0.14)	0.14* (0.06)	-0.05 (0.11)	-0.01 (0.03)	-0.06 (0.04)	0.60** (0.16)
4. Roots	-0.25 (0.21)	0.00 (0.13)	-0.19 (0.17)	-0.85** (0.16)	0.13* (0.05)	-0.09 (0.11)	-0.00 (0.11)	0.03 (0.04)	-0.10 (0.06)	-0.09 (0.16)	0.05 (0.13)	0.07 (0.18)	-0.17* (0.07)	-0.11 (0.07)	1.54** (0.24)
5. Sugar	-0.04 (0.16)	0.15 (0.11)	0.07 (0.14)	0.19** (0.07)	-0.62** (0.12)	-0.51** (0.12)	0.20* (0.09)	-0.15** (0.04)	0.03 (0.05)	0.03 (0.12)	0.11 (0.11)	-0.30** (0.09)	0.15* (0.05)	0.04 (0.09)	1.51** (0.18)
6. Pulses	-0.26 (0.16)	0.02 (0.09)	-0.08 (0.11)	-0.03 (0.06)	-0.19** (0.05)	-0.29* (0.14)	-0.04 (0.09)	-0.04 (0.03)	-0.04 (0.04)	0.05 (0.09)	-0.26** (0.09)	0.10 (0.10)	0.03 (0.06)	-0.01 (0.06)	0.97** (0.16)
7. Nuts	0.08 (1.21)	0.23 (0.54)	-0.43 (0.61)	-0.02 (0.36)	0.35 (0.22)	-0.25 (0.48)	-1.14 (0.74)	0.07 (0.13)	0.30 (0.22)	1.29 (0.87)	0.36 (0.49)	0.27 (0.79)	-0.24 (0.29)	0.07 (0.39)	1.82 (1.07)
8. Vegetables	0.27 (0.18)	-0.00 (0.08)	-0.26* (0.13)	0.09 (0.07)	-0.12* (0.05)	-0.09 (0.08)	0.06 (0.07)	-0.57** (0.08)	0.06 (0.04)	0.28 (0.18)	-0.10 (0.09)	-0.02 (0.12)	0.15** (0.05)	0.03 (0.05)	0.67** (0.17)
9. Fruit	0.82 (0.61)	0.05 (0.28)	-0.83* (0.39)	-0.32 (0.20)	0.07 (0.13)	-0.19 (0.26)	0.34 (0.26)	0.11 (0.08)	-0.94** (0.17)	0.71 (0.53)	-0.13 (0.27)	0.09 (0.37)	0.01 (0.14)	0.06 (0.21)	0.92 (0.53)
10. RedMeat	-0.35 (0.43)	-0.33 (0.21)	-0.40 (0.40)	-0.12 (0.08)	-0.06 (0.04)	-0.26 (0.14)	0.25 (0.13)	-0.03 (0.07)	0.11 (0.07)	-1.85* (0.74)	-0.00 (0.10)	-0.61 (0.32)	-0.28 (0.15)	-0.08 (0.12)	5.31** (1.25)
11. Eggs	0.05 (0.66)	0.56 (0.34)	0.64 (0.38)	0.07 (0.27)	0.12 (0.15)	-1.00** (0.33)	0.26 (0.31)	-0.17 (0.11)	-0.08 (0.15)	-0.02 (0.44)	-2.11** (0.49)	-1.12** (0.43)	-0.17 (0.21)	-0.09 (0.21)	2.90** (0.62)
12. Dairy	-0.30 (0.54)	-0.14 (0.21)	-0.35 (0.34)	0.04 (0.15)	-0.18* (0.07)	0.03 (0.14)	0.08 (0.20)	-0.05 (0.07)	0.02 (0.08)	-0.71 (0.52)	-0.41* (0.19)	-0.18 (0.58)	-0.29* (0.14)	0.01 (0.13)	2.24** (0.66)
13. Coffee	-0.08 (0.10)	-0.04 (0.05)	-0.03 (0.07)	-0.07 (0.04)	0.08** (0.02)	0.05 (0.06)	-0.03 (0.05)	0.05** (0.02)	0.00 (0.02)	0.08 (0.08)	-0.01 (0.06)	-0.13 (0.07)	-0.75** (0.05)	-0.01 (0.04)	0.71** (0.10)
14. OtherFood	0.30 (0.28)	-0.20 (0.11)	-0.26* (0.13)	-0.08 (0.07)	0.04 (0.06)	-0.01 (0.09)	0.04 (0.11)	0.01 (0.03)	0.02 (0.05)	0.15 (0.16)	-0.01 (0.09)	0.07 (0.14)	-0.04 (0.06)	-1.01** (0.11)	1.04** (0.20)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.40: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Ethiopia

	Food Group														Exp.
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee	OtherFood	
1. Teff	-0.06 (0.68)	-0.10 (0.12)	-0.26 (0.18)	0.01 (0.08)	-0.02 (0.04)	-0.12 (0.10)	-0.09 (0.17)	0.02 (0.04)	0.03 (0.07)	-0.13 (0.34)	0.07 (0.11)	-0.09 (0.27)	-0.02 (0.06)	0.05 (0.15)	1.39** (0.36)
2. Maize	-0.00 (0.15)	-0.07 (0.14)	0.04 (0.11)	-0.04 (0.06)	0.05 (0.03)	-0.11 (0.07)	-0.01 (0.08)	-0.01 (0.02)	0.01 (0.04)	-0.01 (0.15)	0.15* (0.07)	-0.10 (0.14)	-0.06 (0.04)	0.06 (0.05)	0.33 (0.18)
3. Wheat	-0.10 (0.19)	0.02 (0.09)	-0.13 (0.18)	-0.09 (0.06)	0.02 (0.04)	-0.08 (0.07)	-0.09 (0.08)	-0.03 (0.03)	-0.09* (0.04)	0.04 (0.21)	0.05 (0.06)	-0.13 (0.18)	-0.05 (0.05)	-0.08 (0.06)	0.28 (0.24)
4. Roots	-0.06 (0.22)	-0.20 (0.12)	-0.45** (0.17)	-0.84** (0.14)	-0.00 (0.05)	-0.02 (0.10)	0.03 (0.11)	0.11** (0.04)	-0.06 (0.05)	-0.05 (0.22)	0.01 (0.12)	0.05 (0.21)	-0.30*** (0.07)	-0.05 (0.07)	1.78** (0.23)
5. Sugar	-0.06 (0.12)	0.05 (0.08)	-0.02 (0.11)	0.02 (0.07)	-0.48** (0.11)	-0.12 (0.10)	0.14 (0.08)	-0.07* (0.03)	-0.01 (0.04)	-0.01 (0.09)	0.24** (0.08)	-0.17* (0.07)	0.05 (0.05)	-0.15* (0.07)	1.22** (0.13)
6. Pulses	-0.21 (0.18)	-0.24* (0.10)	-0.28* (0.11)	0.02 (0.07)	-0.06 (0.05)	-0.03 (0.15)	-0.06 (0.09)	-0.08** (0.03)	-0.01 (0.04)	-0.02 (0.10)	-0.18* (0.09)	-0.02 (0.10)	-0.04 (0.05)	0.00 (0.06)	1.09** (0.14)
7. Nuts	-0.64 (1.53)	0.00 (0.55)	-0.61 (0.67)	0.10 (0.35)	0.29 (0.21)	-0.19 (0.42)	-0.50 (0.79)	-0.10 (0.12)	0.24 (0.24)	0.52 (0.96)	0.11 (0.46)	0.72 (0.92)	0.39 (0.27)	0.11 (0.45)	0.29 (1.11)
8. Vegetables	0.26 (0.22)	-0.07 (0.10)	-0.19 (0.15)	0.25* (0.10)	-0.07 (0.05)	-0.18* (0.09)	-0.08 (0.08)	-0.35* (0.14)	0.05 (0.04)	0.06 (0.24)	0.03 (0.09)	-0.17 (0.19)	0.23** (0.06)	-0.01 (0.06)	0.46 (0.26)
9. Fruit	0.31 (0.71)	0.06 (0.33)	-0.85* (0.43)	-0.18 (0.20)	-0.02 (0.13)	-0.05 (0.23)	0.29 (0.28)	0.08 (0.08)	-0.56** (0.19)	0.26 (0.54)	-0.24 (0.26)	-0.08 (0.45)	0.05 (0.14)	-0.02 (0.25)	1.07 (0.59)
10. RedMeat	-0.48 (0.35)	-0.27 (0.14)	-0.36 (0.24)	-0.06 (0.08)	-0.07* (0.03)	-0.19* (0.07)	0.08 (0.10)	-0.07 (0.05)	0.03 (0.05)	-0.66 (0.52)	0.07 (0.06)	-0.24 (0.33)	-0.17* (0.08)	-0.08 (0.09)	3.54** (0.74)
11. Eggs	0.17 (0.56)	0.46 (0.29)	0.00 (0.32)	-0.01 (0.23)	0.27* (0.12)	-0.65** (0.24)	0.08 (0.26)	-0.03 (0.09)	-0.15 (0.13)	0.24 (0.34)	-1.08** (0.39)	-0.53 (0.31)	-0.47** (0.16)	-0.11 (0.18)	2.88** (0.46)
12. Dairy	-0.39 (0.40)	-0.39* (0.20)	-0.62 (0.32)	0.02 (0.12)	-0.14** (0.05)	-0.15 (0.10)	0.19 (0.16)	-0.13* (0.06)	-0.03 (0.07)	-0.31 (0.51)	-0.18* (0.09)	-0.11 (0.55)	-0.30*** (0.10)	-0.02 (0.12)	2.79** (0.61)
13. Coffee	0.06 (0.11)	-0.14* (0.06)	-0.15 (0.08)	-0.14** (0.04)	0.04 (0.03)	-0.01 (0.05)	0.08 (0.05)	0.08** (0.02)	0.01 (0.02)	0.06 (0.10)	-0.11* (0.05)	-0.10 (0.07)	-0.65** (0.06)	-0.01 (0.04)	0.63** (0.11)
14. OtherFood	0.18 (0.36)	0.05 (0.11)	-0.36* (0.15)	-0.02 (0.07)	-0.11 (0.06)	-0.00 (0.09)	0.03 (0.14)	-0.02 (0.03)	-0.01 (0.06)	0.08 (0.22)	-0.01 (0.09)	0.09 (0.19)	-0.06 (0.06)	-0.54** (0.16)	1.16** (0.25)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.41: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Ethiopia

	Food Group													Exp.	
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee		OtherFood
1. Teff	0.59 (0.95)	-0.08 (0.16)	-0.32 (0.24)	0.05 (0.13)	-0.01 (0.05)	-0.07 (0.14)	-0.16 (0.24)	0.03 (0.05)	0.01 (0.09)	-0.17 (0.44)	0.09 (0.15)	-0.07 (0.36)	0.04 (0.08)	0.04 (0.19)	1.06* (0.43)
2. Maize	-0.02 (0.25)	0.23 (0.22)	0.00 (0.18)	-0.09 (0.09)	0.03 (0.04)	-0.24* (0.11)	-0.05 (0.13)	-0.03 (0.03)	0.02 (0.06)	-0.06 (0.25)	0.19 (0.12)	-0.20 (0.23)	-0.13* (0.06)	0.16* (0.08)	0.24 (0.24)
3. Wheat	-0.26 (0.29)	-0.03 (0.14)	0.07 (0.28)	-0.15 (0.10)	0.01 (0.05)	-0.14 (0.10)	-0.14 (0.13)	-0.03 (0.04)	-0.10 (0.07)	-0.04 (0.36)	0.00 (0.10)	-0.22 (0.30)	-0.11 (0.07)	-0.11 (0.10)	0.18 (0.35)
4. Roots	0.02 (0.28)	-0.28* (0.14)	-0.56** (0.21)	-0.85** (0.17)	-0.07 (0.06)	0.01 (0.12)	0.05 (0.12)	0.15** (0.04)	-0.04 (0.06)	-0.04 (0.29)	-0.01 (0.14)	0.04 (0.26)	-0.35** (0.09)	-0.04 (0.09)	1.95** (0.24)
5. Sugar	-0.03 (0.16)	0.01 (0.10)	-0.05 (0.13)	-0.05 (0.09)	-0.40** (0.15)	0.07 (0.13)	0.11 (0.10)	-0.05 (0.04)	-0.03 (0.05)	-0.02 (0.11)	0.31** (0.11)	-0.10 (0.09)	0.02 (0.06)	-0.24* (0.09)	0.88** (0.14)
6. Pulses	-0.19 (0.24)	-0.40** (0.14)	-0.39** (0.14)	0.05 (0.09)	0.02 (0.07)	0.11 (0.20)	-0.07 (0.12)	-0.11** (0.03)	0.00 (0.05)	-0.08 (0.14)	-0.13 (0.12)	-0.09 (0.14)	-0.09 (0.06)	-0.00 (0.08)	1.28** (0.17)
7. Nuts	-0.91 (2.22)	-0.12 (0.80)	-0.65 (1.00)	0.21 (0.54)	0.32 (0.30)	-0.09 (0.60)	-0.11 (1.14)	-0.18 (0.19)	0.24 (0.34)	0.28 (1.51)	0.01 (0.63)	1.07 (1.50)	0.79* (0.39)	0.22 (0.63)	1.47 (1.67)
8. Vegetables	0.27 (0.31)	-0.14 (0.14)	-0.17 (0.21)	0.37* (0.17)	-0.05 (0.08)	-0.23 (0.12)	-0.17 (0.13)	-0.20 (0.21)	0.04 (0.06)	-0.07 (0.37)	0.12 (0.13)	-0.27 (0.29)	0.28** (0.09)	-0.02 (0.09)	0.32 (0.35)
9. Fruit	0.06 (0.84)	0.08 (0.40)	-0.76 (0.54)	-0.10 (0.24)	-0.06 (0.16)	0.03 (0.27)	0.24 (0.35)	0.06 (0.09)	-0.40 (0.24)	0.04 (0.63)	-0.27 (0.32)	-0.15 (0.55)	0.07 (0.17)	-0.05 (0.30)	0.93 (0.62)
10. RedMeat	-0.46 (0.37)	-0.18 (0.13)	-0.29 (0.23)	-0.04 (0.10)	-0.06 (0.03)	-0.15 (0.08)	0.01 (0.11)	-0.07 (0.05)	-0.01 (0.05)	-0.17 (0.64)	0.09 (0.06)	-0.06 (0.40)	-0.09 (0.07)	-0.08 (0.10)	2.66** (0.65)
11. Eggs	0.23 (0.59)	0.42 (0.32)	-0.21 (0.35)	-0.05 (0.25)	0.31* (0.14)	-0.44 (0.26)	-0.01 (0.28)	0.05 (0.09)	-0.16 (0.13)	0.32 (0.37)	-0.65 (0.43)	-0.19 (0.34)	-0.50** (0.16)	-0.13 (0.19)	2.50** (0.44)
12. Dairy	-0.44 (0.47)	-0.50* (0.24)	-0.73 (0.40)	0.00 (0.15)	-0.13** (0.05)	-0.24* (0.12)	0.27 (0.19)	-0.18* (0.08)	-0.06 (0.08)	-0.16 (0.65)	-0.08 (0.10)	0.02 (0.73)	-0.27** (0.10)	-0.04 (0.14)	2.94** (0.59)
13. Coffee	0.16 (0.15)	-0.23** (0.09)	-0.27* (0.11)	-0.20** (0.07)	0.02 (0.04)	-0.05 (0.07)	0.17* (0.07)	0.10** (0.02)	0.02 (0.04)	0.05 (0.15)	-0.18* (0.07)	-0.11 (0.11)	-0.55** (0.09)	-0.02 (0.06)	0.65** (0.14)
14. OtherFood	0.09 (0.43)	0.17 (0.14)	-0.39* (0.19)	0.01 (0.09)	-0.17* (0.07)	0.00 (0.10)	0.02 (0.16)	-0.04 (0.03)	-0.02 (0.07)	0.02 (0.27)	-0.02 (0.11)	0.09 (0.23)	-0.06 (0.07)	-0.35 (0.23)	1.24** (0.27)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.42: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Ethiopia

	Food Group													Exp.		
	Teff	Maize	Wheat	Roots	Sugar	Pulses	Nurs	Vegetables	Fruit	RedMeat	Eggs	Dairy	Coffee		OtherFood	
1. Teff	1.88 (1.56)	-0.10 (0.28)	-0.55 (0.42)	0.14 (0.24)	-0.01 (0.09)	-0.02 (0.22)	-0.28 (0.36)	0.03 (0.08)	-0.03 (0.13)	-0.25 (0.69)	0.15 (0.24)	-0.06 (0.54)	0.13 (0.13)	0.05 (0.32)	0.71 (0.65)	
2. Maize	-0.10 (0.44)	0.86* (0.40)	-0.09 (0.31)	-0.23 (0.15)	-0.01 (0.08)	-0.53** (0.20)	-0.14 (0.23)	-0.07 (0.06)	0.03 (0.10)	-0.14 (0.42)	0.26 (0.21)	-0.42 (0.38)	-0.27* (0.12)	0.37** (0.14)	0.15 (0.35)	
3. Wheat	-0.61 (0.43)	-0.09 (0.22)	0.37 (0.44)	-0.26 (0.16)	-0.03 (0.08)	-0.27 (0.15)	-0.22 (0.21)	-0.03 (0.06)	-0.12 (0.10)	-0.17 (0.55)	-0.09 (0.16)	-0.37 (0.43)	-0.21* (0.10)	-0.15 (0.15)	0.24 (0.42)	
4. Roots	0.21 (0.38)	-0.38* (0.18)	-0.71** (0.27)	-0.85** (0.23)	-0.17* (0.09)	0.05 (0.15)	0.07 (0.16)	0.20** (0.06)	-0.02 (0.07)	-0.02 (0.07)	-0.06 (0.18)	-0.06 (0.31)	0.03 (0.31)	-0.41** (0.12)	-0.05 (0.27)	2.16**
5. Sugar	-0.01 (0.27)	-0.05 (0.15)	-0.11 (0.21)	-0.14 (0.15)	-0.28 (0.23)	0.34 (0.20)	0.09 (0.16)	-0.02 (0.07)	-0.05 (0.09)	0.01 (0.23)	0.42* (0.17)	-0.01 (0.19)	-0.01 (0.10)	-0.34* (0.14)	0.34 (0.42)	
6. Pulses	-0.12 (0.31)	-0.63** (0.19)	-0.54** (0.19)	0.09 (0.13)	0.13 (0.09)	0.29 (0.29)	-0.08 (0.16)	-0.14* (0.05)	0.03 (0.07)	-0.15 (0.22)	-0.08 (0.16)	-0.19 (0.21)	-0.15 (0.08)	-0.02 (0.10)	1.42** (0.26)	
7. Nurs	-1.35 (3.86)	-0.38 (1.46)	-0.78 (1.82)	0.39 (1.25)	0.36 (0.57)	0.14 (1.30)	0.29 (2.11)	-0.26 (0.38)	0.25 (0.65)	0.16 (3.64)	-0.06 (1.10)	1.43 (3.63)	1.28 (0.88)	0.63 (1.18)	-4.73 (5.18)	
8. Vegetables	0.22 (0.46)	-0.24 (0.22)	-0.16 (0.32)	0.57* (0.28)	-0.02 (0.12)	-0.34 (0.21)	-0.33 (0.22)	0.09 (0.34)	0.04 (0.09)	-0.27 (0.58)	0.26 (0.22)	-0.45 (0.42)	0.34* (0.15)	-0.04 (0.13)	0.31 (0.49)	
9. Fruit	-0.16 (1.07)	0.11 (0.51)	-0.69 (0.74)	0.01 (0.35)	-0.09 (0.23)	0.14 (0.39)	0.20 (0.48)	0.05 (0.12)	-0.21 (0.38)	-0.14 (1.04)	-0.31 (0.41)	-0.21 (0.85)	0.11 (0.24)	-0.05 (0.42)	0.51 (1.24)	
10. RedMeat	-0.39 (0.64)	-0.17 (0.17)	-0.30 (0.33)	-0.00 (0.19)	-0.05 (0.06)	-0.12 (0.16)	-0.06 (0.17)	-0.08 (0.07)	-0.04 (0.07)	0.32 (1.16)	0.12 (0.11)	0.09 (0.71)	-0.04 (0.11)	-0.08 (0.16)	1.84 (1.49)	
11. Eggs	0.39 (0.66)	0.40 (0.39)	-0.36 (0.43)	-0.07 (0.29)	0.37* (0.17)	-0.20 (0.31)	-0.09 (0.33)	0.13 (0.11)	-0.18 (0.16)	0.42 (0.42)	-0.26 (0.53)	0.09 (0.40)	-0.54** (0.19)	-0.12 (0.23)	1.84** (0.57)	
12. Dairy	-0.32 (0.74)	-0.62 (0.40)	-0.86 (0.63)	0.01 (0.22)	-0.08 (0.06)	-0.33* (0.16)	0.39 (0.32)	-0.23 (0.14)	-0.09 (0.13)	0.09 (1.03)	0.05 (0.17)	0.28 (1.08)	-0.21 (0.11)	-0.06 (0.22)	2.58** (0.66)	
13. Coffee	0.29 (0.24)	-0.38* (0.15)	-0.45** (0.17)	-0.30** (0.11)	-0.03 (0.06)	-0.13 (0.11)	0.32** (0.11)	0.13** (0.04)	0.03 (0.06)	0.02 (0.23)	-0.31** (0.12)	-0.11 (0.17)	-0.44** (0.13)	-0.03 (0.09)	0.80** (0.20)	
14. OtherFood	0.04 (0.52)	0.26 (0.20)	-0.33 (0.24)	0.05 (0.12)	-0.22* (0.10)	0.01 (0.11)	0.01 (0.19)	-0.04 (0.04)	-0.03 (0.09)	-0.02 (0.31)	-0.02 (0.14)	0.08 (0.26)	-0.05 (0.09)	-0.25 (0.36)	1.16** (0.29)	

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 14) and total household expenditures (the last column).

