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*Measuring Food Security in the United States*

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# Household Food Security in the United States, 2005

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Margaret Andrews  
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*Food Assistance & Nutrition  
Research Program*



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# Household Food Security in the United States, 2005

**Mark Nord, Margaret Andrews,  
and Steven Carlson**

## Abstract

Eighty-nine percent of American households were food secure throughout the entire year in 2005, meaning that they had access, at all times, to enough food for an active, healthy life for all household members. The remaining households were food insecure at least some time during that year. The prevalence of food insecurity declined from 11.9 percent of households in 2004 to 11.0 percent in 2005, while the prevalence of very low food security remained unchanged at 3.9 percent. This report, based on data from the December 2005 food security survey, provides the most recent statistics on the food security of U.S. households, as well as on how much they spent for food and the extent to which food-insecure households participated in Federal and community food assistance programs. Survey responses indicate that the typical food-secure household in the U.S. spent 34 percent more on food than the typical food-insecure household of the same size and household composition. Just over one-half of all food-insecure households participated in one or more of the three largest Federal food assistance programs during the month prior to the survey. About 22 percent of food-insecure households—3.5 percent of all U.S. households—obtained emergency food from a food pantry at some time during the year.

**Keywords:** Food security, food insecurity, food spending, food pantry, hunger, soup kitchen, emergency kitchen, material well-being, Food Stamp Program, National School Lunch Program, WIC

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## Summary

Most U.S. households have consistent, dependable access to enough food for active, healthy living—they are food secure. But a minority of American households experience food insecurity at times during the year, meaning that their access to enough food is limited by a lack of money and other resources. About one-third of food-insecure households have very low food security, meaning that at times the food intake of some household members is reduced and their normal eating patterns are disrupted. The U.S. Department of Agriculture (USDA) monitors the food security of U.S. households through an annual, nationally representative survey and has published statistical reports on household food security in the United States for each year since 1995. This report presents statistics on households' food security, food expenditures, and use of food assistance for 2005.

### What Is the Issue?

USDA's domestic food assistance programs increase food security by providing children and low-income people access to food, a healthful diet, and nutrition education. Reliable monitoring of food security contributes to the effective operation of these programs as well as that of private food assistance programs and other government initiatives aimed at reducing food insecurity. USDA's annual food security report provides statistics that guide planning for Federal, State, and community food assistance programs.

### What Did the Study Find?

Throughout the year in 2005, 89.0 percent of U.S. households were food secure, up from 88.1 percent in 2004. Food-secure households had consistent access to enough food for active, healthy lives for all household members at all times during the year. The remaining 11.0 percent (12.6 million households) were food insecure. These households, at some time during the year, had difficulty providing enough food for all their members due to a lack of resources.

About one-third of food-insecure households (4.4 million, or 3.9 percent of all U.S. households) had very low food security. In households with very low food security, the food intake of some household members was reduced and their normal eating patterns were disrupted because of the lack of money and other resources. The prevalence of very low food security remained unchanged from 2004 to 2005. The other two-thirds of food-insecure households obtained enough food to avoid substantial disruptions in eating patterns and food intake, using a variety of coping strategies, such as eating less varied diets, participating in Federal food assistance programs, or getting emergency food from community food pantries or emergency kitchens.

Children, as well as adults, experienced very low food security in 270,000 households (0.7 percent of households with children). This rate has remained between 0.5 and 0.7 percent (statistically unchanged) since 1999.

The number of households with very low food security on a given day was a small fraction of the number that experienced this condition “at some time during the year.” Converting annual into daily statistics takes into account how long those conditions lasted in the typical household. On average, households with very low food security at some time during the year experienced the condition in 7 months of the year and for a few days in each of those months. In about one-third of households with very low food security, the condition occurred as just one or two brief episodes during the year. A similar proportion experienced frequent episodes of very low food security.

On a typical day in November 2005, for example, an estimated 531,000 to 797,000 households (0.5-0.7 percent of all U.S. households) experienced very low food security. Children are usually shielded from disrupted eating patterns and reduced food intake even when resources are inadequate to provide food for the entire family. Nevertheless, children experienced these conditions in 32,000 to 43,000 households (0.08 to 0.11 percent of all U.S. households with children) on a typical day.

