

How Food Prices Impact Body Fat

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Introduction

The prevalence of childhood obesity has increased at an alarming rate in the United States over the last three decades. Since the mid-1970s, the proportion of children ages 12 to 19 who are obese has grown from 5.0 to 18.1 percent.

A sedentary lifestyle lacking physical activity, and consumption of calorie-dense foods and sugary drinks, have long been associated with obesity. But studies indicate that the inflation-adjusted cost of food, which has been falling, is also contributing to the recent epidemic of obesity. Those studies examined the effects of prices of meals in fast-food and full-service restaurants, prices of fruits and vegetables, and prices of foods consumed at home including steak, milk, eggs, potatoes, white bread, sugar, coffee, and cereal. Most of those studies used body mass index (BMI) measured in terms of height and weight. A new study from Healthy Eating Research estimates the effects of food prices on body fat percentage (body composition), which is a clinical way of measuring obesity.

The Evidence

- The available evidence shows that lower fruit and vegetable prices are associated with reduced weight, while reduced fast-food prices are associated with increased weight among adolescents.
- These effects of food prices tend to be larger for people in racial or ethnic minority households, children in lower-income families, and children whose mothers have less than a high school education.
- A new study, which examined the impact of food price changes on body fat percentage (body composition) among American youths ages 12 to 18, found that:
 - A 10 percent increase in the price of foods consumed at home (excluding fruits and vegetables) lowers body fat percentage by about 9 percent for males and by about 8 percent for females.
 - A 10 percent reduction in the price of fast-food restaurant meals is associated with a 17 percent increase in body fat percentage for males, although it is associated with an 8 percent reduction in body fat percentage among females.



This issue brief is based on Grossman M, Tekin E, Wada R. Food prices and body fatness among youths. *Econ Hum Biol.* 2014; 12: 4-19. The full article, which includes citations, is available at: <http://healthyeatingresearch.org/research/food-prices-and-body-fatness-among-youths/>



- When the price of healthy foods, such as fruits and vegetables, goes up by 10 percent, body fat percentage goes up by 9 percent among females and by 7 percent among males.
- Black and Hispanic adolescents are more sensitive to fast-food prices and less sensitive to fruit and vegetable prices than White adolescents.
- Body fat percentage is as sensitive to price changes as BMI—and in some instances, especially among adolescent females, body fat percentage is even more sensitive to price changes than BMI.

Conclusions and Implications

This study shows that an increase in the price of calorie-dense food from fast-food restaurants (through higher taxes or other ways), may help in reducing obesity rates among youths. Similarly, lowering the cost of fruits or vegetables through price subsidies may help in reducing obesity rates. But a good deal of caution is required. Taxes and subsidies are blunt instruments that can impose significant welfare costs on individuals and the society at large. Yet the study shows that selective taxes or subsidies may be able to help reverse the upward trend in obesity.