Table D.43: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Uganda

	Food Group													Exp.						
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs		Fish	Dairy	Fats	Coffee	SoftDrink	OtherFood
1. Rice	-1.68** (0.33)	0.20 (0.54)	-0.08 (0.22)	0.22 (0.35)	0.27 (0.57)	-0.24 (0.16)	0.36 (0.31)	-0.42 (0.24)	-0.30** (0.10)	-0.07 (0.13)	-0.40 (0.30)	0.48 (0.71)	-0.14 (0.14)	-0.21 (0.39)	0.07 (0.25)	-0.09 (0.06)	-0.03 (0.03)	-0.06 (0.20)	-0.01 (0.02)	2.34** (0.77)
2. Maize	0.10 (0.19)	-1.09* (0.43)	0.05 (0.11)	0.09 (0.39)	0.11 (0.40)	0.05 (0.10)	-0.20 (0.24)	0.03 (0.08)	0.01 (0.04)	0.08 (0.08)	0.02 (0.17)	0.01 (0.54)	0.09 (0.08)	0.23 (0.32)	-0.05 (0.19)	-0.03 (0.03)	0.01 (0.02)	0.02 (0.13)	0.00 (0.01)	0.56 (0.49)
3. Wheat	-0.03 (0.11)	0.05 (0.15)	-1.40** (0.15)	0.18 (0.14)	0.07 (0.21)	-0.08 (0.06)	0.05 (0.11)	0.10 (0.07)	0.05 (0.04)	-0.03 (0.06)	-0.01 (0.14)	0.17 (0.15)	-0.06 (0.06)	-0.12 (0.10)	-0.02 (0.08)	-0.03 (0.03)	0.01 (0.01)	-0.15 (0.14)	-0.01 (0.01)	1.21** (0.19)
4. Cassava	0.10 (0.17)	0.06 (0.16)	0.12 (0.10)	-0.81* (0.36)	0.04 (0.34)	0.06 (0.09)	-0.30 (0.20)	0.02 (0.16)	-0.06 (0.04)	-0.01 (0.06)	-0.48 (0.16)	-0.12 (0.46)	-0.01 (0.07)	-0.00 (0.26)	0.10 (0.16)	-0.02 (0.03)	0.01 (0.02)	0.13 (0.10)	-0.01 (0.01)	1.08* (0.44)
5. Roots	0.10 (0.14)	0.07 (0.29)	0.05 (0.11)	0.05 (0.26)	-1.18** (0.33)	-0.03 (0.07)	-0.05 (0.16)	-0.01 (0.12)	0.03 (0.04)	0.08 (0.06)	-0.10 (0.15)	-0.08 (0.36)	0.02 (0.06)	0.06 (0.20)	-0.11 (0.14)	-0.03 (0.03)	-0.00 (0.02)	0.25* (0.12)	0.01 (0.01)	0.77* (0.33)
6. Sugar	-0.21 (0.16)	0.12 (0.27)	-0.17 (0.14)	0.17 (0.27)	-0.17 (0.31)	-0.70** (0.16)	0.05 (0.19)	-0.16 (0.14)	-0.02 (0.09)	-0.20* (0.09)	0.43 (0.30)	-0.29 (0.36)	-0.17 (0.11)	-0.22 (0.20)	-0.00 (0.13)	0.23** (0.08)	-0.08* (0.03)	-0.27 (0.19)	0.06* (0.02)	1.33** (0.40)
7. Pulses	0.19 (0.14)	-0.27 (0.28)	0.06 (0.10)	-0.35 (0.25)	-0.07 (0.26)	0.04 (0.08)	-1.12** (0.13)	0.18 (0.13)	-0.06 (0.05)	0.23* (0.09)	0.11 (0.18)	0.07 (0.33)	0.23* (0.11)	0.21 (0.20)	0.07 (0.13)	-0.05 (0.04)	0.02 (0.02)	0.14 (0.12)	-0.02* (0.01)	0.80* (0.34)
8. Nuts	-0.30 (0.21)	0.02 (0.41)	0.15 (0.13)	0.03 (0.41)	-0.08 (0.41)	-0.12 (0.12)	0.30 (0.25)	-1.35** (0.21)	0.02 (0.02)	-0.09 (0.08)	0.16 (0.21)	0.09 (0.57)	-0.08 (0.09)	-0.16 (0.32)	0.06 (0.18)	-0.05 (0.05)	-0.03 (0.03)	-0.24 (0.14)	0.02 (0.01)	1.39* (0.56)
9. Vegetables	-0.14** (0.04)	-0.01 (0.06)	0.08 (0.04)	-0.08 (0.06)	0.10 (0.07)	0.00 (0.05)	-0.08 (0.06)	0.04 (0.03)	-0.47** (0.08)	0.06* (0.03)	0.09 (0.10)	-0.14* (0.06)	0.08* (0.04)	-0.05 (0.04)	0.13** (0.03)	-0.05 (0.03)	-0.03** (0.01)	-0.06 (0.06)	-0.07** (0.01)	0.66** (0.09)
10. Fruit	-0.04 (0.10)	0.14 (0.17)	-0.07 (0.11)	-0.07 (0.16)	0.17 (0.18)	-0.18** (0.07)	0.42** (0.11)	-0.11 (0.08)	0.04 (0.04)	-0.95** (0.08)	-0.31* (0.15)	0.12 (0.18)	0.02 (0.08)	-0.19 (0.10)	-0.06 (0.09)	-0.12** (0.04)	-0.01 (0.01)	0.10 (0.11)	-0.02* (0.01)	1.84** (0.21)
11. RedMeat	-0.17 (0.13)	-0.01 (0.23)	-0.02 (0.14)	-0.28 (0.35)	-0.24 (0.28)	0.19 (0.14)	0.10 (0.20)	0.09 (0.12)	0.05 (0.08)	-0.17 (0.09)	-1.49** (0.32)	-0.01 (0.26)	-0.07 (0.11)	0.07 (0.17)	-0.15 (0.12)	0.08 (0.07)	0.02 (0.02)	0.30 (0.19)	-0.03** (0.02)	1.60** (0.41)
12. Poultry	0.21 (0.33)	-0.07 (0.70)	0.12 (0.15)	-0.25 (0.69)	-0.25 (0.66)	-0.16 (0.18)	-0.01 (0.37)	0.01 (0.32)	0.01 (0.08)	0.04 (0.10)	-0.04 (0.26)	-1.03 (1.01)	0.05 (0.11)	0.05 (0.54)	-0.09 (0.33)	0.00 (0.04)	-0.00 (0.04)	-0.00 (0.17)	-0.01 (0.01)	2.42* (1.04)
13. Eggs	-0.31 (0.29)	0.48 (0.44)	-0.33 (0.28)	-0.18 (0.44)	0.02 (0.49)	-0.41 (0.22)	1.15** (0.38)	-0.27 (0.22)	0.20 (0.15)	0.04 (0.21)	-0.34 (0.33)	0.23 (0.51)	-1.63** (0.34)	-0.33 (0.32)	-0.17 (0.23)	-0.21 (0.14)	-0.03 (0.04)	-0.32 (0.40)	-0.02 (0.03)	2.69** (0.62)
14. Fish	-0.11 (0.24)	0.35 (0.32)	-0.17 (0.13)	-0.05 (0.48)	0.04 (0.48)	-0.14 (0.12)	0.24 (0.27)	-0.14 (0.23)	-0.10 (0.06)	-0.13 (0.08)	0.09 (0.20)	-0.14 (0.69)	-0.08 (0.09)	-1.20** (0.37)	0.09 (0.23)	0.01 (0.03)	-0.03 (0.03)	0.11 (0.13)	0.01 (0.01)	1.86** (0.69)
15. Dairy	0.06 (0.19)	-0.15 (0.40)	-0.04 (0.13)	0.21 (0.38)	-0.36 (0.42)	-0.01 (0.10)	0.11 (0.22)	0.05 (0.17)	0.13** (0.05)	-0.05 (0.08)	-0.23 (0.20)	-0.11 (0.54)	-0.05 (0.08)	-1.01** (0.29)	0.09* (0.20)	0.09* (0.04)	0.01 (0.02)	-0.22 (0.15)	0.01 (0.01)	1.29* (0.50)
16. Fats	-0.11 (0.08)	-0.14 (0.12)	-0.07 (0.10)	-0.07 (0.13)	-0.24 (0.17)	0.39** (0.10)	-0.19 (0.12)	-0.08 (0.08)	-0.14 (0.09)	-0.20* (0.08)	0.30 (0.22)	0.06 (0.11)	-0.13 (0.09)	0.05 (0.07)	0.20** (0.07)	-0.48** (0.10)	0.12** (0.03)	0.35* (0.15)	-0.01 (0.02)	0.82** (0.18)
17. Coffee	-0.17 (0.24)	0.12 (0.48)	0.14 (0.16)	0.18 (0.47)	-0.03 (0.50)	-0.57* (0.29)	0.25 (0.31)	-0.29 (0.24)	-0.45 (0.23)	-0.08 (0.09)	0.25 (0.33)	0.00 (0.66)	-0.08 (0.14)	-0.30 (0.37)	0.07 (0.20)	0.55* (0.08)	-1.13** (0.22)	-0.05 (0.20)	0.12* (0.05)	1.15 (0.64)
18. SoftDrink	-0.09 (0.31)	-0.05 (0.55)	-0.47 (0.44)	0.47 (0.49)	1.23 (0.66)	-0.41 (0.27)	0.41 (0.42)	-0.47 (0.27)	-0.20 (0.18)	0.15 (0.22)	0.87 (0.63)	-0.01 (0.56)	-0.20 (0.29)	0.22 (0.35)	-0.43 (0.29)	0.29 (0.16)	-0.01 (0.04)	-0.52 (0.71)	0.01 (0.04)	2.32** (0.79)
19. OtherFood	0.02 (0.06)	0.02 (0.08)	-0.02 (0.06)	-0.15 (0.09)	0.12 (0.11)	0.26** (0.08)	-0.24** (0.08)	0.12* (0.06)	-0.49** (0.11)	-0.05 (0.04)	-0.42** (0.14)	-0.01 (0.05)	-0.01 (0.06)	0.10* (0.05)	0.09* (0.04)	-0.02 (0.03)	0.07** (0.02)	0.06 (0.09)	-0.57** (0.08)	0.53** (0.13)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.44: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Uganda

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
1. Rice	-1.19** (0.19)	0.08 (0.27)	-0.05 (0.14)	0.06 (0.26)	0.02 (0.32)	-0.10 (0.09)	0.10 (0.17)	-0.23 (0.13)	-0.14** (0.05)	-0.12 (0.08)	-0.33 (0.19)	0.29 (0.36)	-0.09 (0.09)	-0.12 (0.20)	-0.04 (0.14)	-0.06 (0.04)	-0.02 (0.02)	-0.11 (0.12)	-0.01 (0.01)	2.35** (0.51)
2. Maize	0.07 (0.12)	-0.80** (0.29)	-0.02 (0.09)	-0.05 (0.23)	0.17 (0.27)	0.07 (0.07)	-0.16 (0.15)	-0.05 (0.11)	-0.00 (0.03)	0.02 (0.05)	0.09 (0.14)	0.08 (0.34)	0.05 (0.06)	0.08 (0.20)	-0.01 (0.12)	0.01 (0.02)	-0.00 (0.01)	0.10 (0.10)	0.00 (0.01)	0.80* (0.37)
3. Wheat	-0.01 (0.09)	-0.05 (0.12)	-1.01** (0.13)	0.19 (0.12)	-0.00 (0.18)	-0.04 (0.05)	-0.04 (0.08)	0.09 (0.03)	0.03 (0.03)	-0.03 (0.06)	-0.05 (0.12)	0.09 (0.12)	-0.06 (0.05)	-0.10 (0.08)	-0.07 (0.08)	-0.01 (0.03)	0.00 (0.01)	-0.07 (0.11)	-0.01 (0.01)	1.11** (0.17)
4. Cassava	0.06 (0.11)	-0.03 (0.24)	0.14 (0.09)	0.14 (0.23)	0.05 (0.23)	0.01 (0.06)	-0.18 (0.13)	0.06 (0.11)	0.01 (0.03)	0.04 (0.05)	-0.17 (0.12)	-0.10 (0.30)	-0.02 (0.05)	0.03 (0.17)	0.01 (0.11)	-0.01 (0.02)	0.00 (0.01)	0.09 (0.08)	-0.01 (0.01)	0.67* (0.34)
5. Roots	0.05 (0.09)	0.10 (0.18)	0.00 (0.08)	0.01 (0.16)	-1.02** (0.21)	-0.06 (0.05)	0.11 (0.10)	-0.02 (0.08)	-0.01 (0.02)	0.06 (0.04)	-0.11 (0.11)	-0.03 (0.21)	0.01 (0.04)	0.00 (0.12)	-0.05 (0.09)	-0.05 (0.02)	-0.00 (0.01)	0.18* (0.08)	-0.00 (0.00)	0.95** (0.24)
6. Sugar	-0.07 (0.10)	0.14 (0.16)	-0.08 (0.09)	-0.03 (0.16)	0.28 (0.21)	-0.77** (0.09)	-0.03 (0.12)	-0.03 (0.09)	0.02 (0.06)	-0.15* (0.07)	0.17 (0.19)	-0.15 (0.20)	-0.12 (0.07)	-0.12 (0.12)	-0.07 (0.09)	0.20** (0.02)	-0.05* (0.01)	-0.09 (0.08)	0.03* (0.02)	1.48** (0.29)
7. Pulses	0.11 (0.09)	-0.19 (0.18)	-0.01 (0.08)	-0.22 (0.16)	0.28 (0.20)	-1.10** (0.06)	0.01 (0.13)	0.11 (0.09)	-0.07 (0.04)	0.17* (0.07)	0.23 (0.15)	0.11 (0.22)	0.20** (0.07)	0.09 (0.13)	0.13 (0.09)	-0.08* (0.04)	0.01 (0.01)	0.03 (0.09)	-0.02* (0.01)	0.45 (0.28)
8. Nuts	-0.18 (0.12)	-0.13 (0.24)	0.14 (0.09)	0.10 (0.24)	-0.08 (0.25)	-0.02 (0.07)	0.15 (0.15)	-1.06** (0.11)	0.07 (0.04)	-0.04 (0.05)	0.23 (0.15)	-0.03 (0.32)	-0.07 (0.05)	-0.08 (0.18)	0.03 (0.10)	-0.03 (0.03)	0.01 (0.01)	-0.31** (0.12)	0.01 (0.01)	1.10** (0.37)
9. Vegetables	-0.08* (0.04)	0.01 (0.05)	0.06 (0.04)	0.02 (0.06)	0.03 (0.08)	0.05 (0.05)	-0.13* (0.06)	0.09** (0.05)	-0.51** (0.09)	0.07* (0.03)	0.48** (0.11)	-0.07 (0.05)	0.05 (0.03)	-0.04 (0.04)	0.08** (0.02)	0.01 (0.01)	-0.02 (0.01)	-0.03 (0.06)	-0.06** (0.01)	0.45** (0.09)
10. Fruit	-0.09 (0.07)	0.01 (0.11)	-0.06 (0.08)	0.05 (0.10)	0.15 (0.13)	-0.12* (0.05)	0.26** (0.08)	-0.05 (0.05)	0.05 (0.03)	-0.91** (0.06)	-0.19 (0.10)	0.06 (0.11)	0.02 (0.05)	-0.09 (0.06)	-0.02 (0.02)	-0.08* (0.03)	-0.01 (0.01)	0.07 (0.08)	-0.01 (0.01)	1.38** (0.15)
11. RedMeat	-0.14 (0.09)	0.01 (0.15)	-0.06 (0.10)	-0.28 (0.16)	-0.36* (0.18)	0.05 (0.09)	0.10 (0.13)	0.08 (0.08)	0.18** (0.06)	-0.12* (0.06)	-1.56** (0.21)	0.04 (0.16)	-0.13 (0.06)	0.02 (0.30)	-0.15* (0.19)	-0.01 (0.02)	0.02 (0.02)	0.09 (0.10)	-0.02 (0.01)	2.39** (0.32)
12. Poultry	0.12 (0.18)	-0.03 (0.39)	0.02 (0.10)	-0.23 (0.40)	-0.30 (0.38)	-0.12 (0.10)	-0.04 (0.21)	-0.08 (0.19)	-0.12* (0.05)	-0.01 (0.06)	-0.03 (0.16)	-0.80 (0.56)	0.01 (0.06)	-0.11 (0.30)	-0.03 (0.19)	-0.00 (0.02)	-0.01 (0.02)	0.01 (0.10)	-0.01 (0.01)	3.15** (0.80)
13. Eggs	-0.22 (0.20)	0.23 (0.28)	-0.26 (0.20)	-0.14 (0.29)	0.02 (0.35)	-0.28* (0.14)	0.81** (0.23)	-0.21 (0.13)	0.08 (0.09)	0.04 (0.05)	-0.69 (0.14)	0.07 (0.29)	-1.36** (0.25)	-0.21 (0.18)	-0.17 (0.15)	-0.12 (0.09)	-0.02 (0.03)	-0.34 (0.26)	-0.00 (0.02)	2.00** (0.42)
14. Fish	-0.06 (0.14)	0.11 (0.30)	-0.11 (0.09)	0.02 (0.28)	-0.01 (0.28)	-0.08 (0.07)	0.09 (0.16)	-0.06 (0.13)	-0.05 (0.03)	-0.06 (0.05)	0.07 (0.13)	-0.09 (0.39)	-0.05 (0.05)	-0.09** (0.21)	-0.00 (0.13)	0.01 (0.02)	-0.01 (0.02)	0.04 (0.08)	0.01 (0.00)	1.18** (0.42)
15. Dairy	-0.02 (0.11)	-0.07 (0.23)	-0.10 (0.10)	-0.03 (0.22)	-0.21 (0.25)	-0.06 (0.07)	0.13 (0.13)	0.01 (0.09)	0.04 (0.03)	-0.02 (0.05)	-0.23 (0.12)	0.02 (0.30)	-0.05 (0.05)	-0.02 (0.16)	-0.89** (0.12)	0.02 (0.02)	0.00 (0.01)	-0.06 (0.09)	0.01 (0.01)	1.62** (0.36)
16. Fats	-0.07 (0.06)	-0.00 (0.10)	-0.04 (0.08)	-0.10 (0.10)	-0.34* (0.14)	0.35** (0.09)	-0.33** (0.10)	-0.07 (0.07)	-0.00 (0.08)	-0.15* (0.06)	0.06 (0.17)	0.10 (0.08)	-0.09 (0.07)	0.02 (0.05)	0.07 (0.05)	-0.59** (0.03)	0.12** (0.02)	0.27* (0.11)	-0.03 (0.02)	1.22** (0.16)
17. Coffee	-0.11 (0.15)	-0.12 (0.29)	0.05 (0.11)	0.07 (0.28)	-0.16 (0.33)	-0.37** (0.19)	0.11 (0.19)	0.04 (0.14)	-0.20 (0.15)	-0.09 (0.07)	0.42 (0.26)	-0.05 (0.39)	-0.05 (0.10)	-0.12 (0.21)	0.02 (0.13)	0.56** (0.19)	-1.03** (0.05)	-0.17 (0.15)	0.12** (0.04)	1.15* (0.47)
18. SoftDrink	-0.17 (0.19)	0.22 (0.36)	-0.21 (0.28)	0.20 (0.31)	0.72 (0.44)	-0.17 (0.17)	-0.04 (0.25)	-0.33** (0.08)	-0.11 (0.11)	0.07 (0.14)	0.20 (0.34)	0.03 (0.31)	-0.21 (0.18)	0.03 (0.21)	-0.14 (0.17)	0.18 (0.10)	-0.03 (0.03)	-0.73 (0.41)	0.00 (0.02)	2.78** (0.56)
19. OtherFood	-0.01 (0.06)	0.08 (0.08)	-0.09 (0.07)	-0.08 (0.08)	0.08 (0.11)	0.27** (0.09)	-0.23** (0.09)	0.10 (0.06)	-0.48** (0.12)	-0.02 (0.04)	-0.15 (0.14)	-0.02 (0.05)	0.00 (0.06)	0.10* (0.05)	0.14** (0.05)	-0.09 (0.06)	0.10** (0.02)	0.05 (0.09)	-0.78** (0.09)	0.16 (0.15)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.45: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Uganda

