ERS Report Summary

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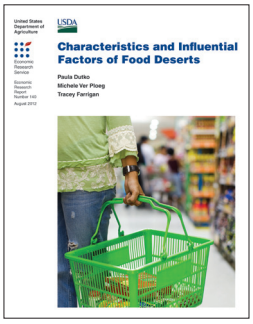

This is a summary of an ERS report.

Find the full report at *www.ers.usda.gov/publications/err-economic-research-report/err140.aspx*

Characteristics and Influential Factors of Food Deserts

Paula Dutko, Michele Ver Ploeg, and Tracey Farrigan

What Is the Issue?

USDA's Economic Research Service previously identified approximately 6,500 food desert tracts in the United States based on 2000 Census and 2006 data on locations of supermarkets, supercenters, and large grocery stores. These food deserts are areas where people have limited access to a variety of healthy and affordable food. As policymakers consider interventions to increase food access, it is important to understand the characteristics associated with these areas, such as income, vehicle availability, and access to public transportation. In this report, we examine the socioeconomic and demographic characteristics of these census tracts and also examine which of these characteristics distinguish food desert tracts from other low-income census tracts.

What Did the Study Find?

- Areas with higher levels of poverty are more likely to be food deserts, but for other factors, such as vehicle availability and use of public transportation, the association with food desert status varies across very dense urban areas, less dense urban areas, and rural areas.
- Areas with higher poverty rates are more likely to be food deserts regardless of rural or urban designation. This result is especially true in very dense urban areas where other population characteristics such as racial composition and unemployment rates are not predictors of food desert status because they tend to be similar across tracts.
- In all but very dense urban areas, the higher the percentage of minority population, the more likely the area is to be a food desert.
- Residents in the Northeast are less likely to live far from a store than their counterparts in other regions of the country with similar income levels.
- Rural areas experiencing population growth are less likely to be food deserts.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

How Was the Study Conducted?

To provide a consistent, national-level estimate of the number of low-income areas in which a substantial number or share of residents is far from a supermarket or large grocery store, USDA's Economic Research Service applied a census tract-level definition of food deserts—areas with limited access to affordable and healthy food—to the contiguous United States using 2000 Census data. The 2000 Census data and 2006 store location data that were used for this analysis were the most recent demographic and store data available at the time this analysis was conducted.

This study uses data from the 1990 and 2000 Census, as well as 5-year average data from the 2005-2009 American Community Survey (ACS), to describe changes in characteristics of the 6,529 food desert census tracts over time, relative to changes in all other tracts. We focus particularly on population density, poverty rates, unemployment, education, race/ethnicity, income, and vehicle ownership status.

We first provide a statistical description of tracts classified as food deserts versus all other tracts to give a broad image of how food desert tracts differ. We then conduct regression analysis to determine which characteristics are most strongly associated with whether a low-income census tract is also a food desert. We model the probability that a census tract will be a food desert using a multivariate logit model to assess the impact of factors such as population and housing characteristics; racial and ethnic composition; unemployment; poverty; and changes in these characteristics from 1990 to 2000. Separate analyses are performed for urban areas and rural areas in order to accommodate different definitions of food deserts and systematic differences in tract characteristics between rural and urban areas. We also further distinguish very dense urban areas from less dense urban areas for the multivariate analysis.