The prevalence of food insecurity varied considerably among different types of households. Rates of food insecurity were substantially higher for households with incomes near or below the Federal poverty line, households headed by single women with children, and for Black and Hispanic households. Geographically, food insecurity was more common in large cities and rural areas than in suburbs, and in the South than in other areas of the Nation.

Food secure households spent more for food than food-insecure households. In 2005, the typical (median) U.S. household spent \$40 per person for food each week—about 26 percent more than the cost of USDA’s Thrifty Food Plan, which is a low-cost food “market basket” that meets dietary standards, taking into account household size and the age and gender of household members. The typical food-insecure household spent 1 percent less than the cost of the Thrifty Food Plan, while the typical food-secure household spent 33 percent more than the cost of the Thrifty Food Plan, or 34 percent more than the typical food-insecure household of the same age and gender composition.

Some food-insecure households turn to Federal food assistance programs or emergency food providers in their communities when they are unable to obtain enough food. Just over half of the food-insecure households surveyed in 2005 said that in the previous month they had participated in one or more of the three largest Federal food assistance programs—the National School Lunch Program, the Food Stamp Program, and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). About 22 percent of food-insecure households obtained emergency food from a food pantry at some time during the year, and 3.6 percent ate one or more meals at an emergency kitchen in their community.

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

Data for the ERS food security report come from an annual survey conducted by the U.S. Census Bureau as a supplement to the monthly Current Population Survey (CPS). USDA sponsors the survey and ERS

compiles and analyzes the responses. The food security supplement covers about 50,000 households, and is a representative sample of the U.S. civilian population of 114 million households. The food security survey asks one adult respondent in each household a series of questions about experiences and behaviors that indicate food insecurity. The food security status of the household is assessed based on the number of food-insecure conditions reported. Households with very low food security among children are identified by responses to a subset of questions about the conditions and experiences of children. Survey respondents also report the amounts their households spent on food and whether they used public or private food assistance programs.

## Introduction

Since 1995, the U.S. Department of Agriculture (USDA) has collected information annually on food spending, food access and adequacy, and sources of food assistance for the U.S. population. The information is collected in an annual food security survey, conducted as a supplement to the nationally representative Current Population Survey (CPS). A major impetus for this data collection is to provide information about the prevalence and severity of food insecurity in U.S. households. USDA reports in the *Measuring Food Security in the United States* series have summarized the findings of this research for each year from 1995 to 2004. (See appendix B for background on the development of the food security measures and a list of the reports.)

This report updates the national statistics on food security, household food spending, the use of Federal and community food assistance by food-insecure households, and the numbers of households using community food pantries and emergency kitchens, using data collected in the December 2005 food security survey. The report also includes information on the prevalence of food security, food insecurity, and very low food security during the 30-day period prior to the survey—from mid-November to mid-December 2005.

Unless otherwise noted, statistical differences described in the text are significant at the 90-percent confidence level.<sup>1</sup>

<sup>1</sup>Standard errors of estimates, except for State-level estimates, are based on a design factor of 1.6 due to the complex sampling design of the CPS. That is, the standard error of an estimated proportion is calculated as the square root of  $[P \times Q \times 1.6 / N]$ , where P is the estimated proportion, Q is 1-P, and N is the unweighted number of households in the denominator. The design factor of 1.6 is consistent with estimates based on more complex balanced repeated replication (BRR) methods (Cohen et al., 2002b; Hamilton et al., 1997b). Standard errors of State-level estimates were calculated using jack-knife replication methods with “month-in-sample” groups considered as separate, independent samples (see Nord et al., 1999).

## Household Food Security

Food security—access by all people at all times to enough food for an active, healthy life—is one of several conditions necessary for a population to be healthy and well nourished. This section provides information on food security and food insecurity in U.S. households based on the December 2005 food security survey—the 11th annual survey in the Nation’s food security monitoring system.

### Methods

The results presented in this report are based on data collected in the Current Population Survey (CPS) food security surveys for the years 1995-2005. The CPS includes about 55,000 households<sup>2</sup> and is representative, at State and national levels, of the civilian, non-institutionalized population of the United States. About 47,500 households completed the food security section of the survey in December 2005; the remainder were unable or unwilling to do so. Weighting factors were calculated by the Census Bureau so that, when properly weighted, responses to the food security questions are representative at State and national levels.<sup>3</sup> All statistics in this report were calculated by applying the food security supplement weights to responses of the surveyed households to obtain nationally representative prevalence estimates. Household supplement weights were used to calculate household-level statistics and person supplement weights were used to calculate statistics for all individuals, for adults, and for children.