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
1. Rice	-0.90** (0.16)	0.06 (0.17)	-0.01 (0.12)	0.01 (0.17)	-0.03 (0.23)	0.00 (0.07)	0.00 (0.12)	-0.11 (0.09)	-0.03 (0.04)	-0.14* (0.06)	-0.26 (0.17)	0.20 (0.22)	-0.07 (0.07)	-0.05 (0.12)	-0.09 (0.09)	-0.03 (0.04)	-0.01 (0.01)	-0.14 (0.11)	-0.01 (0.01)	1.63** (0.35)
2. Maize	0.05 (0.09)	-0.33* (0.24)	-0.08 (0.09)	-0.15 (0.19)	0.24 (0.22)	0.08 (0.05)	-0.11 (0.11)	-0.11 (0.09)	0.00 (0.03)	-0.04 (0.05)	0.16 (0.14)	0.15 (0.25)	0.02 (0.05)	-0.05 (0.13)	0.02 (0.10)	0.03 (0.02)	-0.01 (0.01)	0.17 (0.10)	0.00 (0.01)	0.77* (0.33)
3. Wheat	-0.00 (0.09)	-0.14 (0.12)	-0.69** (0.15)	0.19 (0.13)	-0.07 (0.18)	-0.01 (0.05)	-0.12 (0.09)	0.08 (0.06)	0.01 (0.03)	-0.04 (0.06)	-0.08 (0.13)	0.02 (0.12)	-0.06 (0.06)	-0.09 (0.09)	-0.11 (0.09)	-0.00 (0.05)	-0.00 (0.01)	-0.01 (0.10)	-0.01 (0.01)	1.14** (0.16)
4. Cassava	0.02 (0.09)	-0.15 (0.19)	0.14 (0.10)	-0.64** (0.21)	0.02 (0.19)	-0.05 (0.05)	-0.11 (0.11)	0.08 (0.09)	0.05 (0.03)	0.08 (0.04)	-0.17 (0.11)	-0.08 (0.24)	-0.02 (0.05)	0.05 (0.12)	-0.08 (0.10)	-0.02 (0.02)	0.00 (0.01)	0.05 (0.08)	-0.00 (0.00)	0.68 (0.35)
5. Roots	0.01 (0.07)	0.14 (0.13)	-0.02 (0.08)	-0.01 (0.12)	-0.87** (0.17)	-0.08 (0.05)	0.25* (0.10)	-0.02 (0.06)	-0.03 (0.02)	0.05 (0.04)	-0.12 (0.10)	0.01 (0.16)	0.01 (0.04)	0.01 (0.04)	-0.03 (0.08)	-0.05* (0.02)	-0.01 (0.01)	0.15* (0.08)	-0.00 (0.00)	0.90** (0.22)
6. Sugar	0.02 (0.08)	0.19 (0.12)	-0.01 (0.08)	-0.14 (0.12)	-0.32 (0.17)	-0.79** (0.11)	-0.06 (0.11)	0.07 (0.07)	0.08 (0.06)	-0.10 (0.06)	0.02 (0.17)	-0.06 (0.13)	-0.08 (0.05)	-0.05 (0.08)	-0.11 (0.07)	0.19** (0.05)	-0.03 (0.02)	0.03 (0.09)	0.02 (0.01)	1.09** (0.22)
7. Pulses	0.03 (0.09)	-0.13 (0.15)	-0.09 (0.09)	-0.14 (0.15)	0.58** (0.21)	-0.01 (0.07)	-0.13** (0.14)	0.03 (0.08)	-0.11* (0.05)	0.11 (0.06)	0.35* (0.17)	0.14 (0.17)	0.17** (0.06)	-0.03 (0.01)	0.18* (0.09)	-0.12** (0.05)	0.00 (0.01)	-0.08 (0.07)	-0.02 (0.01)	0.41 (0.31)
8. Nuts	-0.09 (0.09)	-0.25 (0.18)	0.12 (0.09)	0.14 (0.17)	-0.08 (0.20)	0.06 (0.06)	0.03 (0.12)	-0.84** (0.10)	0.09* (0.04)	-0.06 (0.05)	0.28* (0.14)	-0.12 (0.23)	-0.06 (0.05)	-0.02 (0.12)	0.02 (0.08)	-0.02 (0.03)	0.03* (0.01)	-0.36** (0.12)	0.00 (0.01)	0.97** (0.33)
9. Vegetables	-0.01 (0.05)	0.01 (0.06)	0.03 (0.04)	0.10 (0.06)	-0.08 (0.08)	0.09 (0.06)	-0.19** (0.06)	0.11** (0.03)	-0.62** (0.10)	0.06* (0.06)	0.81** (0.12)	0.01 (0.04)	0.01 (0.03)	0.01 (0.03)	-0.04 (0.03)	0.08 (0.04)	-0.00 (0.02)	0.02 (0.06)	-0.05** (0.02)	0.56** (0.10)
10. Fruit	-0.12 (0.06)	-0.10 (0.09)	-0.05 (0.08)	0.12 (0.08)	0.12 (0.12)	-0.09 (0.05)	0.13 (0.07)	-0.01 (0.05)	0.04 (0.03)	-0.88** (0.06)	-0.12 (0.09)	0.02 (0.08)	0.02 (0.04)	-0.02 (0.05)	-0.00 (0.05)	-0.06* (0.03)	-0.01 (0.01)	0.05 (0.07)	-0.00 (0.01)	1.27** (0.13)
11. RedMeat	-0.12 (0.08)	0.11 (0.13)	-0.06 (0.09)	-0.22 (0.11)	-0.28* (0.14)	-0.01 (0.07)	0.19 (0.11)	0.11 (0.06)	0.32** (0.06)	-0.07 (0.05)	-1.59** (0.19)	0.09 (0.12)	-0.18** (0.06)	0.02 (0.07)	-0.13* (0.06)	-0.04 (0.04)	0.03* (0.01)	-0.03 (0.09)	0.00 (0.01)	1.80** (0.21)
12. Poultry	0.08 (0.12)	0.07 (0.27)	-0.02 (0.08)	-0.15 (0.26)	-0.16 (0.27)	-0.07 (0.07)	0.02 (0.13)	-0.11 (0.13)	-0.05 (0.03)	-0.02 (0.04)	0.02 (0.14)	-0.63 (0.40)	-0.01 (0.05)	-0.08 (0.19)	0.03 (0.14)	0.01 (0.02)	-0.01 (0.02)	0.02 (0.22)	-0.01 (0.00)	2.59** (0.62)
13. Eggs	-0.17 (0.18)	0.08 (0.23)	-0.22 (0.19)	-0.13 (0.35)	0.02 (0.32)	-0.19 (0.11)	0.59** (0.18)	-0.17 (0.11)	-0.01 (0.07)	0.05 (0.07)	-0.90** (0.30)	-0.02 (0.22)	-1.19** (0.19)	-0.13 (0.14)	-0.17 (0.17)	-0.07 (0.07)	-0.01 (0.02)	-0.36 (0.22)	0.00 (0.02)	1.68** (0.35)
14. Fish	-0.03 (0.09)	-0.09 (0.21)	-0.09 (0.09)	0.05 (0.19)	-0.09 (0.22)	-0.04 (0.05)	-0.05 (0.11)	-0.02 (0.09)	-0.03 (0.03)	-0.02 (0.04)	0.05 (0.12)	-0.06 (0.27)	-0.04 (0.04)	-0.84** (0.15)	-0.08 (0.10)	0.00 (0.02)	0.00 (0.01)	-0.01 (0.07)	0.00 (0.00)	1.08** (0.38)
15. Dairy	-0.07 (0.08)	0.01 (0.16)	-0.13 (0.10)	-0.17 (0.17)	-0.08 (0.20)	-0.09 (0.05)	0.18 (0.10)	0.00 (0.07)	-0.01 (0.03)	-0.01 (0.05)	-0.09 (0.11)	0.10 (0.21)	-0.05 (0.05)	-0.09 (0.11)	-0.80** (0.10)	-0.02 (0.02)	-0.00 (0.01)	0.04 (0.07)	0.01* (0.01)	1.44** (0.29)
16. Fats	-0.04 (0.07)	0.14 (0.09)	-0.00 (0.08)	-0.08 (0.09)	-0.37** (0.13)	0.35** (0.09)	-0.41** (0.10)	-0.04 (0.07)	0.13 (0.08)	-0.11 (0.06)	-0.10 (0.17)	0.14* (0.07)	-0.05 (0.06)	0.01 (0.05)	-0.03 (0.06)	-0.65** (0.08)	0.13** (0.02)	0.23* (0.10)	-0.04* (0.02)	0.99** (0.14)
17. Coffee	-0.06 (0.12)	-0.29 (0.23)	-0.01 (0.10)	-0.01 (0.20)	-0.25 (0.27)	-0.23 (0.15)	0.02 (0.15)	0.29* (0.13)	-0.02 (0.13)	-0.10 (0.07)	0.56* (0.28)	-0.08 (0.27)	-0.03 (0.08)	0.01 (0.14)	-0.01 (0.10)	0.57** (0.18)	-0.96** (0.04)	-0.25 (0.16)	0.11** (0.04)	0.96* (0.40)
18. SoftDrink	-0.21 (0.17)	0.42 (0.30)	-0.04 (0.23)	0.09 (0.26)	0.55 (0.36)	-0.00 (0.13)	-0.24 (0.20)	-0.54** (0.16)	-0.02 (0.09)	0.04 (0.12)	-0.16 (0.30)	0.05 (0.23)	-0.21 (0.14)	-0.05 (0.16)	0.05 (0.14)	0.14 (0.08)	-0.04 (0.02)	-0.85** (0.30)	-0.00 (0.02)	2.19** (0.40)
19. OtherFood	-0.06 (0.08)	0.09 (0.10)	-0.17* (0.08)	-0.02 (0.08)	-0.06 (0.12)	0.21 (0.11)	-0.23* (0.10)	0.05 (0.07)	-0.41** (0.15)	0.00 (0.05)	0.17 (0.17)	-0.02 (0.06)	0.02 (0.06)	0.07 (0.05)	0.16** (0.06)	-0.17* (0.07)	0.12** (0.03)	0.02 (0.11)	-1.09** (0.12)	0.48** (0.16)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.46: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Uganda

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Fats	Coffee	SoftDrink	OtherFood
1. Rice	-0.56* (0.24)	0.04 (0.23)	0.03 (0.13)	-0.07 (0.21)	-0.09 (0.35)	0.12 (0.10)	-0.13 (0.15)	0.03 (0.11)	0.08 (0.06)	-0.15 (0.08)	-0.15 (0.25)	0.11 (0.26)	-0.03 (0.09)	0.03 (0.14)	-0.13 (0.10)	0.00 (0.05)	0.00 (0.02)	-0.17 (0.15)	-0.01 (0.01)	0.66* (0.34)
2. Maize	0.02 (0.13)	-0.11 (0.37)	-0.18 (0.13)	-0.33 (0.23)	0.36 (0.28)	0.11 (0.08)	-0.02 (0.15)	-0.21 (0.13)	0.01 (0.04)	-0.12 (0.08)	0.28 (0.21)	0.26 (0.36)	-0.02 (0.07)	-0.25 (0.14)	0.09 (0.14)	0.08* (0.04)	-0.03 (0.02)	0.29 (0.16)	0.01 (0.01)	0.70 (0.42)
3. Wheat	0.01 (0.11)	-0.27 (0.16)	-0.20 (0.22)	0.18 (0.17)	-0.17 (0.22)	0.04 (0.06)	-0.23 (0.13)	0.07 (0.09)	-0.02 (0.04)	-0.04 (0.07)	-0.12 (0.18)	-0.09 (0.15)	-0.06 (0.07)	-0.06 (0.12)	-0.16 (0.11)	0.01 (0.04)	-0.01 (0.01)	0.09 (0.13)	-0.01 (0.01)	1.09** (0.17)
4. Cassava	-0.05 (0.13)	-0.37 (0.27)	0.15 (0.15)	-0.51 (0.29)	-0.05 (0.26)	-0.16 (0.09)	0.01 (0.16)	0.12 (0.12)	0.14* (0.05)	0.14* (0.06)	-0.19 (0.18)	-0.05 (0.36)	-0.03 (0.08)	0.08 (0.18)	-0.25 (0.16)	-0.02 (0.04)	-0.01 (0.01)	-0.01 (0.13)	0.01 (0.01)	0.79 (0.41)
5. Roots	-0.04 (0.10)	0.23 (0.18)	-0.08 (0.12)	-0.04 (0.15)	-0.65** (0.23)	-0.13 (0.07)	0.51** (0.16)	-0.04 (0.08)	-0.08* (0.04)	0.04 (0.09)	-0.15 (0.15)	0.08 (0.22)	0.01 (0.06)	-0.10 (0.11)	0.05 (0.11)	-0.07* (0.03)	-0.02 (0.01)	0.11 (0.10)	-0.01 (0.01)	0.83* (0.27)
6. Sugar	0.17 (0.13)	0.27 (0.19)	0.09 (0.11)	-0.32 (0.18)	-0.39 (0.21)	-0.80** (0.18)	-0.11 (0.16)	0.22* (0.11)	0.16 (0.09)	-0.04 (0.08)	-0.16 (0.25)	0.06 (0.18)	-0.04 (0.07)	0.04 (0.11)	-0.16 (0.10)	0.21** (0.08)	-0.01 (0.02)	0.19 (0.15)	0.01 (0.02)	0.32 (0.29)
7. Pulses	-0.12 (0.14)	-0.04 (0.22)	-0.23 (0.15)	0.02 (0.23)	1.10** (0.37)	-0.08 (0.11)	-1.17** (0.22)	-0.11 (0.12)	-0.17* (0.07)	-0.00 (0.08)	0.53 (0.28)	0.19 (0.25)	0.12 (0.08)	-0.26 (0.15)	0.27* (0.11)	-0.20** (0.07)	-0.01 (0.02)	-0.28 (0.16)	-0.01 (0.01)	0.74* (0.36)
8. Nuts	0.03 (0.13)	-0.43 (0.26)	0.11 (0.13)	0.21 (0.22)	-0.10 (0.23)	0.18 (0.10)	-0.15 (0.15)	-0.53* (0.17)	0.13* (0.06)	0.05 (0.07)	0.39 (0.21)	-0.26 (0.32)	-0.07 (0.07)	0.06 (0.15)	-0.00 (0.12)	-0.00 (0.05)	0.07** (0.02)	-0.45** (0.17)	-0.00 (0.01)	0.69 (0.38)
9. Vegetables	0.11 (0.08)	0.01 (0.08)	-0.02 (0.06)	0.25** (0.09)	-0.27** (0.10)	0.15 (0.09)	-0.27** (0.09)	0.16** (0.05)	-0.83** (0.14)	0.04 (0.05)	1.36** (0.19)	0.13* (0.06)	-0.06 (0.05)	-0.03 (0.05)	-0.11* (0.05)	0.18** (0.06)	0.03 (0.02)	0.09 (0.09)	-0.02 (0.02)	0.79** (0.11)
10. Fruit	-0.17* (0.08)	-0.25* (0.12)	-0.05 (0.09)	0.21* (0.09)	0.08 (0.14)	-0.05 (0.06)	-0.02 (0.09)	0.03 (0.06)	0.02 (0.04)	-0.84** (0.08)	-0.03 (0.12)	-0.02 (0.10)	0.03 (0.05)	0.05 (0.06)	0.03 (0.08)	-0.03 (0.03)	-0.01 (0.01)	0.02 (0.09)	0.00 (0.01)	1.19** (0.12)
11. RedMeat	-0.09 (0.13)	0.25 (0.17)	-0.06 (0.11)	-0.16 (0.14)	-0.18 (0.30)	-0.07 (0.07)	0.33* (0.15)	0.18* (0.15)	0.54** (0.09)	0.00 (0.06)	-1.63** (0.26)	0.16 (0.15)	-0.24** (0.07)	0.03 (0.10)	-0.11 (0.09)	-0.07 (0.02)	0.04* (0.02)	-0.19 (0.14)	0.04** (0.01)	0.59** (0.22)
12. Poultry	0.04 (0.14)	0.21 (0.32)	-0.07 (0.10)	-0.06 (0.30)	0.05 (0.30)	0.01 (0.07)	0.09 (0.15)	-0.14 (0.15)	0.04 (0.03)	-0.02 (0.05)	0.12 (0.16)	-0.41 (0.49)	-0.03 (0.06)	-0.03 (0.22)	0.11 (0.16)	0.03 (0.02)	-0.01 (0.02)	0.03 (0.10)	-0.00 (0.00)	1.55** (0.51)
13. Eggs	-0.10 (0.21)	-0.12 (0.28)	-0.18 (0.22)	-0.13 (0.29)	0.02 (0.35)	-0.09 (0.13)	0.32 (0.20)	-0.13 (0.15)	-0.12 (0.08)	0.06 (0.11)	-1.16** (0.34)	-0.13 (0.28)	-1.00** (0.21)	-0.05 (0.17)	-0.16 (0.17)	-0.01 (0.08)	-0.00 (0.02)	-0.38 (0.24)	0.01 (0.02)	1.35** (0.33)
14. Fish	0.02 (0.12)	-0.38 (0.26)	-0.06 (0.12)	0.09 (0.23)	-0.23 (0.28)	0.01 (0.06)	-0.28 (0.14)	0.04 (0.11)	-0.02 (0.03)	0.04 (0.05)	0.03 (0.16)	-0.02 (0.34)	-0.01 (0.06)	-0.63** (0.20)	-0.19 (0.13)	-0.00 (0.03)	0.02 (0.01)	-0.08 (0.11)	-0.00 (0.01)	1.06** (0.44)
15. Dairy	-0.13 (0.09)	0.11 (0.19)	-0.17 (0.13)	-0.34 (0.21)	0.11 (0.23)	-0.12 (0.06)	0.25* (0.12)	-0.01 (0.08)	-0.07 (0.04)	0.02 (0.06)	-0.19 (0.16)	0.21 (0.26)	-0.05 (0.06)	-0.19 (0.13)	-0.67** (0.14)	-0.06* (0.03)	-0.01 (0.01)	0.17 (0.10)	0.01 (0.01)	1.05** (0.27)
16. Fats	0.01 (0.12)	0.36** (0.14)	0.05 (0.11)	-0.07 (0.14)	-0.41* (0.18)	0.37** (0.12)	-0.55** (0.16)	0.00 (0.23)	0.34** (0.11)	-0.05 (0.08)	-0.34 (0.26)	0.21* (0.10)	-0.01 (0.08)	0.01 (0.08)	-0.15 (0.08)	-0.74** (0.11)	0.14** (0.03)	0.16 (0.15)	-0.06** (0.02)	0.39* (0.18)
17. Coffee	0.02 (0.12)	-0.54 (0.32)	-0.10 (0.15)	-0.11 (0.26)	-0.38 (0.33)	-0.04 (0.04)	-0.10 (0.20)	0.64** (0.23)	0.23 (0.08)	-0.10 (0.10)	0.77 (0.40)	-0.13 (0.36)	-0.00 (0.10)	0.20 (0.19)	-0.05 (0.14)	0.62** (0.21)	-0.85** (0.07)	-0.37 (0.24)	0.12* (0.05)	0.49 (0.47)
18. SoftDrink	-0.24 (0.22)	0.67 (0.35)	0.15 (0.25)	-0.04 (0.30)	0.36 (0.36)	0.19 (0.16)	-0.47 (0.24)	-0.54** (0.18)	0.08 (0.10)	0.02 (0.13)	-0.52 (0.41)	0.09 (0.27)	-0.21 (0.15)	-0.14 (0.19)	0.28 (0.17)	0.09 (0.09)	-0.05 (0.03)	-0.97** (0.32)	-0.01 (0.02)	1.23** (0.33)
19. OtherFood	-0.15 (0.13)	0.11 (0.15)	-0.30** (0.12)	0.11 (0.11)	-0.31 (0.17)	0.06 (0.15)	-0.17 (0.15)	-0.07 (0.10)	-0.22 (0.09)	0.03 (0.07)	0.73** (0.26)	-0.04 (0.09)	0.04 (0.08)	-0.00 (0.08)	0.18 (0.09)	-0.30** (0.09)	0.13** (0.04)	-0.04 (0.16)	-1.62** (0.18)	1.18** (0.16)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.47: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Tanzania

