

Essays on Food Security and the Nutrition Transition in Developing Countries

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The nature of food insecurity has been changing in the world. While research on food insecurity in developing countries used to focus on undernourishment (i.e. lack of calorie consumption) and related outcomes, today, many developing countries face at least a “double burden of malnutrition” with persistently high rates of undernourishment and increasing rates of overweight, obesity and related non-communicable diseases (NCDs).

An important driver of overweight and obesity in developing countries is the „nutrition transition“, i.e. the trend towards the consumption of more energy-dense, highly processed foods and more sedentary lifestyles. Two essays of this Ph.D. thesis analyse drivers and consequences of the nutrition transition in developing countries with a particular focus on the role of supermarkets, which have been rapidly spreading in many countries. We provide evidence that the presence of supermarkets causally affects dietary choices and nutritional outcomes. Data collection for this research was carried out in small Kenyan towns of the kind that accommodate most of the country’s urban population. We designed our sample to be quasi-experimental in nature and employ instrumental variable techniques to allow for endogeneity of supermarket purchases. Kenya’s supermarket landscape is dynamic and so far, it has followed the ‘traditional pattern’ of the so-called supermarket revolution. Supermarket purchases are found to contribute to the nutrition transition by shifting consumption towards processed and away from unprocessed foods. At the same time, calorie availability increases as calories are sourced at lower prices in supermarkets. We find that supermarket purchases increase adult BMI (Body Mass Index) and their probability of being overweight or obese. Yet, we also find that buying in a supermarket tends to decrease underweight among children and adolescents (age 5-19) in terms of stunting (height-for-age).

In a third essay, we use secondary household survey data from Malawi to analyse ‘one of the other faces of malnutrition’. The world food price crisis of 2007/08 and other global and regional price and income shocks that followed have spurred interest in producing timely predictions on their implications for food security. A critical research gap remains with comparing simulation outcomes across studies that use different, established methods on the same subject. This is to establish if and to which extent they might result in different and potentially conflicting policy recommendations. We address this gap building on three simulation studies set in Malawi, which analyse welfare in terms of food security and income effects using the same 2004/05 household survey data but resort to methodologies of different complexity. We harmonize simulation scenarios across methods and systematically modify relevant parameters for our comparative assessment. We find differences between methods to depend on the scenario under consideration and to grow with increasing rates of simulated price changes. The differences we find are driven by differences in conceptualising price changes. In case of Malawi, for a reasonable set of observed price changes, mean outcomes on district levels are fairly robust to underlying methodologies. We illustrate that it is important to improve our understanding of how changes in the underlying methodologies change results and to analyse the sensitivity of simulation outcomes to different model assumptions.