The household food security statistics presented in this report are based on a measure of food security calculated from responses to a series of questions about conditions and behaviors known to characterize households having difficulty meeting basic food needs.<sup>4</sup> Each question asks whether the condition or behavior occurred at any time during the previous 12 months and specifies a lack of money or other resources to obtain food as the reason. Voluntary fasting or dieting to lose weight are thereby excluded from the measure. The series includes 10 questions about food conditions of the household as a whole and of adults in the household and, if there are children present in the household, an additional 8 questions about their food conditions (see box, “Questions Used to Assess the Food Security of Households in the CPS Food Security Survey”). Responses to the 18 items used to classify households are reported in appendix A.

The food security status of each interviewed household is determined by the number of food-insecure conditions and behaviors the household reports. Households are classified as food secure if they report no food-insecure conditions or if they report only one or two food-insecure conditions. (Food-insecure conditions are indicated by responses of “often” or “sometimes” to questions 1-3 and 11-13, “almost every month” or “some months but not every month” to questions 5, 10, and 17, and “yes” to the other questions.)

They are classified as food insecure if they report three or more food-insecure conditions.<sup>5</sup>

<sup>2</sup>The size of the CPS sample was increased in 2001; it had been around 50,000 households during the 1990s.

<sup>3</sup>Reweighting of the Supplement takes into consideration income and other information about households that completed the labor force portion of the survey but not the Food Security Supplement. This corrects, to some extent, biases that could result from nonresponse to the Supplement by households that completed only the labor force part of the survey.

<sup>4</sup>The methods used to measure the extent and severity of food insecurity have been described in several places (Hamilton et al., 1997a, 1997b; Andrews et al., 1998; Bickel et al., 1998; Carlson et al., 1999; Bickel et al., 2000; Nord and Bickel, 2002). See also the recent assessment of the measurement methods by a panel of the Committee on National Statistics (National Research Council, 2006). Further details on the development of the measure are provided in appendix B.

<sup>5</sup>To reduce the burden on higher-income respondents, households with incomes above 185 percent of the Federal poverty line who give no indication of food-access problems on either of two preliminary screening questions are deemed to be food secure and are not asked the questions in the food security assessment series. The preliminary screening questions are as follows:

- People do different things when they are running out of money for food in order to make their food or their food money go further. In the last 12 months, since December of last year, did you ever run short of money and try to make your food or your food money go further?
- Which of these statements best describes the food eaten in your household—enough of the kinds of food we want to eat, enough but not always the kinds of food we want to eat, sometimes not enough to eat, or often not enough to eat?

## **Questions Used To Assess the Food Security of Households in the CPS Food Security Survey**

1. “We worried whether our food would run out before we got money to buy more.” Was that often, sometimes, or never true for you in the last 12 months?
2. “The food that we bought just didn’t last and we didn’t have money to get more.” Was that often, sometimes, or never true for you in the last 12 months?
3. “We couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for you in the last 12 months?
4. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn’t enough money for food? (Yes/No)
5. (If yes to Question 4) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
6. In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food? (Yes/No)
7. In the last 12 months, were you ever hungry, but didn’t eat, because you couldn’t afford enough food? (Yes/No)
8. In the last 12 months, did you lose weight because you didn’t have enough money for food? (Yes/No)
9. In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)
10. (If yes to Question 9) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

***(Questions 11-18 are asked only if the household included children age 0-18)***

11. “We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food.” Was that often, sometimes, or never true for you in the last 12 months?
12. “We couldn’t feed our children a balanced meal, because we couldn’t afford that.” Was that often, sometimes, or never true for you in the last 12 months?
13. “The children were not eating enough because we just couldn’t afford enough food.” Was that often, sometimes, or never true for you in the last 12 months?
14. In the last 12 months, did you ever cut the size of any of the children’s meals because there wasn’t enough money for food? (Yes/No)
15. In the last 12 months, were the children ever hungry but you just couldn’t afford more food? (Yes/No)
16. In the last 12 months, did any of the children ever skip a meal because there wasn’t enough money for food? (Yes/No)
17. (If yes to Question 16) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
18. In the last 12 months, did any of the children ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)