Exp.	Food Group														Exp.					
	Rice	Maize	Wheat	Casava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-2.29** (0.52)	0.17 (0.31)	-0.39 (0.24)	-0.65* (0.29)	-0.56* (0.25)	-0.26* (0.13)	0.69** (0.26)	0.26 (0.24)	-0.13 (0.22)	-0.11 (0.20)	1.12** (0.42)	0.24 (0.26)	-0.16 (0.10)	-1.12** (0.29)	-0.01 (0.23)	0.05 (0.08)	0.04 (0.05)	0.30* (0.15)	-0.02 (0.05)	3.41** (0.68)
2. Maize	0.21* (0.09)	-0.54** (0.07)	0.09* (0.04)	0.04 (0.05)	-0.13** (0.05)	0.08** (0.03)	-0.10 (0.05)	-0.19** (0.04)	-0.01 (0.04)	0.20** (0.04)	-0.31** (0.08)	-0.17** (0.06)	-0.01 (0.02)	0.21** (0.05)	0.06 (0.06)	-0.04** (0.01)	0.03** (0.01)	-0.04 (0.03)	0.00 (0.01)	0.58** (0.09)
3. Wheat	-0.47 (0.32)	0.07 (0.20)	-1.95** (0.39)	-0.19 (0.19)	0.23 (0.21)	-0.07 (0.15)	0.40 (0.27)	-0.11 (0.16)	-0.22 (0.19)	0.04 (0.19)	-0.05 (0.33)	0.39* (0.17)	0.12 (0.06)	-0.18 (0.19)	-0.00 (0.17)	0.20** (0.08)	0.01 (0.06)	0.01 (0.11)	0.02 (0.05)	1.75** (0.31)
4. Cassava	-0.38 (0.23)	0.22 (0.16)	-0.07 (0.10)	-0.60* (0.28)	-0.03 (0.14)	0.07 (0.07)	0.12 (0.15)	-0.11 (0.16)	0.06 (0.12)	-0.26* (0.12)	0.42 (0.28)	0.13 (0.28)	0.02 (0.09)	0.03 (0.17)	0.00 (0.18)	0.08 (0.04)	0.01 (0.02)	-0.03 (0.09)	-0.01 (0.02)	0.11 (0.42)
5. Roots	-0.45* (0.23)	-0.61** (0.17)	0.18 (0.14)	-0.11 (0.16)	-1.23** (0.23)	0.07 (0.08)	-0.73** (0.18)	0.08 (0.14)	-0.16 (0.12)	-0.19 (0.11)	0.03 (0.22)	-0.01 (0.16)	0.04 (0.06)	0.06 (0.12)	-0.06 (0.13)	0.14** (0.04)	0.06 (0.03)	0.21* (0.08)	-0.06* (0.03)	1.72** (0.32)
6. Sugar	-0.50 (0.31)	0.34 (0.22)	-0.12 (0.26)	0.11 (0.20)	0.17 (0.21)	-1.05** (0.28)	-0.02 (0.40)	0.05 (0.14)	-0.33 (0.26)	0.14 (0.17)	0.01 (0.34)	-0.32 (0.07)	0.23** (0.07)	0.21 (0.19)	-0.04 (0.17)	-0.16 (0.12)	-0.22* (0.09)	0.09 (0.11)	0.07 (0.08)	1.92** (0.44)
7. Pulses	0.79* (0.33)	-0.50* (0.22)	0.32 (0.22)	0.07 (0.19)	-0.72** (0.26)	0.00 (0.17)	-1.32** (0.36)	-0.06 (0.14)	-0.50* (0.21)	-0.03 (0.15)	0.03 (0.27)	-0.08 (0.15)	0.03 (0.07)	0.06 (0.19)	0.26 (0.17)	-0.22* (0.10)	0.02 (0.06)	-0.10 (0.12)	-0.09 (0.06)	1.52** (0.36)
8. Nuts	0.37 (0.30)	-0.95** (0.35)	-0.11 (0.15)	-0.25 (0.35)	0.10 (0.20)	0.03 (0.07)	-0.12 (0.18)	-0.52 (0.26)	-0.22 (0.14)	0.45* (0.19)	0.29 (0.28)	0.39 (0.31)	-0.04 (0.10)	0.10 (0.21)	-0.34 (0.28)	-0.05 (0.05)	0.01 (0.04)	0.09 (0.13)	0.00 (0.03)	1.60** (0.39)
9. Vegetables	0.07 (0.15)	-0.04 (0.09)	-0.07 (0.09)	-0.00 (0.10)	-0.05 (0.09)	-0.06 (0.07)	-0.28* (0.11)	-0.08 (0.07)	-0.41** (0.12)	-0.22** (0.08)	0.20 (0.14)	-0.09 (0.11)	0.07* (0.03)	0.38** (0.09)	-0.05 (0.08)	-0.11* (0.04)	0.00 (0.02)	0.03 (0.05)	-0.00 (0.02)	0.63** (0.13)
10. Fruit	-0.15 (0.31)	0.73** (0.22)	0.03 (0.25)	-0.61** (0.36)	-0.35 (0.32)	0.09 (0.17)	-0.10 (0.30)	0.57* (0.24)	-0.67** (0.18)	-1.44** (0.33)	0.25 (0.35)	0.17 (0.23)	0.05 (0.08)	-0.90** (0.23)	-0.41 (0.35)	0.03 (0.06)	0.05 (0.04)	-0.04 (0.12)	-0.02 (0.04)	2.17** (0.42)
11. RedMeat	1.11* (0.54)	-1.70** (0.38)	-0.09 (0.28)	0.40 (0.39)	-0.05 (0.29)	-0.04 (0.17)	-0.12 (0.30)	0.21 (0.26)	0.05 (0.26)	0.13 (0.35)	-1.83** (0.62)	0.36 (0.47)	-0.22 (0.15)	-0.10 (0.35)	0.26 (0.35)	0.04 (0.08)	0.07 (0.06)	-0.35 (0.22)	-0.00 (0.03)	3.93** (1.07)
12. Poultry	0.16 (0.23)	-1.01** (0.33)	0.21 (0.11)	0.04 (0.34)	-0.10 (0.17)	-0.17* (0.08)	-0.21 (0.15)	0.23 (0.20)	-0.37 (0.20)	0.06 (0.14)	0.28 (0.35)	-0.88 (0.62)	0.06 (0.14)	-0.05 (0.20)	-0.06 (0.30)	-0.06 (0.04)	0.00 (0.02)	0.16 (0.12)	-0.03 (0.03)	3.56** (1.05)
13. Eggs	-0.69 (0.52)	-0.50 (0.46)	0.33 (0.25)	0.00 (0.36)	0.12 (0.32)	0.36* (0.17)	0.01 (0.30)	-0.14 (0.40)	0.23 (0.27)	0.11 (0.24)	-0.86 (0.61)	0.29 (0.74)	-0.97** (0.29)	0.08 (0.42)	-0.11 (0.38)	-0.09 (0.08)	0.05 (0.04)	0.04 (0.19)	-0.03 (0.05)	2.79 (1.32)
14. Fish	-1.28** (0.48)	0.83** (0.30)	-0.15 (0.18)	0.00 (0.26)	-0.04 (0.17)	0.14 (0.10)	0.11 (0.23)	0.12 (0.20)	0.72** (0.24)	-0.69** (0.35)	0.00 (0.36)	0.04 (0.23)	0.05 (0.10)	-1.80** (0.38)	-0.28 (0.24)	0.11 (0.07)	0.02 (0.04)	0.22 (0.13)	-0.08 (0.03)	0.86* (0.43)
15. Dairy	-0.01 (0.32)	0.12 (0.29)	-0.01 (0.17)	-0.03 (0.33)	-0.10 (0.21)	-0.03 (0.10)	0.39 (0.21)	-0.39 (0.30)	-0.19 (0.19)	-0.39 (0.23)	0.41 (0.42)	-0.06 (0.47)	-0.03 (0.11)	-0.36 (0.26)	-1.32** (0.48)	0.14* (0.05)	0.01 (0.04)	-0.13 (0.14)	-0.03 (0.03)	1.73** (0.64)
16. Fats	0.22 (0.19)	-0.53** (0.13)	0.37** (0.14)	0.14 (0.10)	0.38** (0.11)	-0.15 (0.12)	-0.54** (0.19)	-0.07 (0.09)	-0.48** (0.15)	0.08 (0.09)	0.22 (0.17)	-0.02 (0.09)	-0.03 (0.03)	0.17 (0.11)	0.23* (0.09)	-0.60** (0.20)	-0.01 (0.06)	-0.05 (0.06)	0.30** (0.10)	1.53** (0.22)
17. Coffee	0.36 (0.44)	0.54* (0.39)	0.02 (0.28)	0.02 (0.39)	0.51 (0.31)	-0.97** (0.33)	0.15 (0.46)	0.06 (0.28)	-0.11 (0.30)	0.28 (0.24)	0.69 (0.42)	0.07 (0.24)	0.13 (0.08)	0.11 (0.31)	0.05 (0.26)	-0.08 (0.23)	-1.07** (0.16)	-0.04 (0.17)	0.12 (0.16)	2.78** (0.55)
18. SoftDrink	1.05 (0.58)	-0.81 (0.44)	0.01 (0.30)	-0.26 (0.47)	0.77* (0.38)	0.12 (0.19)	-0.47 (0.44)	0.24 (0.39)	0.02 (0.30)	-0.10 (0.31)	-1.18 (0.69)	0.68 (0.53)	0.04 (0.16)	0.58 (0.37)	-0.31 (0.10)	-0.10 (0.07)	-0.02 (0.07)	-0.96** (0.32)	-0.03 (0.03)	2.42** (0.78)
19. OtherFood	0.02 (0.30)	0.07 (0.16)	0.13 (0.21)	-0.08 (0.15)	-0.29 (0.20)	0.23 (0.22)	-0.48 (0.33)	0.06 (0.17)	0.02 (0.22)	-0.01 (0.17)	0.15 (0.27)	0.01 (0.15)	-0.01 (0.06)	-0.33 (0.22)	-0.09 (0.14)	0.75* (0.37)	0.08 (0.12)	-0.03 (0.10)	-0.54* (0.24)	0.34 (0.32)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.48: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line and under \$3.2 poverty line in Tanzania

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-1.31** (0.26)	0.23 (0.17)	-0.38** (0.14)	-0.43** (0.15)	-0.33* (0.14)	-0.19* (0.08)	0.41** (0.15)	0.25* (0.12)	-0.12 (0.12)	-0.14 (0.11)	0.55* (0.24)	0.08 (0.13)	-0.08 (0.06)	-0.68** (0.16)	-0.03 (0.05)	0.02 (0.03)	0.02 (0.03)	0.19* (0.08)	0.00 (0.03)	1.76** (0.28)
2. Maize	0.19* (0.08)	-0.54** (0.06)	0.08* (0.04)	-0.01 (0.05)	-0.11** (0.04)	0.06* (0.02)	-0.08* (0.04)	-0.17** (0.04)	-0.01 (0.03)	0.14** (0.04)	-0.18* (0.07)	-0.19** (0.05)	-0.02 (0.02)	0.21** (0.04)	0.02 (0.05)	-0.01 (0.01)	0.02** (0.01)	-0.01 (0.03)	0.01 (0.01)	0.58** (0.08)
3. Wheat	-0.56* (0.23)	0.13 (0.15)	-1.12** (0.23)	-0.14 (0.13)	0.16 (0.15)	-0.10 (0.11)	0.17 (0.20)	-0.01 (0.10)	-0.26 (0.14)	-0.06 (0.13)	0.04 (0.23)	0.28* (0.11)	0.09 (0.05)	-0.11 (0.15)	-0.06 (0.10)	0.18** (0.06)	0.03 (0.04)	0.04 (0.08)	0.03 (0.03)	1.61** (0.22)
4. Cassava	-0.41 (0.21)	0.03 (0.14)	-0.07 (0.10)	-0.55* (0.28)	-0.17 (0.13)	-0.00 (0.06)	0.20 (0.15)	-0.21 (0.15)	0.07 (0.11)	-0.15 (0.10)	0.42 (0.30)	0.26 (0.23)	0.09 (0.11)	-0.18 (0.15)	0.03 (0.15)	0.04 (0.04)	-0.01 (0.02)	-0.10 (0.09)	-0.02 (0.02)	0.43 (0.37)
5. Roots	-0.33* (0.13)	-0.36** (0.11)	0.13 (0.10)	-0.21* (0.11)	-0.81** (0.16)	0.04 (0.06)	-0.40** (0.11)	0.02 (0.09)	-0.14 (0.08)	-0.21* (0.08)	0.08 (0.15)	0.04 (0.10)	0.06 (0.05)	-0.09 (0.09)	-0.11 (0.09)	0.09** (0.03)	0.03 (0.02)	0.11 (0.06)	-0.04 (0.02)	1.26** (0.19)
6. Sugar	-0.41* (0.21)	0.17 (0.13)	-0.15 (0.17)	-0.06 (0.12)	0.10 (0.13)	-0.80** (0.20)	0.07 (0.27)	-0.06 (0.09)	-0.24 (0.17)	0.27* (0.11)	0.11 (0.21)	-0.18 (0.11)	0.16** (0.05)	0.07 (0.09)	-0.06 (0.10)	-0.09 (0.03)	-0.17** (0.06)	0.04 (0.07)	0.00 (0.06)	1.36** (0.23)
7. Pulses	0.56* (0.24)	-0.31* (0.15)	0.17 (0.18)	0.18 (0.15)	-0.45** (0.17)	0.05 (0.14)	-0.76** (0.28)	-0.00 (0.10)	-0.29* (0.14)	-0.02 (0.11)	-0.21 (0.24)	-0.02 (0.13)	-0.02 (0.06)	0.08 (0.16)	0.12 (0.12)	-0.23** (0.08)	0.07 (0.05)	-0.10 (0.07)	-0.04 (0.04)	1.05** (0.27)
8. Nuts	0.40 (0.22)	-0.78** (0.18)	-0.02 (0.11)	-0.36 (0.19)	0.01 (0.15)	-0.06 (0.06)	-0.04 (0.13)	-0.60* (0.23)	-0.25* (0.10)	0.32* (0.15)	0.36 (0.24)	0.34 (0.23)	-0.04 (0.10)	0.01 (0.18)	-0.07 (0.20)	-0.03 (0.04)	0.01 (0.03)	0.07 (0.11)	-0.00 (0.03)	1.65** (0.32)
9. Vegetables	-0.04 (0.13)	-0.01 (0.09)	-0.13 (0.10)	0.04 (0.14)	-0.10 (0.08)	-0.08 (0.07)	-0.21* (0.10)	-0.12* (0.06)	-0.42** (0.12)	-0.15* (0.07)	0.25 (0.14)	-0.06 (0.09)	0.07* (0.04)	0.32** (0.09)	-0.00 (0.07)	-0.14** (0.04)	-0.01 (0.02)	0.04 (0.05)	-0.00 (0.03)	0.61** (0.14)
10. Fruit	-0.22 (0.20)	0.41** (0.14)	-0.07 (0.13)	-0.28* (0.14)	-0.35* (0.14)	0.19* (0.08)	-0.05 (0.15)	0.33* (0.14)	-0.30** (0.12)	-1.18** (0.18)	0.06 (0.24)	0.13 (0.14)	0.05 (0.06)	-0.38** (0.15)	-0.25 (0.16)	0.07 (0.04)	0.05 (0.03)	-0.01 (0.08)	-0.01 (0.03)	1.44** (0.24)
11. RedMeat	0.53 (0.32)	-0.74* (0.29)	0.00 (0.17)	0.31 (0.26)	0.02 (0.16)	0.01 (0.10)	-0.27 (0.21)	0.22 (0.17)	0.12 (0.16)	0.01 (0.06)	-1.54** (0.44)	0.13 (0.31)	0.24 (0.13)	0.11 (0.24)	0.10 (0.21)	0.11 (0.07)	0.04 (0.04)	-0.27 (0.15)	0.01 (0.03)	2.57** (0.61)
12. Poultry	-0.01 (0.14)	-0.78** (0.21)	0.13 (0.07)	0.15 (0.24)	-0.04 (0.10)	-0.12* (0.05)	-0.12 (0.11)	0.17 (0.13)	-0.22 (0.12)	0.03 (0.08)	0.06 (0.27)	-0.91* (0.41)	0.01 (0.09)	-0.01 (0.16)	-0.04 (0.18)	-0.07* (0.03)	-0.00 (0.02)	0.11 (0.08)	-0.01 (0.02)	3.08** (0.67)
13. Eggs	-0.44 (0.38)	-0.46 (0.31)	0.22 (0.20)	0.29 (0.45)	0.15 (0.26)	0.25 (0.13)	-0.17 (0.24)	-0.13 (0.30)	0.17 (0.19)	0.08 (0.18)	-1.03 (0.58)	0.06 (0.58)	-1.18** (0.26)	0.22 (0.33)	-0.04 (0.18)	-0.12 (0.05)	0.02 (0.03)	-0.02 (0.15)	-0.01 (0.04)	2.64** (0.97)
14. Fish	-1.00** (0.38)	0.71** (0.26)	-0.09 (0.16)	-0.27 (0.24)	-0.11 (0.14)	0.06 (0.08)	0.11 (0.20)	0.03 (0.13)	0.47* (0.19)	-0.51** (0.20)	0.24 (0.35)	0.09 (0.24)	0.10 (0.11)	-1.71** (0.36)	-0.16 (0.18)	0.04 (0.05)	-0.01 (0.04)	0.16 (0.11)	-0.08 (0.04)	0.90** (0.36)
15. Dairy	-0.06 (0.23)	-0.05 (0.19)	-0.08 (0.12)	0.02 (0.21)	-0.20 (0.14)	-0.06 (0.08)	0.13 (0.15)	-0.07 (0.20)	-0.06 (0.12)	-0.26 (0.16)	0.18 (0.31)	-0.04 (0.30)	-0.01 (0.09)	-0.20 (0.19)	-0.94** (0.31)	0.08* (0.04)	0.01 (0.03)	-0.11 (0.11)	-0.03 (0.02)	1.58** (0.38)
16. Fats	0.09 (0.13)	-0.16* (0.07)	0.37** (0.11)	0.07 (0.07)	0.25** (0.08)	-0.10 (0.09)	-0.49** (0.15)	-0.03 (0.06)	-0.39** (0.11)	0.13* (0.06)	0.38** (0.14)	-0.06 (0.07)	-0.05 (0.03)	0.06 (0.08)	0.15* (0.06)	-0.52** (0.08)	0.04 (0.05)	-0.03 (0.04)	0.20** (0.08)	1.03** (0.14)
17. Coffee	0.18 (0.29)	0.34* (0.16)	0.22 (0.26)	-0.15 (0.17)	0.28 (0.18)	-0.71** (0.22)	0.51 (0.30)	0.06 (0.16)	-0.14 (0.21)	0.30 (0.16)	0.41 (0.27)	0.04 (0.16)	0.06 (0.05)	-0.09 (0.20)	0.05 (0.16)	0.11 (0.15)	-0.79** (0.11)	-0.02 (0.10)	0.09 (0.10)	1.73** (0.31)
18. SoftDrink	0.78 (0.42)	-0.21 (0.31)	0.12 (0.25)	-0.43 (0.35)	0.41 (0.29)	0.07 (0.13)	-0.40 (0.30)	0.16 (0.30)	0.09 (0.23)	-0.03 (0.22)	-1.11* (0.54)	0.53 (0.41)	-0.01 (0.14)	0.43 (0.30)	-0.27 (0.30)	-0.07 (0.07)	-0.01 (0.05)	-0.80** (0.23)	0.01 (0.05)	1.74** (0.32)
19. OtherFood	0.13 (0.33)	0.19 (0.18)	0.23 (0.24)	-0.21 (0.18)	-0.29 (0.20)	0.05 (0.24)	-0.29 (0.33)	0.03 (0.17)	0.01 (0.26)	-0.01 (0.18)	0.25 (0.34)	0.08 (0.17)	0.01 (0.07)	-0.49 (0.29)	-0.13 (0.15)	0.71 (0.39)	0.09 (0.12)	0.03 (0.11)	-0.58* (0.24)	0.31 (0.38)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.49: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line and under \$5.5 poverty line in Tanzania

