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## Low-Income Households' Expenditures on Fruits and Vegetables

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Both public and private organizations have noted that Americans generally eat less fruits and vegetables than is recommended in the Federal Food Guide Pyramid. For example, the Produce for Better Health Foundation found that only 38 percent of Americans consumed the recommended number of servings of vegetables, while only 23 percent consumed the recommended number of servings of fruit. We find that low-income households consume even less fruits and vegetables than higher income households.

### ***What is the Issue?***

Some have suggested that low-income households consume so little fruits and vegetables because they allocate their limited income to other items that the household deems more desirable, such as other foods, clothing, or housing. Indeed, compared with higher income households, low-income households spent, on average, about \$1.43 less per person per week on fruits and vegetables in 2000. Suggested solutions have included subsidizing fruit and vegetable growers, providing free or low-cost fruits and vegetables in schools, or creating a food stamp that can be spent only on fruits and vegetables.

This report by the Economic Research Service, *Low-Income Households' Expenditures on Fruits and Vegetables*, examines: whether low-income households spent significantly less on fruits and vegetables than higher income households; and whether small increases in income translated into additional fruit and vegetable expenditures by low-income households.

### ***How Was the Study Conducted?***

We defined low-income households as those with income no greater than 130 percent of the poverty line, adjusted for household size. That threshold is the cutoff for eligibility for food stamps. All other households were higher income households.

In the first part of our study, we performed a statistical test on per capita fruit and vegetable expenditures to ascertain if there was a difference in expenditures between the two types of household. This is a stronger test than a comparison of average expenditures, since it ascertains if the expenditure distribution of higher income households is *always* greater than that of lower income households.

In the second part of our study, we used the same data, but estimated a traditional demand model for fruits and vegetables to ascertain if small changes in income induced a statistically significant increase in fruit and vegetable expenditures. In addition to

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income, we estimated the effects of other variables on fruit and vegetable expenditures. Those variables included region, season, household size, age composition, race, and educational attainment. We also refined the demand model to account for the impact of food stamps on fruit and vegetable expenditures.

### **What Did the Study Find?**

We found that low-income households spent significantly less on fruits and vegetables than higher income households. In any given week, approximately 19 percent of all low-income households bought no fruits and vegetables, compared with only about 10 percent of higher income households with no expenditures (chart). This gap continued to hold at higher levels of expenditure, such as \$4, and was found to be statistically significant over the entire expenditures distribution. Moreover, this result also held when we looked at just fresh fruits and vegetables, as well as just processed fruits and vegetables.

In addition, we found that small changes in income had no effect on fruit and vegetable expenditures by low-income households. For higher income households, however, small changes in income did translate to increased expenditures for fruits and vegetables; the increased expenditures, while small, were statistically significant. When we isolated the effect of food stamps, we again found no evidence of increased expenditures for fruits and vegetables. Interestingly, the largest positive influence on fruit and vegetable expenditures was a college-educated head of household, regardless of income level. In fact, college-educated households had the highest level of per capita expenditures for fruits and vegetables.

**Distribution of fruit and vegetable expenditures by income level**

Cumulative proportion of households