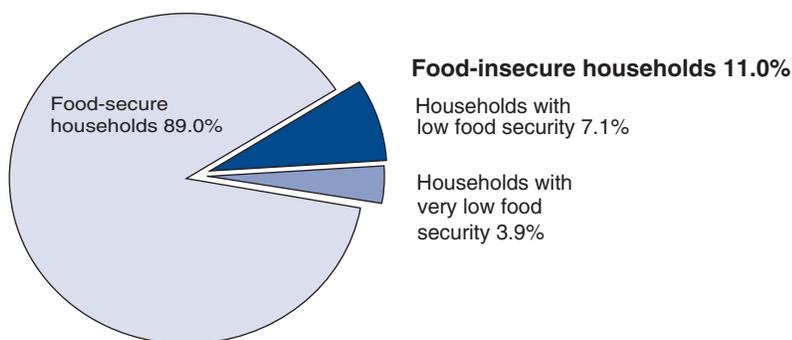
Food-insecure households are further classified as having either low food security or very low food security.<sup>6</sup> Households without children are classified as having very low food security if they report six or more food-insecure conditions. Households with children are classified as having very low food security if they report eight or more food-insecure conditions, including conditions among both adults and children. Households with children are further classified as having very low food security among children if they report 5 or more food-insecure conditions among the children (that is, if they respond affirmatively to 5 or more of questions 11-18).

Thus, households classified as having low food security have reported multiple indications of food access problems, but typically have reported few, if any, indications of reduced food intake. Households classified as having very low food security have reported multiple indications of reduced food intake and disrupted eating patterns due to inadequate resources for food. In most but not all households with very low food security, the survey respondent reported that he or she was hungry but did not eat at some time during the year because there was not enough money for food.

### Prevalence of Food Insecurity— National Conditions and Trends

Eighty-nine percent of U.S. households were food secure throughout the entire year 2005 (fig. 1, table 1A). “Food secure” means that all household members had access at all times to enough food for an active, healthy life.<sup>7</sup> The remaining 12.6 million U.S. households (11.0 percent of all households) were food insecure at some time during the year. That is, they were, at times, uncertain of having, or unable to acquire, enough food for all household members because they had insufficient money and other resources for food. About two-thirds of food-insecure households avoided substantial reductions or disruptions in food intake, in many cases by relying on a few basic foods and reducing variety in their diets.

Figure 1  
**U.S. households by food security status, 2005**



Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

<sup>6</sup>In previous years’ food security reports, households with low food security were described as “food insecure without hunger” and households with very low food security were described as “food insecure with hunger.” Changes in these descriptions have been made at the recommendation of the Committee on National Statistics (National Research Council, 2006). The criteria by which households were classified remained unchanged. See box “What Is ‘Very Low Food Security?’” on page 6 for further information on these changes.

<sup>7</sup>Food security and insecurity, as measured for this report, are based on respondent perceptions of whether the household was able to obtain enough food to meet their needs. The measure does not specifically address whether the household’s food intake was sufficient for active, healthy lives. Nonetheless, research based on other surveys has found food security, measured as in this report, to be associated with health, nutrition, and children’s development in a manner that generally supports the conceptualized link with sufficiency for active, healthy lives.