	Food Group													Exp.						
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs		Fish	Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-0.77** (0.23)	0.21 (0.14)	-0.38** (0.13)	-0.36** (0.12)	-0.22* (0.11)	-0.15* (0.07)	0.23 (0.13)	0.25** (0.09)	-0.17 (0.10)	-0.15 (0.10)	0.26 (0.20)	0.01 (0.11)	-0.04 (0.05)	-0.47** (0.13)	-0.04 (0.10)	-0.01 (0.04)	0.01 (0.03)	0.15* (0.07)	0.01 (0.03)	1.19** (0.20)
2. Maize	0.18* (0.09)	-0.50** (0.07)	0.09 (0.05)	-0.06 (0.06)	-0.09 (0.05)	0.03 (0.03)	-0.07 (0.05)	-0.16** (0.04)	0.01 (0.04)	0.09* (0.04)	-0.05 (0.09)	-0.23** (0.06)	-0.02 (0.02)	0.24** (0.05)	-0.02 (0.04)	0.02 (0.01)	0.02 (0.01)	0.04 (0.03)	0.01 (0.01)	0.56** (0.10)
3. Wheat	-0.59** (0.21)	0.11 (0.13)	-0.55* (0.22)	-0.10 (0.11)	0.12 (0.13)	-0.11 (0.10)	0.01 (0.19)	0.06 (0.08)	-0.27* (0.12)	-0.13 (0.12)	0.10 (0.20)	0.20* (0.09)	0.06 (0.05)	-0.06 (0.15)	-0.10 (0.09)	0.17** (0.03)	0.05 (0.04)	0.06 (0.07)	0.03 (0.03)	1.42** (0.17)
4. Cassava	-0.47* (0.22)	-0.13 (0.15)	-0.08 (0.11)	-0.50 (0.32)	-0.34* (0.16)	-0.09 (0.07)	0.27 (0.17)	-0.30 (0.15)	0.10 (0.11)	-0.06 (0.11)	0.40 (0.34)	0.38 (0.34)	0.17 (0.14)	-0.40 (0.22)	0.06 (0.14)	0.01 (0.04)	-0.04 (0.03)	-0.17 (0.11)	-0.04 (0.02)	0.77 (0.40)
5. Roots	-0.26 (0.13)	-0.24* (0.10)	0.11 (0.09)	-0.30** (0.10)	-0.49** (0.16)	0.03 (0.06)	-0.20* (0.09)	-0.02 (0.08)	-0.15* (0.07)	-0.23** (0.09)	0.11 (0.14)	0.09 (0.10)	0.07 (0.05)	-0.12 (0.09)	-0.15 (0.09)	0.05* (0.03)	0.02 (0.02)	0.04 (0.06)	-0.03 (0.02)	1.09** (0.16)
6. Sugar	-0.38 (0.20)	0.05 (0.11)	-0.17 (0.15)	-0.18 (0.10)	0.06 (0.14)	-0.61** (0.18)	0.13 (0.25)	-0.15 (0.08)	-0.21 (0.15)	0.38** (0.11)	0.19 (0.20)	-0.10 (0.09)	0.13** (0.05)	-0.00 (0.11)	-0.08 (0.08)	-0.06 (0.02)	-0.14* (0.06)	0.02 (0.06)	-0.04 (0.05)	1.13** (0.18)
7. Pulses	0.40 (0.25)	-0.20 (0.19)	0.04 (0.19)	0.29 (0.17)	-0.24 (0.15)	0.09 (0.17)	-0.22 (0.39)	0.05 (0.10)	-0.14 (0.14)	-0.01 (0.12)	-0.46 (0.29)	0.03 (0.17)	0.07 (0.08)	-0.07 (0.19)	-0.00 (0.11)	-0.25* (0.10)	0.12* (0.06)	-0.11 (0.08)	-0.01 (0.05)	0.71* (0.32)
8. Nuts	0.45* (0.20)	-0.61** (0.15)	0.06 (0.11)	-0.45* (0.18)	-0.07 (0.14)	-0.14* (0.06)	0.03 (0.12)	-0.65** (0.23)	-0.27** (0.09)	0.20 (0.13)	0.42 (0.35)	0.31 (0.22)	-0.05 (0.10)	-0.06 (0.19)	0.15 (0.16)	-0.02 (0.04)	0.01 (0.02)	0.04 (0.11)	-0.01 (0.02)	1.67** (0.30)
9. Vegetables	-0.19 (0.14)	0.01 (0.10)	-0.20 (0.11)	0.10 (0.09)	-0.15 (0.14)	-0.10 (0.09)	-0.12 (0.12)	-0.16** (0.06)	-0.47** (0.14)	-0.06 (0.08)	0.29 (0.17)	-0.02 (0.09)	0.08 (0.04)	0.25* (0.10)	0.05 (0.08)	-0.17** (0.03)	-0.02 (0.03)	0.04 (0.06)	-0.00 (0.03)	0.60** (0.17)
10. Fruit	-0.26 (0.18)	0.19 (0.15)	-0.14 (0.13)	-0.10 (0.13)	-0.35** (0.13)	0.27** (0.08)	-0.03 (0.14)	0.20 (0.11)	-0.11 (0.11)	-1.03** (0.15)	-0.04 (0.23)	0.11 (0.11)	0.05 (0.05)	-0.40** (0.13)	-0.16 (0.12)	0.09** (0.04)	0.06* (0.03)	0.01 (0.07)	-0.00 (0.03)	1.13* (0.19)
11. RedMeat	0.24 (0.24)	-0.23 (0.19)	0.06 (0.14)	0.26 (0.24)	0.07 (0.14)	0.06 (0.09)	-0.35 (0.22)	0.23 (0.15)	0.15 (0.14)	-0.05 (0.14)	-1.36** (0.40)	0.01 (0.31)	-0.25 (0.14)	0.23 (0.24)	0.02 (0.17)	0.15* (0.07)	0.03 (0.03)	-0.23 (0.14)	0.02 (0.03)	1.76** (0.43)
12. Poultry	-0.09 (0.12)	-0.58** (0.15)	0.08 (0.06)	0.22 (0.23)	0.00 (0.09)	-0.09 (0.05)	-0.05 (0.11)	0.14 (0.11)	-0.12 (0.08)	0.01 (0.06)	-0.06 (0.27)	-0.92* (0.39)	-0.02 (0.11)	0.02 (0.16)	-0.03 (0.12)	-0.07* (0.03)	-0.01 (0.02)	0.09 (0.08)	0.00 (0.02)	2.56** (0.50)
13. Eggs	-0.24 (0.32)	-0.30 (0.26)	0.16 (0.17)	0.48 (0.49)	0.20 (0.24)	0.20 (0.20)	-0.24 (0.26)	-0.11 (0.27)	0.17 (0.17)	0.09 (0.17)	-1.10 (0.69)	-0.08 (0.59)	-1.30** (0.30)	0.33 (0.38)	0.01 (0.23)	-0.11 (0.07)	0.00 (0.03)	-0.05 (0.15)	0.01 (0.04)	1.98** (0.87)
14. Fish	-0.82* (0.35)	0.62* (0.25)	-0.05 (0.18)	-0.52 (0.29)	-0.17 (0.15)	0.00 (0.08)	0.11 (0.21)	-0.03 (0.17)	0.29 (0.16)	-0.40* (0.18)	0.44 (0.41)	0.14 (0.28)	0.15 (0.13)	-1.69** (0.39)	-0.07 (0.17)	-0.02 (0.06)	-0.04 (0.04)	0.12 (0.12)	-0.09 (0.05)	1.07** (0.38)
15. Dairy	-0.10 (0.20)	-0.16 (0.15)	-0.13 (0.11)	0.06 (0.17)	-0.26 (0.14)	-0.07 (0.06)	-0.04 (0.13)	0.15 (0.14)	0.02 (0.10)	-0.18 (0.13)	0.03 (0.28)	-0.02 (0.23)	0.01 (0.08)	-0.09 (0.17)	-0.67** (0.24)	0.04 (0.03)	0.01 (0.03)	-0.10 (0.10)	-0.03 (0.02)	1.51** (0.33)
16. Fats	0.01 (0.13)	0.05 (0.07)	0.40** (0.12)	0.01 (0.07)	0.16* (0.07)	-0.06 (0.17)	-0.52** (0.17)	0.00 (0.05)	-0.39** (0.12)	0.19** (0.06)	0.54** (0.15)	-0.08 (0.07)	-0.06 (0.03)	-0.03 (0.09)	0.11 (0.06)	-0.42* (0.19)	0.08 (0.05)	-0.03 (0.04)	0.14 (0.07)	0.80** (0.14)
17. Coffee	0.10 (0.24)	0.22 (0.15)	0.35 (0.23)	-0.26 (0.14)	0.15 (0.15)	-0.56** (0.19)	0.72** (0.28)	0.07 (0.11)	-0.18 (0.19)	0.32* (0.14)	0.28 (0.24)	0.03 (0.14)	0.02 (0.04)	-0.20 (0.18)	0.06 (0.12)	0.22 (0.13)	-0.63** (0.10)	-0.00 (0.08)	0.07 (0.08)	1.23** (0.23)
18. SoftDrink	0.63 (0.38)	0.22 (0.31)	0.20 (0.25)	-0.59 (0.35)	0.15 (0.28)	0.04 (0.12)	-0.36 (0.26)	0.10 (0.28)	0.12 (0.22)	0.02 (0.21)	-1.08 (0.36)	0.44 (0.45)	-0.05 (0.15)	0.33 (0.30)	-0.25 (0.29)	-0.06 (0.07)	-0.00 (0.05)	-0.66** (0.23)	0.04 (0.05)	1.35** (0.46)
19. OtherFood	0.23 (0.40)	0.31 (0.23)	0.32 (0.29)	-0.34 (0.23)	-0.26 (0.22)	-0.18 (0.33)	-0.04 (0.44)	-0.01 (0.17)	0.00 (0.32)	-0.02 (0.21)	0.33 (0.43)	0.15 (0.22)	0.04 (0.10)	-0.64 (0.37)	-0.18 (0.18)	0.55 (0.40)	0.09 (0.13)	0.10 (0.13)	-0.69** (0.24)	0.49 (0.45)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.5o: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Tanzania

