

Food insecurity was not found to be associated with migration status among households with incomes above \$50,000 (fig. 17). However, the substantial overrepresentation of households that changed composition among these households that were classified as food insecure with hunger was striking—15 percent, compared with 2 percent for high-income food-secure households. This suggests that changes in income or economic need during the year associated with changes in household composition were important contributing factors to hunger among these households, consistent with hypotheses #1 (temporal mismatch/uneven income) and #4 (unusually high economic needs).

Discussion and Summary

These findings shed light on most of the hypotheses as to why food insecurity is observed in households with relatively high incomes. Most important, they provide convincing evidence that the food insecurity phenomenon measured by the food security scale is essentially the same for middle- and high-income households, including the few with annual incomes above \$50,000, as it is for low-income households. Item scores were highly correlated between the low-income group and each of the two higher income groups (middle/high-income and income over \$50,000), indicating that response patterns were nearly identical for households with the same scale scores across the income range. The Rasch-model fit statistics indicate that the responses of middle- and high-income households fit the statistical assumptions of the model about as well as the responses of low-income households. There was evidence that the response patterns of middle- and high-income households were slightly less consistent than those of low-income households, but this was not widespread.

Substantial experiential and behavioral evidence corroborates the measured food security status of the higher income households. Food insecurity and hunger were similarly related to household structure across income groups. The alternative measure of food adequacy—the USDA/NHANES food-sufficiency measure—was as consistently associated with food security status for higher income as for low-income households. Coping strategies that are not means-tested, especially putting off paying bills to have money for food and getting food or

borrowing money to buy food from friends or relatives, were as common among higher income food-insecure households as among their low-income counterparts.

Taken together, these findings suggest that hypothesis #7 (false positives due to inappropriate responses to food-sufficiency questions) accounts for only a small proportion of the food insecurity in higher income households registered in these national surveys.

The findings provide evidence for some of the alternative hypotheses. Hypothesis #1 (temporal mismatch/uneven income) was clearly supported by the comparison to calendar year 1994 income. A modest role is demonstrated by the analysis, and a much larger role is not ruled out. An upper bound could not be estimated with the available data. Hypothesis #2 (change in household composition) was clearly supported by the overrepresentation among higher income food-insecure households of those that changed composition during the previous year. The evidence suggests an upper bound of around 5 percent for the contribution of such changes to middle/high-income food insecurity. Additionally, change in household composition likely contributed, along with a temporal mismatch and uneven income (hypothesis #1) and multiple economic units in the household (hypothesis #3), to the use of means-tested welfare programs by households that had annual household incomes too high to qualify for those programs. There is convincing evidence for the role of multiple economic units in that complex households made up a larger share of high-income food-insecure households than of high-income food-secure households. However, this hypothesis probably accounts for less than 5 percent of middle/high-income food insecurity. It may be a somewhat more important factor in households with incomes above \$50,000. There is weak support for hypothesis #6 (accidental identification of food insecurity and hunger due to noneconomic causes), based on reasons those households gave for not having enough to eat. However, this hypothesis cannot account for more than about 10 percent of higher income food insecurity, since about 90 percent of such households that sometimes or often did not have enough to eat cited lack of money as a reason.

Hypothesis #5 (intra-household allocation of money) could not be tested by these data, and can probably be tested only by ethnographic, case-study methods. It is not expected to be a major factor, but may account for some small proportion of high-income food insecurity.

It appears, then, that a large proportion of the middle- and high-income food insecurity and hunger measured by the CPS is genuine, not artifactual or a result of erratic responses. The most important reasons appear to be temporal mismatch/uneven income (hypothesis #1) and unusually high economic needs (hypothesis #4). Upper bounds on hypotheses #2, #3, and #6 place their combined contribution at no more than 20 percent, and probably substantially less. Hypothesis #5 is not expected to account for more than a very small proportion of the remainder. By default, this leaves hypotheses #1 (temporal mismatch/uneven income) and #4 (unusual economic needs), or other factors not considered here, to account for most of the food insecurity and hunger among higher income households. A modest role for the former is demonstrated in this analysis, and a larger role is not ruled out. The latter, very important, hypothesis could not be tested with the CPS data, nor could the full extent of the former be estimated. An adequate test of both of these hypotheses and estimation of the magnitude of their effects will be possible when data from longitudinal surveys, with expenditure information as well as the food security measure, become available.

Future Research Directions

Further research attention might usefully be given to understanding the causes of food insecurity and hunger in middle- and high-income households. In particular, analysis of longitudinal data such as the Survey of Program Dynamics (SPD) and the Panel Study of Income Dynamics (PSID) may shed light on how changes in household composition and variability in income affect household food security. It will also be important to assess the extent to which such households have resources to cope with episodes of food insecurity, as well as whether action is needed to ensure that they have access to enough food for healthy, active living and for the well-being and sound development of their children.