Table 1A

**Prevalence of food security and food insecurity in U.S. households, 1998-2005**

Unit	Total <sup>1</sup>	Food insecurity							
		Food security		All		Low food security		Very low food security	
		1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
<b>Households:</b>									
1998	103,309	91,121	88.2	12,188	11.8	8,353	8.1	3,835	3.7
1999	104,684	94,154	89.9	10,529	10.1	7,420	7.1	3,109	3.0
2000	106,043	94,942	89.5	11,101	10.5	7,786	7.3	3,315	3.1
2001	107,824	96,303	89.3	11,521	10.7	8,010	7.4	3,511	3.3
2002	108,601	96,543	88.9	12,058	11.1	8,259	7.6	3,799	3.5
2003	112,214	99,631	88.8	12,583	11.2	8,663	7.7	3,920	3.5
2004	112,967	99,473	88.1	13,494	11.9	9,045	8.0	4,449	3.9
2005	114,437	101,851	89.0	12,586	11.0	8,158	7.1	4,428	3.9
<b>All individuals (by food security status of household):<sup>2</sup></b>									
1998	268,366	232,219	86.5	36,147	13.5	26,290	9.8	9,857	3.7
1999	270,318	239,304	88.5	31,015	11.5	23,237	8.6	7,779	2.9
2000	273,685	240,454	87.9	33,231	12.1	24,708	9.0	8,523	3.1
2001	276,661	243,019	87.8	33,642	12.2	24,628	8.9	9,014	3.3
2002	279,035	244,133	87.5	34,902	12.5	25,517	9.1	9,385	3.4
2003	286,410	250,155	87.3	36,255	12.7	26,622	9.3	9,633	3.4
2004	288,603	250,407	86.8	38,196	13.2	27,535	9.5	10,661	3.7
2005	291,501	256,373	87.9	35,128	12.1	24,349	8.4	10,779	3.7
<b>Adults (by food security status of household):<sup>2</sup></b>									
1998	197,084	174,964	88.8	22,120	11.2	15,632	7.9	6,488	3.3
1999	198,900	179,960	90.5	18,941	9.5	13,869	7.0	5,072	2.5
2000	201,922	181,586	89.9	20,336	10.1	14,763	7.3	5,573	2.8
2001	204,340	183,398	89.8	20,942	10.2	14,879	7.3	6,063	3.0
2002	206,493	184,718	89.5	21,775	10.5	15,486	7.5	6,289	3.0
2003	213,441	190,451	89.2	22,990	10.8	16,358	7.7	6,632	3.1
2004	215,564	191,236	88.7	24,328	11.3	16,946	7.9	7,382	3.4
2005	217,897	195,172	89.6	22,725	10.4	15,146	7.0	7,579	3.5

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 395,000 households (0.3 percent of all households.)

<sup>2</sup>The food security survey measures food security status at the household level. Not all individuals residing in food-insecure households were directly affected by the households' food insecurity. Similarly, not all individuals in households classified as having very low food security were subject to the reductions in food intake and disruptions in eating patterns that characterize this condition. Young children, in particular, are often protected from effects of the households' food insecurity.

Sources: Calculated by ERS using data from the August 1998, April 1999, September 2000, December 2001, December 2002, December 2003, December 2004, and December 2005 Current Population Survey Food Security Supplements.

But 4.4 million households (3.9 percent of all U.S. households) had very low food security—that is, they were food insecure to the extent that eating patterns of one or more household members were disrupted and their food intake reduced, at least some time during the year, because they couldn't afford enough food.

Children in most food-insecure households—even in households with very low food security—were protected from substantial reductions in food intake. However, in some 270,000 households (0.7 percent of households with children), one or more children were also subject to reduced food intake and disrupted eating patterns at some time during the year (table 1B). In some

## What Is “Very Low Food Security”?

In this year’s report, USDA has introduced new language to describe ranges of severity of food insecurity. The labels “low food security” and “very low food security” have replaced “food insecurity without hunger” and “food insecurity with hunger,” respectively. USDA made these changes in response to recommendations by an expert panel convened at USDA’s request by the Committee on National Statistics (CNSTAT) of the National Academies. Even though new labels have been introduced, the methods used to assess households’ food security have remained unchanged, so statistics for 2005 are directly comparable with those for 2004 and earlier years for the corresponding categories. (See appendix B for further information on the history and development of the food security measurement methods.)

USDA requested the review by CNSTAT to ensure that the measurement methods USDA uses to assess households’ access—or lack of access—to adequate food and the language used to describe those conditions are conceptually and operationally sound and that they convey useful and relevant information to policy officials and the public. The panel convened by CNSTAT to conduct this study included economists, sociologists, nutritionists, statisticians, and other researchers. One of the central issues the CNSTAT panel addressed was whether the concepts and definitions underlying the measurement methods—especially the concept and definition of hunger and the relationship between hunger and food insecurity—were appropriate for the policy context in which food security statistics are used.

The CNSTAT panel:

- recommended that USDA continue to measure and monitor food insecurity regularly in a household survey
- affirmed the appropriateness of the general methodology currently used to measure food insecurity
- suggested several ways in which the methodology might be refined (contingent on confirmatory research). Research on these issues is currently underway at ERS.