	Food Group																Exp.			
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish	Dairy	Oils		Coffee	SoftDrink	OtherFood
1. Rice	-0.09 (0.34)	0.12 (0.18)	-0.44* (0.17)	-0.34* (0.16)	-0.13 (0.16)	-0.15 (0.10)	0.04 (0.19)	0.28** (0.13)	-0.28* (0.13)	-0.19 (0.15)	-0.01 (0.24)	-0.08 (0.16)	-0.00 (0.05)	-0.30* (0.15)	-0.06 (0.13)	-0.04 (0.06)	0.00 (0.03)	0.09 (0.08)	0.03 (0.03)	0.84** (0.19)
2. Maize	0.13 (0.15)	-0.44** (0.13)	0.08 (0.09)	-0.17 (0.11)	-0.06 (0.09)	-0.03 (0.05)	-0.05 (0.08)	-0.12 (0.06)	0.04 (0.07)	-0.03 (0.08)	0.22 (0.16)	-0.31** (0.11)	-0.04 (0.11)	0.28** (0.08)	-0.13 (0.07)	0.08** (0.02)	0.01 (0.02)	0.13* (0.06)	0.03* (0.01)	0.57** (0.12)
3. Wheat	-0.63** (0.23)	0.09 (0.15)	0.13 (0.27)	-0.07 (0.12)	0.08 (0.15)	-0.12 (0.10)	-0.16 (0.21)	0.14 (0.09)	-0.28* (0.14)	-0.20 (0.13)	0.20 (0.22)	0.14 (0.11)	0.04 (0.05)	0.00 (0.17)	-0.14 (0.10)	0.17** (0.06)	0.08 (0.04)	0.09 (0.08)	0.04 (0.03)	1.05** (0.14)
4. Cassava	-0.58* (0.29)	-0.36 (0.24)	-0.09 (0.14)	-0.39 (0.46)	-0.65** (0.24)	-0.25* (0.11)	0.41 (0.23)	-0.46* (0.20)	0.17 (0.15)	0.07 (0.17)	0.34 (0.46)	0.57 (0.52)	0.29 (0.20)	-0.78* (0.32)	0.10 (0.18)	-0.05 (0.05)	-0.08* (0.04)	-0.28 (0.15)	-0.06* (0.03)	1.29** (0.49)
5. Roots	-0.18 (0.19)	-0.12 (0.13)	0.07 (0.13)	-0.47** (0.14)	-0.01 (0.22)	0.00 (0.08)	0.03 (0.14)	-0.08 (0.10)	-0.21* (0.10)	-0.30* (0.12)	0.18 (0.20)	0.17 (0.15)	0.09 (0.05)	-0.18 (0.12)	-0.23 (0.12)	0.00 (0.04)	0.00 (0.03)	-0.05 (0.08)	-0.01 (0.02)	1.01** (0.15)
6. Sugar	-0.39 (0.23)	-0.13 (0.14)	-0.22 (0.19)	-0.37* (0.15)	0.01 (0.17)	-0.31 (0.24)	0.22 (0.32)	-0.27* (0.11)	-0.22 (0.20)	0.57** (0.17)	0.32 (0.24)	-0.02 (0.13)	0.11 (0.05)	-0.10 (0.15)	-0.11 (0.09)	-0.03 (0.12)	-0.14 (0.07)	-0.00 (0.07)	-0.10 (0.07)	0.92** (0.19)
7. Pulses	0.12 (0.39)	-0.07 (0.21)	-0.17 (0.32)	0.47 (0.31)	0.09 (0.35)	0.17 (0.27)	0.72 (0.79)	0.14 (0.18)	0.07 (0.24)	-0.00 (0.21)	-0.88 (0.51)	0.12 (0.32)	-0.15 (0.13)	0.15 (0.29)	-0.21 (0.19)	-0.30 (0.18)	0.21 (0.11)	-0.13 (0.13)	0.06 (0.09)	0.33 (0.51)
8. Nuts	0.54* (0.26)	-0.36* (0.18)	0.17 (0.14)	-0.60** (0.23)	-0.17 (0.17)	-0.25* (0.09)	0.13 (0.07)	-0.75** (0.27)	-0.32* (0.11)	0.04 (0.14)	0.53 (0.32)	0.26 (0.29)	-0.06 (0.11)	-0.17 (0.25)	0.49** (0.17)	0.01 (0.05)	0.01 (0.03)	0.01 (0.14)	0.01 (0.03)	1.63** (0.30)
9. Vegetables	-0.45* (0.22)	0.06 (0.15)	-0.32 (0.17)	0.19 (0.14)	-0.25 (0.14)	-0.13 (0.13)	0.05 (0.08)	-0.22* (0.09)	-0.61** (0.20)	0.10 (0.14)	0.33 (0.33)	0.04 (0.14)	0.07 (0.05)	0.09 (0.14)	0.15 (0.11)	-0.21* (0.08)	-0.05 (0.05)	0.05 (0.08)	0.00 (0.03)	0.66** (0.19)
10. Fruit	-0.33 (0.26)	-0.08 (0.17)	-0.24 (0.17)	0.09 (0.18)	-0.39* (0.18)	0.39** (0.11)	-0.02 (0.12)	0.06 (0.12)	0.09 (0.15)	-0.85** (0.21)	-0.17 (0.28)	0.10 (0.15)	0.05 (0.06)	-0.22 (0.16)	-0.06 (0.14)	0.13* (0.05)	0.07 (0.04)	0.04 (0.09)	-0.00 (0.03)	0.89** (0.19)
11. RedMeat	-0.02 (0.28)	0.21 (0.19)	0.14 (0.32)	0.21 (0.32)	0.14 (0.19)	0.12 (0.12)	-0.49 (0.31)	0.26 (0.20)	0.17 (0.19)	-0.10 (0.19)	-1.16* (0.50)	-0.10 (0.44)	-0.28 (0.19)	0.39 (0.33)	-0.05 (0.20)	0.21* (0.10)	0.02 (0.04)	-0.21 (0.18)	0.03 (0.04)	0.96* (0.46)
12. Poultry	-0.15 (0.16)	-0.42** (0.15)	0.06 (0.07)	0.31 (0.30)	0.09 (0.12)	-0.03 (0.05)	0.02 (0.14)	0.12 (0.13)	-0.02 (0.09)	0.03 (0.08)	-0.17 (0.36)	-0.90 (0.50)	-0.06 (0.14)	0.08 (0.20)	-0.01 (0.13)	-0.06 (0.03)	-0.00 (0.02)	0.06 (0.11)	0.01 (0.02)	1.83** (0.36)
13. Eggs	0.01 (0.30)	-0.17 (0.26)	0.13 (0.18)	0.68 (0.71)	0.29 (0.29)	0.16 (0.15)	-0.33 (0.37)	-0.09 (0.28)	0.16 (0.20)	0.12 (0.19)	-1.15 (0.97)	-0.20 (0.80)	-1.43** (0.43)	0.46 (0.55)	0.08 (0.25)	-0.10 (0.08)	-0.01 (0.03)	-0.09 (0.19)	0.02 (0.05)	0.85 (0.98)
14. Fish	-0.58 (0.35)	0.50 (0.27)	-0.01 (0.23)	-0.87* (0.42)	-0.28 (0.20)	-0.09 (0.11)	0.11 (0.26)	-0.13 (0.21)	0.06 (0.17)	-0.25 (0.19)	0.71 (0.55)	0.19 (0.31)	0.21 (0.18)	-1.66** (0.45)	0.03 (0.20)	-0.11 (0.08)	-0.08 (0.06)	0.07 (0.15)	-0.10 (0.06)	1.42** (0.46)
15. Dairy	-0.16 (0.24)	-0.32* (0.16)	-0.20 (0.14)	0.11 (0.20)	-0.35 (0.18)	-0.09 (0.07)	-0.24 (0.16)	0.42** (0.14)	0.12 (0.12)	-0.08 (0.14)	-0.13 (0.32)	-0.01 (0.25)	0.03 (0.08)	0.02 (0.19)	-0.33 (0.25)	0.00 (0.04)	0.01 (0.03)	-0.08 (0.12)	-0.03 (0.02)	1.49** (0.25)
16. Fats	-0.12 (0.21)	0.34** (0.12)	0.48** (0.17)	-0.10 (0.11)	0.04 (0.11)	-0.02 (0.17)	-0.62* (0.28)	0.04 (0.08)	-0.44* (0.19)	0.28** (0.11)	0.83** (0.22)	-0.13 (0.11)	-0.10* (0.04)	-0.17 (0.14)	0.05 (0.08)	-0.23 (0.27)	0.15* (0.08)	-0.03 (0.06)	0.06 (0.09)	0.59** (0.17)
17. Coffee	0.03 (0.30)	0.05 (0.20)	0.56 (0.29)	-0.45* (0.19)	0.03 (0.19)	-0.48* (0.24)	1.08** (0.39)	0.09 (0.12)	-0.27 (0.24)	0.40* (0.20)	0.18 (0.33)	0.02 (0.05)	-0.01 (0.05)	-0.37 (0.23)	0.08 (0.14)	0.38* (0.14)	-0.38** (0.14)	0.01 (0.01)	0.05 (0.09)	0.76** (0.32)
18. SoftDrink	0.47 (0.48)	0.79 (0.45)	0.35 (0.35)	-0.90 (0.49)	-0.20 (0.40)	-0.00 (0.17)	-0.37 (0.35)	0.03 (0.38)	0.17 (0.31)	0.11 (0.29)	-1.12 (0.81)	0.36 (0.69)	-0.11 (0.20)	0.21 (0.45)	-0.24 (0.40)	-0.03 (0.09)	0.01 (0.07)	-0.43 (0.35)	0.08 (0.06)	0.82 (0.53)
19. OtherFood	0.37 (0.55)	0.51 (0.38)	0.44 (0.43)	-0.53 (0.35)	-0.17 (0.30)	-0.58 (0.57)	0.43 (0.75)	-0.08 (0.24)	0.01 (0.49)	-0.03 (0.29)	0.40 (0.61)	0.25 (0.34)	0.08 (0.15)	-0.81 (0.52)	-0.24 (0.24)	0.22 (0.47)	0.08 (0.17)	0.21 (0.20)	-0.91** (0.30)	0.93* (0.46)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.51: Food demand elasticities with respect to food prices and total household expenditures for consumers under \$1.9 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-0.78** (0.10)	0.07 (0.05)	0.05 (0.07)	-0.31** (0.07)	-0.08 (0.08)	-0.04 (0.03)	-0.19** (0.05)	0.18** (0.04)	-0.15** (0.03)	0.01 (0.03)	0.28** (0.08)	-0.10 (0.09)	0.18** (0.05)	0.11 (0.07)	-0.03 (0.05)	-0.11** (0.03)	0.02 (0.03)	0.16** (0.03)	-0.03** (0.01)	1.07** (0.11)
2. Maize	0.10 (0.07)	-0.60** (0.08)	-0.09 (0.07)	0.05 (0.05)	0.04 (0.07)	-0.09** (0.04)	0.03 (0.04)	0.07* (0.03)	-0.05* (0.02)	0.03 (0.03)	0.02 (0.06)	0.10 (0.09)	-0.03 (0.04)	-0.12 (0.07)	-0.13** (0.04)	0.08** (0.02)	0.01 (0.02)	-0.02 (0.03)	-0.03** (0.01)	1.00** (0.14)
3. Wheat	0.04 (0.05)	-0.06 (0.04)	-0.51** (0.07)	-0.10** (0.04)	0.08 (0.05)	-0.09** (0.02)	-0.14** (0.04)	0.03 (0.02)	-0.05* (0.02)	0.10** (0.03)	0.03 (0.05)	0.07 (0.03)	0.02 (0.03)	-0.10* (0.05)	-0.07* (0.03)	0.00 (0.02)	-0.04* (0.02)	0.03 (0.03)	0.03 (0.01)	1.07** (0.07)
4. Cassava	-0.46** (0.09)	0.05 (0.06)	-0.18** (0.07)	-0.65** (0.08)	-0.24** (0.07)	0.10** (0.03)	0.11** (0.04)	0.08** (0.03)	0.04 (0.02)	0.07** (0.03)	0.30** (0.06)	0.27** (0.09)	0.03 (0.04)	0.03 (0.04)	0.21** (0.05)	-0.07** (0.02)	0.22** (0.03)	0.06** (0.03)	0.08** (0.01)	0.90** (0.12)
5. Roots	-0.10 (0.08)	0.02 (0.06)	0.07 (0.07)	-0.17** (0.05)	-0.15** (0.11)	0.05 (0.03)	0.07 (0.04)	0.01 (0.03)	-0.08** (0.03)	-0.01 (0.04)	-0.09 (0.07)	0.02 (0.08)	-0.04 (0.05)	-0.04 (0.05)	0.12* (0.05)	-0.04 (0.03)	0.03 (0.03)	0.05 (0.03)	0.02 (0.01)	1.39** (0.12)
6. Sugar	-0.11 (0.08)	-0.23** (0.05)	-0.37** (0.07)	0.28** (0.05)	0.24* (0.08)	-0.74** (0.07)	-0.32** (0.08)	0.07 (0.03)	0.20** (0.05)	0.14** (0.05)	0.39** (0.11)	0.12 (0.08)	0.09 (0.07)	-0.10 (0.08)	-0.29** (0.06)	0.09* (0.04)	0.03 (0.04)	-0.37** (0.05)	0.01 (0.02)	0.51** (0.12)
7. Pulses	-0.34** (0.07)	0.03 (0.05)	-0.34** (0.08)	0.12** (0.04)	0.13 (0.07)	-0.17** (0.04)	-0.42** (0.07)	0.01 (0.03)	-0.00 (0.03)	-0.06 (0.04)	-0.12 (0.08)	-0.11* (0.05)	0.10 (0.06)	0.07 (0.06)	-0.00 (0.06)	0.17** (0.05)	-0.16** (0.03)	0.08** (0.03)	0.01 (0.01)	1.26** (0.08)
8. Nuts	0.60** (0.14)	0.18** (0.05)	0.13 (0.11)	0.19* (0.08)	0.05 (0.10)	0.06 (0.05)	0.03 (0.07)	-0.66** (0.08)	-0.12** (0.04)	0.12* (0.05)	-0.21 (0.12)	0.02 (0.14)	0.07 (0.08)	-0.05 (0.12)	-0.05 (0.07)	-0.02 (0.03)	-0.07 (0.05)	0.12* (0.05)	-0.05** (0.02)	1.04** (0.18)
9. Vegetables	-0.18** (0.03)	-0.05 (0.02)	-0.08** (0.04)	0.04 (0.02)	-0.07 (0.04)	0.06** (0.02)	0.02 (0.03)	-0.04** (0.02)	-0.99** (0.03)	0.07** (0.02)	0.14** (0.04)	-0.02 (0.02)	0.16** (0.02)	0.07* (0.03)	-0.00 (0.03)	-0.09** (0.02)	-0.01 (0.01)	0.06** (0.02)	-0.01 (0.01)	0.90** (0.04)
10. Fruit	0.06 (0.11)	0.08 (0.09)	0.53** (0.14)	0.20** (0.07)	-0.00 (0.33)	0.15* (0.15)	-0.15 (0.26)	-0.14* (0.06)	0.20** (0.06)	-0.33** (0.10)	-0.00 (0.15)	-0.42** (0.31)	0.14 (0.32)	0.30** (0.31)	-0.35** (0.23)	-0.13* (0.12)	-0.03 (0.14)	0.05 (0.16)	-0.05* (0.05)	0.94** (0.16)
11. RedMeat	0.25** (0.09)	-0.03 (0.06)	-0.08 (0.09)	0.24** (0.06)	-0.19* (0.09)	0.11** (0.04)	-0.14* (0.06)	-0.09* (0.04)	0.04 (0.04)	-0.01 (0.05)	-0.95** (0.11)	-0.16* (0.08)	0.16* (0.06)	0.26** (0.09)	0.01 (0.03)	-0.04 (0.05)	-0.08* (0.03)	-0.09* (0.04)	0.08** (0.02)	2.18** (0.15)
12. Poultry	-0.04 (0.19)	0.14 (0.15)	0.26 (0.20)	0.28 (0.14)	0.10 (0.15)	0.06 (0.05)	-0.04 (0.08)	0.01 (0.07)	0.06 (0.09)	-0.13* (0.06)	-0.13 (0.12)	-2.00* (0.79)	0.01 (0.08)	-0.00 (0.16)	0.06 (0.11)	0.00 (0.10)	-0.07 (0.06)	-0.02 (0.05)	-0.01 (0.02)	-0.14 (1.10)
13. Eggs	1.51** (0.38)	-0.12 (0.26)	0.37 (0.34)	0.19 (0.21)	-0.14 (0.33)	0.20 (0.15)	0.53* (0.26)	0.16 (0.13)	0.99** (0.18)	0.25 (0.17)	1.03** (0.39)	0.08 (0.31)	-2.22** (0.32)	0.21 (0.31)	0.15 (0.23)	0.33** (0.12)	-0.27 (0.14)	-0.14 (0.16)	-0.08 (0.05)	-1.02 (0.55)
14. Fish	0.18* (0.08)	-0.12 (0.06)	-0.12 (0.08)	0.00 (0.06)	0.25** (0.08)	-0.04 (0.03)	0.04 (0.04)	-0.02 (0.04)	0.08** (0.03)	0.10** (0.03)	0.35** (0.08)	-0.06 (0.09)	0.02 (0.05)	-1.12** (0.11)	-0.21** (0.05)	-0.00 (0.02)	0.05 (0.04)	-0.05 (0.01)	-0.01 (0.01)	0.64** (0.14)
15. Dairy	-0.09 (0.20)	-0.33* (0.14)	-0.31 (0.18)	0.49** (0.16)	0.38 (0.21)	-0.26** (0.09)	0.35* (0.14)	-0.05 (0.08)	-0.02 (0.09)	-0.27** (0.10)	0.06 (0.18)	0.18 (0.24)	0.06 (0.13)	-0.54** (0.20)	-1.38** (0.19)	0.21** (0.08)	0.12 (0.09)	-0.10 (0.08)	0.07* (0.03)	1.06** (0.32)
16. Oils	-0.12** (0.03)	0.09** (0.02)	0.04 (0.03)	-0.07** (0.02)	-0.01 (0.03)	0.02 (0.01)	-0.10** (0.02)	-0.00 (0.01)	-0.09** (0.02)	-0.05** (0.02)	0.06 (0.04)	-0.07** (0.02)	0.04 (0.02)	-0.01 (0.02)	0.09** (0.02)	-0.65** (0.04)	-0.01 (0.01)	-0.07** (0.02)	-0.02** (0.01)	0.77** (0.04)
17. Coffee	-0.08 (0.20)	-0.04 (0.13)	-0.66** (0.18)	0.88** (0.15)	-0.01 (0.09)	0.02 (0.08)	0.18 (0.13)	-0.14 (0.09)	-0.22** (0.08)	-0.05 (0.09)	-0.49** (0.19)	-0.34 (0.24)	-0.23 (0.12)	0.09 (0.22)	0.21 (0.15)	-0.24** (0.06)	-0.74** (0.12)	0.02 (0.08)	0.09** (0.03)	3.55** (0.37)
18. SoftDrink	0.83** (0.15)	-0.07 (0.10)	0.20 (0.16)	0.21* (0.10)	0.30* (0.14)	-0.50** (0.08)	0.06 (0.10)	0.18* (0.07)	0.23** (0.07)	0.07 (0.08)	-0.34* (0.17)	-0.10 (0.15)	-0.11 (0.11)	-0.18 (0.14)	-0.14 (0.09)	-0.26** (0.08)	0.03 (0.07)	-0.49** (0.10)	0.18** (0.03)	0.75** (0.20)
19. OtherFood	-0.16** (0.06)	-0.14** (0.04)	-0.23** (0.06)	0.30** (0.04)	0.14* (0.06)	0.00 (0.03)	-0.14** (0.04)	-0.08** (0.03)	-0.05 (0.04)	-0.08** (0.03)	0.46** (0.07)	-0.09 (0.03)	-0.09* (0.04)	-0.05 (0.05)	0.13** (0.04)	-0.06* (0.03)	0.11** (0.03)	0.21** (0.03)	-0.56** (0.03)	0.83** (0.07)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.52: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$1.9 poverty line but under \$3.2 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-0.71** (0.07)	-0.02 (0.03)	0.01 (0.03)	-0.17** (0.04)	-0.13* (0.05)	-0.00 (0.02)	-0.19** (0.03)	0.12** (0.03)	-0.09** (0.02)	-0.00 (0.02)	0.14** (0.03)	-0.06 (0.03)	0.09** (0.03)	0.01 (0.03)	-0.01 (0.03)	-0.05** (0.02)	0.04 (0.02)	0.10** (0.02)	-0.03** (0.01)	1.11** (0.09)
2. Maize	-0.08 (0.06)	-0.40** (0.09)	-0.08 (0.05)	-0.03 (0.03)	-0.09 (0.06)	-0.05* (0.02)	-0.01 (0.03)	0.06* (0.03)	-0.08** (0.02)	0.00 (0.02)	0.05 (0.03)	0.12 (0.08)	-0.02 (0.03)	-0.18** (0.06)	-0.10** (0.03)	0.00 (0.02)	-0.01 (0.02)	-0.02 (0.02)	-0.03** (0.01)	1.56** (0.15)
3. Wheat	0.01 (0.04)	-0.01 (0.03)	-0.33** (0.06)	-0.06* (0.03)	0.02 (0.05)	-0.04* (0.02)	-0.08** (0.03)	0.00 (0.02)	-0.03 (0.02)	0.05* (0.02)	-0.08 (0.04)	0.04 (0.04)	0.03 (0.03)	-0.07 (0.04)	-0.06* (0.03)	0.01 (0.02)	-0.03* (0.02)	-0.01 (0.02)	-0.03** (0.01)	1.03** (0.07)
4. Cassava	-0.27** (0.06)	-0.02 (0.04)	-0.11* (0.03)	-0.64** (0.06)	-0.22** (0.05)	0.08** (0.02)	0.05 (0.03)	0.02 (0.02)	-0.01 (0.02)	0.05** (0.02)	0.14** (0.04)	0.14* (0.06)	0.02 (0.03)	-0.02 (0.06)	0.13** (0.03)	-0.05** (0.01)	0.12** (0.02)	0.04* (0.02)	0.03** (0.01)	1.14** (0.10)
5. Roots	-0.11** (0.04)	-0.02 (0.03)	0.01 (0.04)	-0.12** (0.03)	-0.93** (0.06)	0.01 (0.02)	0.02 (0.02)	0.02 (0.02)	-0.07** (0.02)	0.03 (0.02)	-0.04 (0.04)	0.03 (0.04)	-0.00 (0.03)	0.09* (0.04)	0.08** (0.03)	-0.03* (0.02)	0.02 (0.02)	0.03 (0.02)	0.00 (0.01)	1.12** (0.07)
6. Sugar	-0.02 (0.08)	-0.12* (0.06)	-0.22** (0.08)	0.22** (0.05)	0.01 (0.08)	-0.76** (0.05)	-0.37** (0.06)	0.02 (0.04)	0.12** (0.02)	0.05 (0.04)	0.20* (0.09)	0.06 (0.07)	0.06 (0.06)	-0.10 (0.06)	-0.25** (0.05)	0.04 (0.03)	-0.01 (0.03)	-0.29** (0.04)	-0.02 (0.01)	1.24** (0.12)
7. Pulses	-0.31** (0.05)	0.02 (0.03)	-0.15** (0.05)	0.07* (0.03)	0.05 (0.05)	-0.15** (0.02)	-0.41** (0.05)	0.02 (0.02)	0.00 (0.02)	-0.03 (0.03)	-0.01 (0.05)	-0.08** (0.03)	0.09* (0.04)	-0.00 (0.07)	0.11** (0.03)	-0.17** (0.02)	0.05* (0.03)	0.03 (0.02)	-0.00 (0.01)	0.97** (0.07)
8. Nuts	0.40** (0.10)	0.15* (0.06)	-0.00 (0.08)	0.05 (0.06)	0.08 (0.08)	0.02 (0.03)	0.02 (0.03)	-0.68** (0.06)	-0.11** (0.03)	0.01 (0.04)	-0.20* (0.08)	0.03 (0.11)	0.04 (0.04)	-0.03 (0.08)	-0.01 (0.05)	0.04 (0.02)	-0.05 (0.03)	0.11** (0.03)	-0.02* (0.01)	1.11** (0.16)
9. Vegetables	-0.09** (0.03)	-0.04* (0.02)	-0.03 (0.03)	0.00 (0.02)	-0.09** (0.03)	0.05** (0.01)	0.01 (0.01)	-0.04** (0.01)	-0.88** (0.02)	0.04** (0.01)	0.12** (0.03)	0.00 (0.02)	0.08** (0.04)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.04** (0.01)	-0.01 (0.01)	0.77** (0.04)
10. Fruit	-0.07 (0.07)	0.01 (0.06)	0.15 (0.09)	0.12** (0.04)	0.05 (0.09)	0.04 (0.04)	-0.09 (0.06)	0.01 (0.04)	0.06 (0.04)	-1.20** (0.07)	-0.04 (0.09)	-0.26** (0.07)	0.13* (0.06)	0.07 (0.07)	-0.21** (0.06)	-0.12** (0.03)	0.03 (0.02)	0.12** (0.04)	-0.04* (0.01)	1.62** (0.13)
11. RedMeat	0.07 (0.03)	0.04 (0.04)	-0.18** (0.03)	0.10** (0.03)	-0.15** (0.05)	0.05* (0.02)	-0.06 (0.03)	-0.07** (0.02)	0.01 (0.02)	-0.01 (0.02)	-0.71** (0.07)	-0.07 (0.05)	0.07 (0.03)	0.07 (0.03)	-0.01 (0.03)	-0.04* (0.02)	-0.01 (0.02)	-0.08** (0.02)	0.05** (0.01)	1.95** (0.10)
12. Poultry	-0.04 (0.13)	0.11 (0.10)	0.08 (0.12)	0.12 (0.16)	0.06 (0.11)	0.02 (0.11)	-0.04 (0.16)	0.01 (0.09)	0.02 (0.10)	-0.08** (0.12)	-0.05 (0.23)	-1.85** (0.61)	-0.02 (0.20)	0.03 (0.20)	0.03 (0.16)	-0.02 (0.07)	-0.02 (0.11)	-0.03 (0.10)	-0.01 (0.01)	0.65 (0.94)
13. Eggs	0.49* (0.24)	-0.10 (0.17)	0.16 (0.23)	0.09 (0.16)	-0.07 (0.22)	0.08 (0.11)	0.31 (0.16)	0.08 (0.09)	0.29** (0.10)	0.23 (0.12)	0.35 (0.23)	-0.13 (0.24)	-1.45** (0.88)	0.17 (0.20)	0.00 (0.16)	0.07 (0.07)	-0.08 (0.11)	-0.06 (0.10)	-0.02 (0.01)	1.64** (0.43)
14. Fish	0.01 (0.03)	-0.11* (0.04)	-0.09 (0.03)	-0.01 (0.04)	0.12* (0.06)	-0.03 (0.02)	-0.01 (0.03)	-0.01 (0.03)	0.00 (0.02)	0.05* (0.02)	0.14** (0.03)	0.01 (0.03)	0.04 (0.03)	-0.98** (0.07)	-0.12** (0.03)	-0.04** (0.01)	0.01 (0.02)	-0.03 (0.02)	-0.01 (0.01)	1.06** (0.11)
15. Dairy	-0.02 (0.13)	-0.17* (0.08)	-0.18 (0.11)	0.29** (0.10)	0.32* (0.14)	-0.19** (0.06)	0.21* (0.09)	-0.01 (0.05)	0.04 (0.05)	-0.17** (0.04)	0.01 (0.11)	0.05 (0.16)	0.01 (0.08)	-0.30** (0.12)	-1.08** (0.11)	0.10 (0.05)	0.07 (0.06)	-0.11* (0.03)	0.02 (0.02)	0.83** (0.27)
16. Oils	-0.05* (0.02)	0.05** (0.01)	0.04 (0.02)	-0.04** (0.01)	-0.03 (0.02)	0.03* (0.01)	-0.15** (0.01)	0.02** (0.01)	-0.12** (0.02)	-0.04** (0.01)	0.03 (0.03)	-0.05* (0.02)	0.03 (0.02)	-0.04* (0.02)	0.05** (0.02)	-0.68** (0.03)	-0.02* (0.01)	-0.05** (0.01)	0.01* (0.05)	0.79** (0.05)
17. Coffee	0.08 (0.11)	-0.05 (0.07)	-0.27** (0.09)	0.38** (0.08)	-0.03 (0.10)	-0.02 (0.04)	0.08 (0.06)	-0.08 (0.03)	-0.13** (0.04)	0.03 (0.03)	-0.10 (0.10)	-0.10 (0.05)	-0.06 (0.04)	-0.03 (0.03)	-0.13** (0.08)	-0.13** (0.03)	-0.80** (0.06)	0.05 (0.04)	0.06** (0.02)	2.30** (0.21)
18. SoftDrink	0.40** (0.09)	-0.06 (0.07)	-0.11 (0.09)	0.12* (0.08)	0.10 (0.10)	-0.32** (0.04)	0.04 (0.06)	0.13** (0.03)	0.08 (0.04)	0.14** (0.05)	-0.31** (0.10)	-0.13 (0.11)	-0.04 (0.06)	-0.13 (0.08)	-0.16** (0.03)	-0.16** (0.03)	0.05 (0.06)	-0.61** (0.04)	0.11** (0.02)	1.51** (0.16)
19. OtherFood	-0.17** (0.04)	-0.08** (0.03)	-0.14* (0.04)	0.16** (0.03)	0.03 (0.04)	-0.03 (0.02)	-0.00 (0.03)	-0.04* (0.02)	-0.02 (0.03)	-0.06* (0.02)	0.36** (0.03)	-0.05 (0.04)	-0.01 (0.03)	-0.03 (0.03)	0.04 (0.03)	0.04* (0.02)	0.10** (0.02)	0.17** (0.02)	-0.59** (0.02)	0.77** (0.06)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 9) and total household expenditures (the last column).

Table D.53: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$3.2 poverty line but under \$5.5 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-0.62** (0.07)	-0.09** (0.03)	-0.01 (0.04)	-0.07 (0.04)	-0.18** (0.05)	0.04 (0.02)	-0.19** (0.03)	0.09** (0.03)	-0.03 (0.02)	-0.02 (0.02)	0.05 (0.05)	-0.03 (0.05)	0.02 (0.03)	-0.07 (0.04)	0.00 (0.03)	-0.00 (0.02)	0.06** (0.02)	0.07** (0.02)	-0.03** (0.01)	0.98** (0.09)
2. Maize	-0.21** (0.06)	-0.14 (0.11)	-0.00 (0.05)	-0.10* (0.05)	-0.21** (0.07)	-0.01 (0.02)	-0.02 (0.03)	0.06* (0.03)	-0.08** (0.02)	-0.01 (0.01)	0.11 (0.06)	0.15 (0.11)	-0.01 (0.05)	-0.21** (0.06)	-0.06 (0.03)	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.02* (0.01)	1.71** (0.16)
3. Wheat	-0.02 (0.04)	0.03 (0.03)	-0.24** (0.07)	-0.02 (0.03)	-0.06 (0.05)	0.00 (0.02)	-0.02 (0.03)	-0.03 (0.02)	-0.01 (0.02)	0.01 (0.02)	-0.20** (0.04)	0.00 (0.05)	0.04 (0.03)	-0.04 (0.04)	-0.05 (0.03)	0.01 (0.01)	-0.02 (0.02)	-0.06** (0.02)	-0.02* (0.01)	1.07** (0.07)
4. Cassava	-0.10 (0.05)	-0.08 (0.04)	-0.03 (0.04)	-0.62** (0.06)	-0.19** (0.05)	0.07** (0.02)	0.01 (0.02)	-0.02 (0.03)	-0.03* (0.02)	0.04** (0.02)	0.04 (0.04)	0.04 (0.05)	0.02 (0.03)	-0.02 (0.03)	0.08** (0.03)	-0.01 (0.01)	0.05* (0.02)	0.03 (0.02)	0.01 (0.01)	1.02** (0.10)
5. Roots	-0.13** (0.04)	-0.06 (0.03)	-0.03 (0.04)	-0.10** (0.03)	-0.77** (0.05)	-0.02 (0.01)	-0.01 (0.02)	0.03 (0.02)	-0.07** (0.02)	0.05** (0.02)	-0.01 (0.04)	0.04 (0.03)	0.02 (0.02)	0.07* (0.03)	0.08** (0.02)	-0.03* (0.01)	0.01 (0.02)	0.02 (0.01)	-0.01* (0.01)	0.91** (0.06)
6. Sugar	0.09 (0.08)	-0.01 (0.05)	-0.02 (0.07)	0.17** (0.05)	-0.15 (0.08)	-0.78** (0.05)	-0.37** (0.05)	-0.01 (0.04)	0.08* (0.04)	-0.02 (0.04)	0.06 (0.08)	0.01 (0.06)	0.03 (0.03)	-0.09 (0.06)	-0.21** (0.05)	0.04 (0.03)	-0.04 (0.03)	-0.22** (0.04)	-0.04** (0.01)	1.48** (0.12)
7. Pulses	-0.32** (0.05)	0.01 (0.05)	-0.02 (0.05)	0.02 (0.03)	-0.02 (0.05)	-0.15** (0.02)	-0.39** (0.05)	0.02 (0.02)	-0.01 (0.03)	0.00 (0.02)	0.07 (0.05)	-0.06* (0.03)	0.09** (0.03)	-0.01 (0.04)	0.07 (0.05)	-0.19** (0.02)	0.03 (0.02)	0.03 (0.02)	0.03** (0.01)	0.90** (0.07)
8. Nuts	0.26** (0.10)	0.12* (0.06)	-0.10 (0.08)	-0.05 (0.06)	0.10 (0.09)	-0.01 (0.03)	0.02 (0.05)	-0.69** (0.06)	-0.10** (0.04)	-0.06 (0.04)	-0.21** (0.08)	0.04 (0.11)	0.03 (0.04)	-0.02 (0.07)	0.02 (0.03)	0.08** (0.03)	-0.03 (0.03)	0.10** (0.03)	-0.01 (0.01)	1.18** (0.16)
9. Vegetables	-0.02 (0.03)	-0.03 (0.02)	0.01 (0.03)	-0.03 (0.02)	-0.11** (0.03)	0.05** (0.01)	0.00 (0.02)	-0.04** (0.01)	-0.78** (0.02)	0.03 (0.01)	0.10** (0.03)	0.02 (0.02)	0.02 (0.02)	-0.02 (0.02)	0.04* (0.02)	-0.12** (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.68** (0.04)
10. Fruit	-0.11 (0.06)	-0.02 (0.05)	-0.03 (0.07)	0.08* (0.04)	0.12 (0.07)	-0.02 (0.03)	-0.03 (0.04)	-0.06 (0.03)	0.01 (0.03)	-0.12** (0.06)	-0.04 (0.06)	-0.15** (0.04)	0.13** (0.05)	0.02 (0.02)	-0.13** (0.04)	-0.08** (0.03)	0.06* (0.03)	0.16** (0.03)	-0.03* (0.01)	1.62** (0.10)
11. RedMeat	-0.01 (0.04)	0.08* (0.03)	-0.24** (0.04)	0.02 (0.03)	-0.09* (0.05)	0.02 (0.02)	0.00 (0.03)	-0.06** (0.02)	0.01 (0.02)	-0.01 (0.02)	-0.52** (0.07)	-0.01 (0.04)	0.01 (0.03)	-0.03 (0.03)	-0.03 (0.03)	-0.04** (0.01)	0.03 (0.02)	-0.07** (0.02)	0.03** (0.01)	1.64** (0.08)
12. Poultry	-0.07 (0.09)	0.09 (0.12)	-0.02 (0.16)	0.03 (0.11)	0.01 (0.16)	-0.00 (0.07)	-0.05 (0.11)	0.01 (0.04)	-0.01 (0.04)	-0.06* (0.09)	-0.04 (0.18)	-1.74** (0.25)	-0.05 (0.14)	-0.05 (0.15)	-0.02 (0.08)	-0.03 (0.06)	0.00 (0.02)	-0.05 (0.07)	-0.01 (0.01)	1.42 (0.72)
13. Eggs	-0.01 (0.17)	-0.03 (0.12)	0.13 (0.16)	0.04 (0.11)	0.01 (0.16)	0.02 (0.07)	0.21 (0.11)	0.04 (0.07)	-0.03 (0.08)	0.21* (0.09)	-0.03 (0.18)	-0.25 (0.21)	-1.00** (0.14)	0.13 (0.15)	-0.08 (0.11)	-0.00 (0.06)	0.02 (0.02)	-0.01 (0.01)	0.04 (0.03)	2.19** (0.37)
14. Fish	-0.08 (0.04)	-0.09** (0.03)	-0.04 (0.04)	-0.01 (0.03)	0.07 (0.05)	-0.01 (0.01)	-0.01 (0.02)	-0.00 (0.02)	-0.03 (0.02)	0.02 (0.02)	0.01 (0.04)	0.05 (0.04)	0.04 (0.02)	-0.85** (0.05)	-0.06* (0.03)	-0.06** (0.01)	-0.01 (0.02)	-0.01 (0.01)	-0.01 (0.01)	1.09** (0.09)
15. Dairy	0.00 (0.10)	-0.08 (0.06)	-0.13 (0.09)	0.15* (0.07)	0.24* (0.11)	-0.14** (0.05)	0.10 (0.07)	0.02 (0.04)	0.05 (0.05)	-0.10* (0.05)	-0.05 (0.09)	-0.03 (0.17)	-0.03 (0.06)	-0.16 (0.09)	-0.89** (0.09)	0.00 (0.04)	0.03 (0.05)	-0.11* (0.04)	-0.02 (0.02)	1.07** (0.23)
16. Oils	0.02 (0.03)	0.01 (0.02)	0.05* (0.02)	-0.00 (0.01)	-0.04 (0.02)	0.03** (0.01)	-0.20** (0.02)	0.05** (0.01)	-0.15** (0.02)	-0.03 (0.01)	0.00 (0.02)	-0.02 (0.03)	0.02 (0.02)	-0.07** (0.02)	0.01 (0.01)	-0.71** (0.03)	-0.02* (0.01)	-0.01 (0.01)	0.04** (0.01)	0.75** (0.05)
17. Coffee	0.16 (0.09)	-0.07 (0.05)	-0.13 (0.07)	0.11* (0.06)	-0.03 (0.08)	-0.05 (0.03)	0.02 (0.05)	-0.04 (0.04)	-0.09** (0.03)	0.07 (0.04)	0.10 (0.08)	0.03 (0.09)	0.02 (0.03)	-0.10 (0.08)	0.04 (0.06)	-0.09** (0.02)	-0.83** (0.05)	0.05 (0.03)	0.04* (0.01)	1.80** (0.15)
18. SoftDrink	0.18** (0.07)	-0.04 (0.05)	-0.25** (0.07)	0.07 (0.05)	0.01 (0.05)	-0.21** (0.03)	0.04 (0.05)	0.10** (0.03)	0.03 (0.03)	0.18** (0.07)	-0.26** (0.07)	-0.14 (0.07)	0.00 (0.03)	-0.08 (0.05)	-0.16** (0.04)	-0.07* (0.03)	0.05 (0.03)	-0.70** (0.05)	0.07** (0.01)	1.58** (0.13)
19. OtherFood	-0.19** (0.04)	-0.04 (0.03)	-0.07 (0.04)	0.04 (0.03)	-0.07 (0.05)	-0.06** (0.02)	0.11** (0.03)	-0.00 (0.02)	0.01 (0.03)	-0.05 (0.02)	0.26** (0.05)	-0.02 (0.01)	0.06* (0.03)	-0.02 (0.04)	-0.03 (0.03)	0.12** (0.02)	0.09** (0.02)	0.15** (0.02)	-0.62** (0.02)	0.78** (0.07)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 19) and total household expenditures (the last column).

Table D.54: Food demand elasticities with respect to food prices and total household expenditures for consumers above \$5.5 poverty line in Nigeria

	Food Group														Exp.					
	Rice	Maize	Wheat	Cassava	Roots	Sugar	Pulses	Nuts	Vegetables	Fruit	RedMeat	Poultry	Eggs	Fish		Dairy	Oils	Coffee	SoftDrink	OtherFood
1. Rice	-0.46** (0.10)	-0.20** (0.06)	-0.04 (0.06)	0.07 (0.05)	-0.22** (0.05)	0.09** (0.03)	-0.21** (0.04)	0.05 (0.04)	0.05 (0.03)	-0.03 (0.03)	-0.06 (0.07)	0.01 (0.04)	-0.06 (0.04)	-0.16* (0.07)	0.03 (0.04)	0.07** (0.02)	0.10** (0.03)	0.03 (0.03)	-0.04** (0.01)	0.60** (0.13)
2. Maize	-0.35** (0.09)	0.12 (0.13)	0.08 (0.08)	-0.19** (0.07)	-0.27** (0.10)	0.06 (0.03)	-0.02 (0.04)	0.05 (0.04)	-0.03 (0.03)	-0.03 (0.03)	0.23** (0.09)	0.19 (0.18)	0.01 (0.04)	-0.16* (0.07)	-0.00 (0.05)	-0.05* (0.02)	-0.05 (0.03)	-0.01 (0.03)	0.00 (0.01)	1.24** (0.22)
3. Wheat	-0.07 (0.05)	0.08 (0.05)	-0.20* (0.10)	0.03 (0.04)	-0.17** (0.07)	0.07** (0.03)	0.06 (0.04)	-0.06* (0.03)	0.01 (0.03)	-0.06 (0.03)	-0.34** (0.06)	-0.05 (0.05)	0.05 (0.05)	-0.00 (0.06)	-0.03 (0.04)	0.01 (0.02)	-0.01 (0.02)	-0.12** (0.03)	-0.00 (0.01)	1.19** (0.09)
4. Cassava	0.10 (0.07)	-0.15** (0.06)	0.08 (0.07)	0.08 (0.08)	-0.56** (0.08)	0.06* (0.02)	-0.01 (0.03)	-0.07 (0.04)	-0.05 (0.02)	0.04 (0.02)	-0.05 (0.07)	-0.05 (0.08)	0.01 (0.03)	0.01 (0.06)	0.03 (0.04)	0.05** (0.02)	-0.03 (0.03)	0.03 (0.03)	-0.02** (0.01)	0.52** (0.18)
5. Roots	-0.16** (0.05)	-0.11* (0.05)	-0.10 (0.05)	-0.09* (0.04)	-0.36** (0.08)	-0.05* (0.02)	-0.03 (0.03)	0.04 (0.03)	-0.08** (0.02)	0.09** (0.02)	0.02 (0.06)	0.06 (0.05)	0.06 (0.03)	0.07 (0.05)	0.08* (0.03)	-0.03 (0.01)	0.01 (0.02)	0.01 (0.02)	-0.03** (0.01)	0.62** (0.10)
6. Sugar	0.25* (0.10)	0.12 (0.07)	0.22* (0.09)	0.13* (0.06)	-0.29** (0.09)	-0.81** (0.07)	-0.33** (0.03)	-0.04 (0.03)	0.07 (0.05)	-0.09 (0.02)	-0.06 (0.10)	-0.05 (0.07)	-0.01 (0.06)	-0.03 (0.07)	-0.15* (0.06)	0.06 (0.04)	0.07 (0.04)	-0.07 (0.03)	-0.06** (0.02)	1.32** (0.13)
7. Pulses	-0.35** (0.06)	-0.01 (0.04)	0.12 (0.07)	-0.04 (0.04)	-0.13 (0.07)	-0.16** (0.03)	-0.36** (0.03)	0.02 (0.03)	-0.03 (0.04)	0.03 (0.03)	0.15* (0.06)	-0.04 (0.04)	0.09* (0.04)	-0.03 (0.06)	0.01 (0.05)	-0.03 (0.03)	0.01 (0.03)	0.01 (0.03)	0.07** (0.01)	1.01** (0.09)
8. Nuts	0.11 (0.12)	0.09 (0.08)	-0.22* (0.10)	-0.17 (0.09)	0.13 (0.12)	-0.04 (0.03)	0.02 (0.06)	-0.71** (0.08)	-0.09 (0.03)	-0.15** (0.05)	-0.20* (0.09)	0.03 (0.16)	0.01 (0.06)	-0.00 (0.10)	0.05 (0.07)	0.14** (0.04)	0.02 (0.05)	0.09* (0.04)	0.01 (0.02)	1.27** (0.20)
9. Vegetables	0.07 (0.04)	-0.01 (0.03)	0.05 (0.05)	-0.08** (0.02)	-0.16** (0.03)	0.05* (0.02)	-0.01 (0.03)	-0.04 (0.02)	-0.65** (0.02)	0.00 (0.02)	0.07 (0.04)	0.06 (0.03)	-0.07* (0.03)	-0.08 (0.04)	0.07** (0.03)	-0.15** (0.02)	-0.02 (0.02)	0.02 (0.02)	0.01 (0.01)	0.61** (0.06)
10. Fruit	-0.12 (0.07)	-0.04 (0.05)	-0.17* (0.05)	0.06 (0.04)	0.23** (0.07)	-0.06 (0.03)	0.03 (0.05)	-0.13** (0.04)	-0.02 (0.03)	-1.05** (0.06)	-0.02 (0.07)	-0.06 (0.05)	0.13** (0.05)	-0.03 (0.06)	-0.06 (0.07)	-0.03 (0.03)	0.09** (0.03)	0.21** (0.04)	-0.02 (0.01)	1.29** (0.10)
11. RedMeat	-0.09 (0.06)	0.13* (0.04)	-0.31** (0.06)	-0.06 (0.05)	-0.02 (0.06)	-0.01 (0.02)	0.07* (0.03)	-0.06* (0.02)	0.01 (0.02)	-0.00 (0.02)	-0.27** (0.04)	0.03 (0.06)	-0.05 (0.04)	-0.12* (0.05)	-0.04 (0.04)	-0.04* (0.02)	0.08** (0.01)	-0.06** (0.02)	0.02 (0.01)	1.23** (0.09)
12. Poultry	-0.08 (0.08)	0.08 (0.09)	-0.12 (0.08)	-0.05 (0.05)	-0.07 (0.08)	-0.03 (0.02)	-0.06 (0.04)	0.01 (0.04)	-0.04 (0.03)	-0.04* (0.02)	-0.04 (0.08)	-1.65* (0.76)	-0.08 (0.05)	-0.01 (0.07)	-0.07 (0.08)	-0.04 (0.04)	0.01 (0.03)	-0.07* (0.02)	-0.01 (0.01)	2.23** (0.74)
13. Eggs	-0.32* (0.16)	0.03 (0.10)	0.15 (0.15)	0.02 (0.10)	0.18 (0.16)	-0.02 (0.07)	0.17 (0.10)	0.01 (0.08)	-0.24** (0.09)	0.19* (0.08)	-0.27 (0.18)	-0.35 (0.22)	-0.65** (0.15)	0.17 (0.15)	-0.13 (0.10)	-0.02 (0.06)	0.10 (0.07)	0.03 (0.07)	0.09** (0.03)	1.85** (0.31)
14. Fish	-0.16** (0.06)	-0.08 (0.04)	0.02 (0.06)	-0.01 (0.04)	0.06 (0.06)	-0.00 (0.02)	-0.01 (0.03)	0.01 (0.03)	-0.06* (0.02)	-0.00 (0.02)	-0.10 (0.05)	0.10 (0.06)	0.06 (0.03)	-0.69** (0.07)	-0.01 (0.03)	-0.06** (0.02)	-0.03 (0.02)	0.01 (0.02)	-0.00 (0.01)	0.89** (0.11)
15. Dairy	0.00 (0.10)	-0.00 (0.07)	-0.10 (0.10)	0.02 (0.06)	0.13 (0.10)	-0.10* (0.05)	-0.01 (0.07)	0.03 (0.05)	0.05 (0.05)	-0.06 (0.04)	-0.12 (0.10)	-0.11 (0.21)	-0.06 (0.05)	-0.07 (0.09)	-0.75** (0.11)	-0.08 (0.04)	-0.01 (0.05)	-0.12* (0.05)	-0.05* (0.02)	1.59** (0.25)
16. Oils	0.13** (0.04)	-0.05 (0.03)	0.07 (0.04)	0.05** (0.02)	-0.06 (0.04)	0.04* (0.02)	-0.26** (0.04)	0.10** (0.02)	-0.18** (0.03)	-0.01 (0.02)	-0.03 (0.04)	0.02 (0.05)	0.01 (0.02)	-0.10** (0.03)	-0.04 (0.03)	-0.77** (0.04)	-0.02 (0.03)	0.03 (0.02)	0.07** (0.01)	0.63** (0.08)
17. Coffee	0.22* (0.10)	-0.09 (0.06)	-0.06 (0.08)	-0.09 (0.06)	-0.03 (0.10)	-0.07 (0.04)	-0.03 (0.06)	-0.02 (0.05)	-0.07* (0.03)	0.10** (0.04)	0.25** (0.09)	0.12 (0.11)	0.09 (0.05)	-0.16 (0.06)	-0.01 (0.07)	-0.07** (0.03)	-0.85** (0.05)	0.06 (0.04)	0.03 (0.01)	1.63** (0.15)
18. SoftDrink	0.04 (0.07)	-0.02 (0.06)	-0.35** (0.08)	0.03 (0.05)	-0.02 (0.08)	-0.12** (0.04)	0.06 (0.06)	0.09** (0.04)	-0.01 (0.04)	0.22** (0.05)	-0.21** (0.08)	-0.16* (0.08)	0.03 (0.05)	-0.02 (0.06)	-0.16** (0.05)	0.02 (0.03)	0.06 (0.03)	-0.76** (0.05)	0.04** (0.01)	1.37** (0.12)
19. OtherFood	-0.22** (0.05)	0.02 (0.04)	0.01 (0.07)	-0.12** (0.04)	-0.21** (0.06)	-0.10** (0.03)	0.27** (0.05)	0.04 (0.03)	0.03 (0.04)	-0.03 (0.03)	0.13* (0.06)	0.02 (0.05)	0.15** (0.04)	-0.01 (0.05)	-0.13** (0.04)	0.24** (0.03)	0.07** (0.03)	0.11** (0.03)	-0.65** (0.02)	0.84** (0.10)

Note: This table shows the sample-wide median elasticity of food demand (quantity consumed) with respect to food prices (columns 1 thru 9) and total household expenditures (the last column).

Table D.55: PV categories and food groups mapping

PV categories	Food groups					
	Malawi	Niger	Ethiopia	Uganda	Tanzania	Nigeria
Staple grains	Rice, Maize and Wheat & other cereals	Rice, Millet and Wheat & other cereals	Teff, Maize, and Wheat & other cereals	Rice, Maize and Wheat & other cereals	Rice, Maize and Wheat & other cereals	Rice, Maize and Wheat & other cereals
Starchy staples	Cassava, and Roots, tubers & other starches	Cassava, and Roots, tubers & other starches	Roots, tubers & other starches	Cassava, and Roots, tubers & other starches	Cassava, and Roots, tubers & other starches	Cassava, and Roots, tubers & other starches
Pulses & nuts	Pulses, and Nut & seeds	Pulses, and Nut & seeds	Pulses, and Nut & seeds	Pulses, and Nut & seeds	Pulses, and Nut & seeds	Pulses, and Nut & seeds
Fruits & vegetables	Fruits and Vegetables	Fruits and Vegetables	Fruits and Vegetables	Fruits and Vegetables	Fruits and Vegetables	Fruits and Vegetables
Animal source foods	Red meat, Poultry, Eggs, and Dairy	Red meat, Poultry, Eggs, and Dairy	Red meat, Eggs, and Dairy	Red meat, Poultry, Eggs, and Fish & seafood	Red meat, Poultry, Eggs, Fish & seafood, and Dairy	Red meat, Poultry, Eggs, Fish & seafood, and Dairy

# APPENDIX E

## ELASTICITY CALCULATIONS

### E.1 Price Elasticities of Demand

Following Lewbel and Pendakur, 2009, and as discussed in more detail in McCullough et al., 2021, we calculate price and demand elasticities follow from the demand system discussed in the main text (Eq. 2.1), repeated below for ease of reference.

$$w_{hit}^* = \mu_i + \sum_{j=1}^J \alpha_{ij} p_{hjt} + \sum_{r=1}^L \beta_{ir} y_{ht}^r + \sum_{j=1}^J \alpha_{ijy} (y_{ht} \times p_{hjt}) + \sum_{k=1}^K \gamma_{ik} z_{hkt} + u_{hit},$$

$(h = 1, \dots, H; i = 1, \dots, J - 1; t = 1, \dots, T).$

The price elasticities are calculated from the partial derivatives of the demand system equation with respect to  $\log p_j$ , which gives the Hicksian budget share semi-elasticity of  $\frac{\partial w_i}{\partial \log p_j} = \alpha_{ij} + \alpha_{ijy} y$ . Because  $w_i = q_i^H p_i / x^H$  where the superscript  $H$  emphasizes variables are compensated, we can express the Hicksian semi-elasticity as a function of the conventional Hicksian price elasticity, so that  $\frac{\partial w_i}{\partial \log p_j} = \frac{\partial (q_i^H p_i / x^H)}{\partial \log p_j}$ , which becomes  $\frac{\partial \log q_i^H}{\partial \log p_j} w_i + 1_{ij} w_i - w_i w_j$  with some rearrangement, where  $1_{ij} = 1$  when  $i = j$  and 0 otherwise (see McCullough 2021). The Hicksian price elasticity matrix is then  $h_{ij} = \frac{\alpha_{ij} + \alpha_{ijy} y}{w_i} - 1_{ij} + w_j$ .