The CNSTAT panel recommended that USDA make a clear and explicit distinction between food insecurity and hunger. Food insecurity—the condition assessed in the food security survey and represented in the statistics in this report—is a household-level economic and social condition of limited or uncertain access to adequate food. Hunger is an individual-level physiological condition that may result from food insecurity. The word “hunger,” the panel stated in its final report, “...should refer to a potential consequence of food insecurity that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation.” To measure hunger in this sense would require collection of more detailed and extensive information on physiological experiences of individual household members than could be accomplished effectively in the context of the household-based and labor force-oriented CPS. The panel recommended, therefore, that new methods be developed to measure hunger and that a national assessment of hunger be conducted using an appropriate survey of individuals rather than a survey of households.

The CNSTAT panel recommended that USDA consider alternate labels to convey the severity of food insecurity without using the word “hunger,” since hunger is not adequately assessed in the food security survey. USDA concurs with this recommendation and, accordingly, has introduced the new labels “low food security” and “very low food security.”

The defining characteristic of very low food security is that, at times during the year, the food intake of household members was reduced and their normal eating patterns were disrupted because the household lacked money and other resources for food. Very low food security can be characterized in terms of the conditions that households in this category reported in the food security survey. In the 2005 survey, households classified as having very low food security (representing an estimated 4.4 million households nationwide) reported the following specific conditions:

- 98 percent reported having worried that their food would run out before they got money to buy more.
- 96 percent reported that the food they bought just did not last and they did not have money to get more.
- 94 percent reported that they could not afford to eat balanced meals.
- 96 percent reported that an adult had cut the size of meals or skipped meals because there was not enough money for food; 86 percent reported that this had occurred in 3 or more months.
- In 94 percent, respondents reported that they had eaten less than they felt they should because there was not enough money

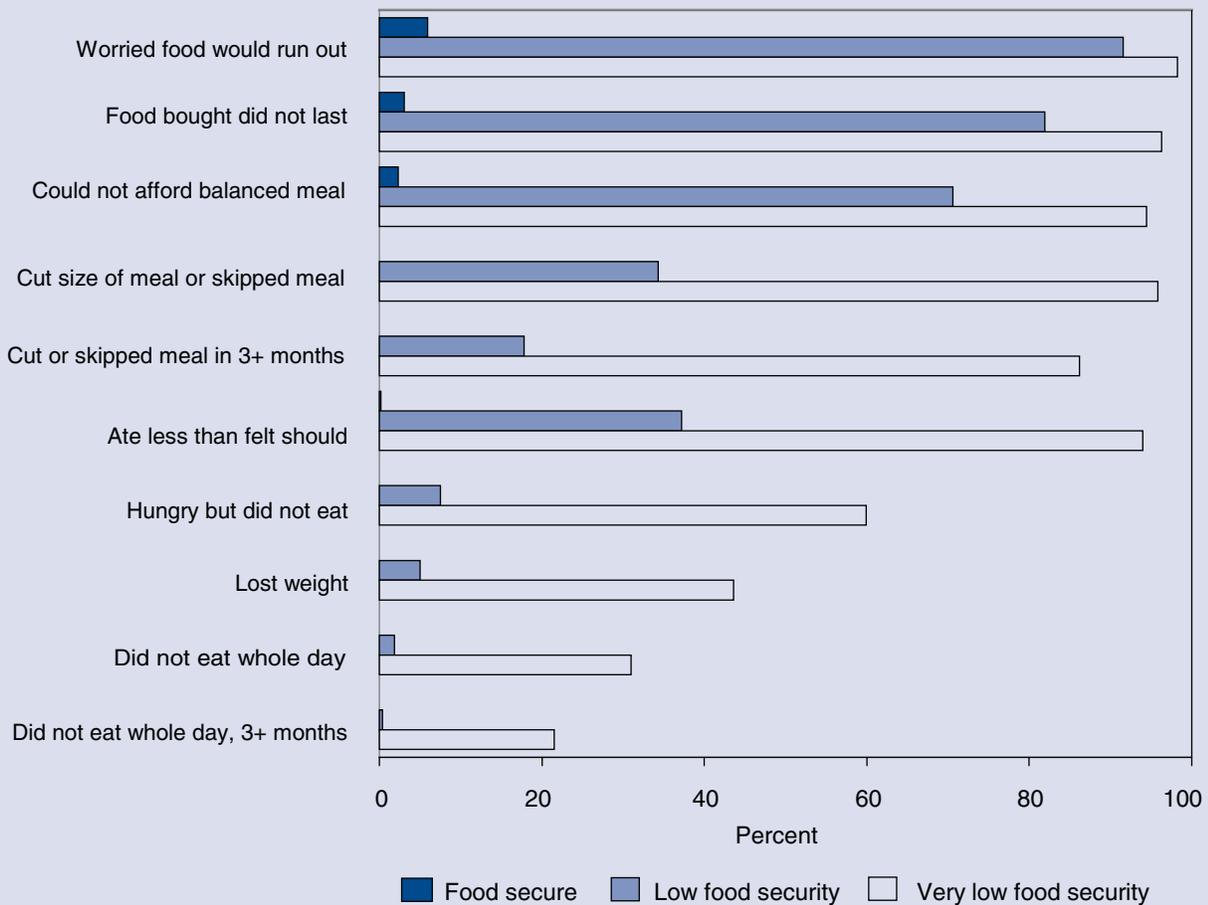
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- In 60 percent, respondents reported that they had been hungry but did not eat because they could not afford enough food.
- In 44 percent, respondents reported having lost weight because they did not have enough money for food.
- 31 percent reported that an adult did not eat for a whole day because there was not enough money for food; 22 percent reported that this had occurred in 3 or more months.
- All of those without children reported at least six of these conditions, and 64 percent reported seven or more. (Conditions in households with children were similar, but the reported food insecure conditions of both adults and children were taken into account.)