### E.2 Total Expenditure Elasticities of Demand

In order to calculate total expenditure elasticity of demand for each food group, we take the partial derivative of a matrix formation of Eq. 2.1 with respect to total expenditures,  $\log x$ . We must account for the fact that the budget share  $w_i$

appears on both sides of the demand equation. This gives the following  $J \times 1$  semi-expenditure elasticity vector,  $se$ :

$$se = (I_J + TP')^{-1}P, \quad (\text{E.1})$$

where  $I_J$  is an identify matrix with dimension  $J$ ,  $T$  is a  $J \times 1$  vector whose  $i^{\text{th}}$  element equals  $\sum_{r=1}^L r\beta_{ir}y^{r-1}$ , and  $P$  is the  $J \times 1$  vector of log prices.  $J$  represents the number of food groups in the demand system plus one for the numeraire good. Because the total expenditure elasticity,  $\eta_i$ , is a function of the semi-elasticity ( $\eta_i = \frac{se_i}{w_i} + 1$ ), we calculate the  $J \times 1$  vector of total expenditure elasticities as:

$$\eta = (\text{diag}(W))^{-1}[(I_J + TP')^{-1}T] + 1_J, \quad (\text{E.2})$$

where  $W$  is the  $J \times 1$  vector of observed budget shares and  $1_J$  is a  $J \times 1$  vector of ones.

We calculate predicted budget shares (i.e., conditional means of observed budget shares) and replace the observed budget shares with the predicted in the above equations to obtain expected demand elasticities.

### E.3 Nutrient Demand Elasticities

First, we start with the total quantity  $\varphi$  consumed of each macro- and micro-nutrient arising from each food group  $i$  ( $\varphi_{\gamma i}$ ). Hereafter we use “nutrient” as shorthand for dietary energy and each macro- and micro- nutrient. The total intake of each nutrient is then the sum across all food groups of nutrient intake for that food group, so that  $\varphi_{\gamma} = \sum_i \varphi_{\gamma i}$ , for  $i \neq J$ , i.e., excluding the numeraire good.

Each nutrient  $\gamma$ 's content in food group  $i$  is given by:

$$\varphi_{\gamma i} = \alpha_{\gamma i} q_i(p_1, \dots, p_J, y), \quad (\text{E.3})$$

where  $\alpha_{\gamma i}$  represents the nutrient  $\gamma$  content of food group  $i$ , and  $q_i$  represents the quantity demanded of food group  $i$ .

We derive nutrient demand elasticities by totally differentiating Eq. E.3 with respect to prices and total expenditures, which results in

$$\frac{d\varphi_{\gamma}}{\varphi_{\gamma}} = \sum_i a_{\gamma i} dq_i \frac{1}{\varphi_{\gamma}}. \quad (\text{E.4})$$

Given  $q_i$  is a function of price good groups (including the numéraire good) and total expenditure  $y$ , we take total differentiation of  $q_i$  with respect to prices and total expenditure to get the following formula:

$$\begin{aligned}\frac{dq_i}{q_i} &= \sum_j e_{ij} \frac{dp_j}{p_j} + \eta_i \frac{dy}{y} \\ dq_i &= \left[ \sum_j e_{ij} \frac{dp_j}{p_j} + \eta_i \frac{dy}{y} \right] q_i,\end{aligned}\tag{E.5}$$

where  $e_{ij}$  indicates own- or cross-price elasticities and  $\eta_i$  represents total expenditure elasticities.

Substituting the expression  $dq_i$  from Eq. E.5 into Eq. E.4, we have the following equation:

$$\begin{aligned}\frac{d\varphi_\gamma}{\varphi_\gamma} &= \sum_i a_{\gamma i} \left[ \sum_j e_{ij} \frac{dp_j}{p_j} + \eta_i \frac{dy}{y} \right] \frac{q_i}{\varphi_\gamma} \\ &= \sum_j \pi_{\gamma j} \frac{dp_j}{p_j} + \rho_\gamma \frac{dy}{y},\end{aligned}\tag{E.6}$$

where  $\pi_{\gamma j} = \sum_i a_{\gamma i} q_i \frac{e_{ij}}{\varphi_\gamma}$  is the elasticity of demand for nutrient  $\gamma$  with respect to price of the  $j$ th food and  $\rho_\gamma = \sum_i a_{\gamma i} q_i \frac{\eta_i}{\varphi_\gamma}$  is the total expenditure elasticity of demand for nutrient  $\gamma$ .

## E.4 Simulation cost calculations

In order to calculate the cost of a giving a household a price voucher that targets food groups within category  $a$  with a discount of  $PV$  to a given household, we multiply the post-voucher total household expenditures on food by the magnitude of the price discount. The value to a recipient household of a voucher discounting food groups in category  $a$  by  $PV$  follows. In this case, a 25% price discount on food category  $a$  would correspond with  $PV_a = 25\%$ . This value is the same as the cost of the voucher to the government, ignoring administrative costs:

$$\begin{aligned}
V_{PV_a} &= \sum_{i \in a} \left( 1 + \sum_{j \in a} (\varepsilon_{ij} \cdot -PV_a \%) \right) \cdot q_i p_i \cdot PV_a \% \\
&= \sum_{i \in a} \left( 1 + \sum_{j \in a} (\varepsilon_{ij} \cdot -PV_a \%) \right) \cdot w_i y \cdot PV_a \%
\end{aligned}$$

We also calculate the marginal propensity to consume food in the aggregate for a household, as depicted in rows 9-12 of Table 2.2. The marginal propensity to consume food ( $MPC$ ) represents the share of the cash transfer that is used to increase food consumption.  $V_{CT}$  represents the change in food expenditure that is induced by the cash transfer as a proportion of baseline food expenditure. We assume that a fixed percentage (e.g., 75%) of the cash transfer ( $CT$ ) is used to raise total consumption expenditures ( $EI$ ).

$$\begin{aligned}
MPC_F &= V_{CT} \frac{\sum_{j \neq 20} w_j \cdot y}{CT}, \\
\text{where } V_{CT} &= \frac{\partial \ln(\sum_{j \neq 20} w_j y)}{\partial \ln y} \cdot \frac{EI}{y} = \frac{1}{\sum_{j \neq 20} w_j y} \cdot \frac{\partial(\sum_{j \neq 20} w_j y)}{\partial \ln y} \cdot \frac{EI}{y} \\
&= \frac{1}{\sum_{j \neq 20} w_j y} \cdot \frac{\partial(\sum_{j \neq 20} \frac{p_j q_j}{y} y)}{\partial \ln y} \cdot \frac{EI}{y} \\
&= \frac{1}{\sum_{j \neq 20} w_j y} \cdot \frac{EI}{y} \cdot \frac{\partial(\sum_{j \neq 20} \frac{p_j q_j}{y} y)}{\partial \ln y} \\
&= \frac{1}{\sum_{j \neq 20} w_j y} \cdot \frac{EI}{y} \cdot \sum_{j \neq 20} \frac{\partial q_j}{\partial \ln y} \frac{p_j q_j}{q_j} \\
&= \frac{1}{\sum_{j \neq 20} w_j y} \cdot \frac{EI}{y} \cdot \sum_{j \neq 20} \eta_j p_j q_j \\
&= \frac{EI}{\sum_{j \neq 20} w_j y} \cdot \sum_{j \neq 20} \eta_j w_j,
\end{aligned}$$

where  $CT$  is the size of the cash transfer in level USD PPP,  $EI$  is the increase in total consumption expenditures due to the cash transfer,  $y$  is total pre-transfer household expenditures (in level USD PPP) for a poor household (i.e., median across Q1 and Q2),  $w_j$  is budget share for food category  $j$  (with item 20 representing the the non-food “other” expenditures category), and  $\eta_j$  represents the total expenditure elasticity of demand for food category  $j$ .

# BIBLIOGRAPHY

- Agostinelli, F., & Wiswall, M. (2016). *Estimating the technology of children's skill formation* (tech. rep.). National Bureau of Economic Research.
- Alderman, H. (2015). Can Transfer Programs Be Made More Nutrition Sensitive? In D. E. Sahn (Ed.), *The fight against hunger and malnutrition: The role of food, agriculture, and targeted policies* (pp. 37–60). Oxford University Press. <https://books.google.com/books?id=EUK4CAAQBAJ>
- Almlund, M., Duckworth, A. L., Heckman, J. J., Kautz, T., Hanushek, E. A., Machin, S., & Woessmann, L. (2011). Handbook of the economics of education.
- Amine, E. K., Baba, N. H., Belhadj, M., Deurenberg-Yap, M., Djazayery, A., Forrestre, T., Galuska, D. A., Herman, S., James, W. P. T., & Kabangu, J. R. M. (2003). Diet, nutrition and the prevention of chronic diseases. *World Health Organization technical report series*, (916).
- An, R., Patel, D., Segal, D., & Sturm, R. (2013). Eating better for less: A national discount program for healthy food purchases in South Africa. *American Journal of Health Behavior*, 37(1), 56–61. <https://doi.org/10.5993/AJHB.37.1.6>
- Atkin, D. (2013). Trade, tastes, and nutrition in india. *American economic review*, 103(5), 1629–63.
- Attanasio, O., Boneva, T., & Rauh, C. (2019). *Parental beliefs about returns to different types of investments in school children* (tech. rep.). National Bureau of Economic Research.
- Attanasio, O., Cattan, S., Fitzsimons, E., Meghir, C., & Rubio-Codina, M. (2020). Estimating the production function for human capital: Results from a randomized controlled trial in colombia. *American Economic Review*, 110(1), 48–85.
- Attanasio, O., Cunha, F., & Jervis, P. (2019). *Subjective parental beliefs. their measurement and role* (tech. rep.). National Bureau of Economic Research.

- Attanasio, O., Meghir, C., & Nix, E. (2020). Human capital development and parental investment in india. *The Review of Economic Studies*, 87(6), 2511–2541.
- Baranov, V., Bhalotra, S., Biroli, P., & Maselko, J. (2020). Maternal depression, women’s empowerment, and parental investment: Evidence from a randomized controlled trial. *American economic review*, 110(3), 824–59.
- Barnett, W. S., & Yarosz, D. J. (2007). Who goes to preschool and why does it matter? *Preschool Policy Matters*, 7.
- Bayley, N. (1993). *Bayley scales of infant development*. Harcourt Brace.
- Becker, G. S., & Tomes, N. (1979). An equilibrium theory of the distribution of income and intergenerational mobility. *Journal of political Economy*, 87(6), 1153–1189.
- Becker, G. S., & Tomes, N. (1986). Human capital and the rise and fall of families. *Journal of labor economics*, 4(3, Part 2), S1–S39.
- Beegle, K., Coudouel, A., & Monsalve, E. (2018). *Realizing the Full Potential of Social Safety Nets in Africa*. Africa Development Forum Series, Agence Française de Développement; The World Bank Group.
- Berlinski, S., Galiani, S., & Manacorda, M. (2008). Giving children a better start: Preschool attendance and school-age profiles. *Journal of public Economics*, 92(5-6), 1416–1440.
- Bhalotra, S. R., Delavande, A., Gilbert, P., & Maselko, J. (2020). Maternal investments in children: The role of expected effort and returns.
- Biroli, P., Boneva, T., Raja, A., & Rauh, C. (2020). Parental beliefs about returns to child health investments. *Journal of Econometrics*.
- Boneva, T., & Rauh, C. (2018). Parental beliefs about returns to educational investments—the later the better? *Journal of the European Economic Association*, 16(6), 1669–1711.
- Bugental, D. B., Beaulieu, D. A., & Silbert-Geiger, A. (2010). Increases in parental investment and child health as a result of an early intervention. *Journal of Experimental Child Psychology*, 106(1), 30–40.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research*, 1(2), 245–276.
- Chang, H., Dong, X.-y., & MacPhail, F. (2011). Labor migration and time use patterns of the left-behind children and elderly in rural china. *World Development*, 39(12), 2199–2210.
- Cobb-Clark, D. A., & Schurer, S. (2013). Two economists’ musings on the stability of locus of control. *The Economic Journal*, 123(570), F358–F400.
- Cockx, L., Colen, L., & De Weerd, J. (2018). From corn to popcorn? Urbanization and dietary change: Evidence from rural-urban migrants in

- Tanzania. *World Development*, 110, 140–159. <https://doi.org/10.1016/j.worlddev.2018.04.018>
- Cox, T. L., & Wohlgenant, M. K. (1986). Prices and Quality Effects in Cross-Sectional Demand Analysis. *American Journal of Agricultural Economics*, 68(4), 908–919. <https://doi.org/10.2307/1242137>
- Cunha, F., Heckman, J. J., & Schennach, S. M. (2010). Estimating the technology of cognitive and noncognitive skill formation. *Econometrica*, 78(3), 883–931.
- Cunha, F., Elo, I., & Culhane, J. (2013). *Eliciting maternal expectations about the technology of cognitive skill formation* (tech. rep.). National Bureau of Economic Research.
- Currie, J., & Almond, D. (2011). Human capital development before age five. *Handbook of labor economics* (pp. 1315–1486). Elsevier.
- De Janvry, A., & Sadoulet, E. (2015). *Development economics: Theory and practice*. Routledge.
- Delavande, A. (2014). Probabilistic expectations in developing countries. *Annu. Rev. Econ.*, 6(1), 1–20.
- de Oliveira, M. L., Santos, L. M. P., & da Silva, E. N. (2015). Direct healthcare cost of obesity in brazil: An application of the cost-of-illness method from the perspective of the public health system in 2011. *PloS one*, 10(4), e0121160.
- Doepke, M., Sorrenti, G., & Zilibotti, F. (2019). The economics of parenting. *Annual Review of Economics*, 11, 55–84.
- Doyle, O., Harmon, C., Heckman, J. J., Logue, C., & Moon, S. H. (2017). Early skill formation and the efficiency of parental investment: A randomized controlled trial of home visiting. *Labour Economics*, 45, 40–58.
- Drewnowski, A. (2010). The nutrient rich foods index helps to identify healthy, affordable foods. *The American journal of clinical nutrition*, 91(4), 1095S–1101S.
- Evenson, R. E., & Gollin, D. (2003). Assessing the impact of the green revolution, 1960 to 2000. *science*.
- Foster, J., Greer, J., & Thorbecke, E. (1984). A class of decomposable poverty measures. *Econometrica: Journal of the Econometric Society*, 761–766.
- Francesconi, M., & Heckman, J. J. (2016). Child development and parental investment: Introduction. *The Economic Journal*, 126(596), F1–F27.
- Fulgoni III, V. L., Keast, D. R., & Drewnowski, A. (2009). Development and validation of the nutrient-rich foods index: A tool to measure nutritional quality of foods. *The Journal of nutrition*, 139(8), 1549–1554.

- Gittelsohn, J., Trude, A. C. B., & Kim, H. (2017). Availability, Purchase, and Consumption of Healthy Foods and Beverages: A Systematic Review. *Preventing Chronic Disease, 14*(E107), 1–24.
- Hanemann, M., & Morey, E. (1992). Separability, partial demand systems, and consumer's surplus measures. *Journal of Environmental Economics and Management, 22*(3), 241–258.
- Haughton, J., & Khandker, S. R. (2009). *Handbook on poverty+ inequality*. World Bank Publications.
- Headey, D. D., & Alderman, H. H. (2019). The Relative Caloric Prices of Healthy and Unhealthy Foods Differ Systematically across Income Levels and Continents. *The Journal of Nutrition, 149*, 2020–2033. <https://doi.org/10.1093/jn/nxz158>
- Heckman, J. J., & Mosso, S. (2014). The economics of human development and social mobility. *Annu. Rev. Econ., 6*(1), 689–733.
- Hirvonen, K., Bai, Y., Headey, D., & Masters, W. A. (2020). Affordability of the EAT–Lancet reference diet: a global analysis. *The Lancet Global Health, 8*(1), e59–e66. [https://doi.org/10.1016/S2214-109X\(19\)30447-4](https://doi.org/10.1016/S2214-109X(19)30447-4)
- Hoffrage, U., Lindsey, S., Hertwig, R., & Gigerenzer, G. (2000). Communicating statistical information.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179–185.
- Huang, H., Tao, S., Zhang, Y., et al. (1993). Standardization of bayley scales of infant development in shanghai. *Chin J Child Health, 1*(3), 158–160.
- Huang, K. S. (1996). Nutrient elasticities in a complete food demand system. *American Journal of Agricultural Economics, 78*(1), 21–29.
- Huang, K. S., & Lin, B.-H. (2000). *Estimation of food demand and nutrient elasticities from household survey data* (tech. rep.).
- Jensen, R. T., & Miller, N. H. (2010). Do Consumer Price Subsidies Really Raise Nutrition. *Review of Economics and Statistics, 93*(4), 1205–1223. [https://doi.org/10.1162/REST\\_a\\_00118](https://doi.org/10.1162/REST_a_00118)
- Kasteridis, P., Yen, S. T., & Fang, C. (2011). Bayesian estimation of a censored linear almost ideal demand system: Food demand in Pakistan. *American Journal of Agricultural Economics, 93*(5), 1374–1390. <https://doi.org/10.1093/ajae/aar059>
- Kinsler, J., & Pavan, R. (2021). Local distortions in parental beliefs over child skill. *Journal of Political Economy, 129*(1), 000–000.
- Krinsky, I., & Robb, A. L. (1990). On approximating the statistical properties of elasticities: a correction. *The Review of Economics and Statistics, 72*(1), 189–190.

- LaFrance, J. T., & Hanemann, W. M. (1989). The dual structure of incomplete demand systems. *American Journal of Agricultural Economics*, 71(2), 262–274.
- Lewbel, A., & Pendakur, K. (2009). Tricks with Hicks: The EASI demand system. *American Economic Review*, 99(3), 827–863. <https://doi.org/10.1257/aer.99.3.827>
- Manski, C. F. (2004). Measuring expectations. *Econometrica*, 72(5), 1329–1376.
- McCullough, E., Zhen, C., Shin, S., Lu, M., & Arsenault, J. (2021). The role of food preferences in determining diet quality for Tanzanian consumers. *Journal of Development Economics*, 102789. <https://doi.org/https://doi.org/10.1016/j.jdeveco.2021.102789>
- Meyerhoefer, C. D., Ranney, C. K., & Sahn, D. E. (2005). Consistent Estimation of Censored Demand Systems Using Panel Data. *American Journal of Agricultural Economics*, 87(3), 660–672. <http://dx.doi.org/10.1111/j.1467-8276.2005.00754.x>  
10.1111/j.1467-8276.2005.00754.x
- Nordström, J., & Thunström, L. (2009). The impact of tax reforms designed to encourage healthier grain consumption. *Journal of Health Economics*, 28(3), 622–634. <https://doi.org/https://doi.org/10.1016/j.jhealeco.2009.02.005>
- Olsho, L. E., Klerman, J. A., Wilde, P. E., & Bartlett, S. (2016). Financial incentives increase fruit and vegetable intake among Supplemental Nutrition Assistance Program participants: A randomized controlled trial of the USDA Healthy Incentives Pilot. *American Journal of Clinical Nutrition*, 104(2), 423–435. <https://doi.org/10.3945/ajcn.115.129320>
- Perali, F., & Chavas, J.-P. (2000). Estimation of censored demand equations from large cross-section data. *American Journal of Agricultural Economics*, 82(4), 1022–1037.
- Ralston, L., Andrews, C., & Hsiao, A. (2017). The Impacts of Safety Nets in Africa: What Are We Learning? *World Bank Policy research working paper*, (8255). <https://doi.org/10.1596/1813-9450-8255>
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, 80(1), 1.
- Su, Y., Rao, N., Sun, J., & Zhang, L. (2021). Preschool quality and child development in china. *Early Childhood Research Quarterly*, 56, 15–26.
- Swinburn, B. A., Sacks, G., Hall, K. D., McPherson, K., Finegood, D. T., Moodie, M. L., & Gortmaker, S. L. (2011). The global obesity pandemic: Shaped

- by global drivers and local environments. *The Lancet*, 378(9793), 804–814.
- Sylvia, S., Warrinnier, N., Luo, R., Yue, A., Attanasio, O., Medina, A., & Rozelle, S. (2021). From quantity to quality: Delivering a home-based parenting intervention through china's family planning cadres. *The Economic Journal*, 131(635), 1365–1400.
- Wang, Y. C., McPherson, K., Marsh, T., Gortmaker, S. L., & Brown, M. (2011). Health and economic burden of the projected obesity trends in the usa and the uk. *The Lancet*, 378(9793), 815–825.
- Wen, M., & Lin, D. (2012). Child development in rural china: Children left behind by their migrant parents and children of nonmigrant families. *Child development*, 83(1), 120–136.
- Yi, S. (1995). Manual of bayley scales of infant development, chinese revision. xiangya school of medicine.
- Yi, S., Luo, X., Yang, Z., & Wan, G. (1993). The revising of bayley scales of infant development (bsid) in china. *Chin J Clin Psychol*, 1, 71–5.
- Zhen, C., Finkelstein, E. A., Nonnemaker, J. M., Karns, S. A., & Todd, J. E. (2014). Predicting the effects of sugar-sweetened beverage taxes on food and beverage demand in a large demand system. *American Journal of Agricultural Economics*, 96(1), 1–25. <https://doi.org/10.1093/ajae/aato49>
- Zhou, C., Sylvia, S., Zhang, L., Luo, R., Yi, H., Liu, C., Shi, Y., Loyalka, P., Chu, J., Medina, A., et al. (2015). China's left-behind children: Impact of parental migration on health, nutrition, and educational outcomes. *Health affairs*, 34(11), 1964–1971.