A summary of the CNSTAT panel’s report, *Food Insecurity and Hunger in the United States: An Assessment of the Measure*, and link to the full text are available at: [www.ers.usda.gov/Briefing/FoodSecurity/NASsummary.htm](http://www.ers.usda.gov/Briefing/FoodSecurity/NASsummary.htm).

**Percentage of households reporting indicators of adult food insecurity, by food security status, 2005**



Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 1B

**Prevalence of food security and food insecurity in households with children, 1998-2005**

Unit	Total <sup>1</sup> 1,000	Food security		Low or very low food security among adults or children		Very low food security among children	
		1,000	Percent	1,000	Percent	1,000	Percent
Households with children:							
1998	38,036	31,335	82.4	6,701	17.6	331	0.9
1999	37,884	32,290	85.2	5,594	14.8	219	.6
2000	38,113	31,942	83.8	6,171	16.2	255	.7
2001	38,330	32,141	83.9	6,189	16.1	211	.6
2002	38,647	32,267	83.5	6,380	16.5	265	.7
2003	40,286	33,575	83.3	6,711	16.7	207	.5
2004	39,990	32,967	82.4	7,023	17.6	274	.7
2005	39,601	33,404	84.4	6,197	15.6	270	.7
Children (by food security status of household): <sup>2</sup>							
1998	71,282	57,255	80.3	14,027	19.7	716	1.0
1999	71,418	59,344	83.1	12,074	16.9	511	.7
2000	71,763	58,867	82.0	12,896	18.0	562	.8
2001	72,321	59,620	82.4	12,701	17.6	467	.6
2002	72,542	59,415	81.9	13,127	18.1	567	.8
2003	72,969	59,704	81.8	13,265	18.2	420	.6
2004	73,039	59,171	81.0	13,868	19.0	545	.7
2005	73,604	61,201	83.1	12,403	16.9	606	.8

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 129,000 households (0.3 percent of all households with children.)

<sup>2</sup>The food security survey measures food security status at the household level. Not all children residing in food-insecure households were directly affected by the households' food insecurity. Similarly, not all children in households classified as having very low food security among children were subject to the reductions in food intake or disruptions in eating patterns that characterize this condition. Young children, in particular, are often protected from effects of the households' food insecurity.

Sources: Calculated by ERS using data from the August 1998, April 1999, September 2000, December 2001, December 2002, December 2003, December 2004, and December 2005 Current Population Survey Food Security Supplements.

households with very low food security among children, only older children may have been subjected to the more severe effects of food insecurity while younger children were protected from those effects.

When interpreting food security statistics, it is important to keep in mind that households are classified as having low or very low food security if they experienced the condition at any time during the previous 12 months. The prevalence of these conditions on any given day is far below the corresponding annual prevalence. For example, the prevalence of very low food security on an average day during the 30-day period from mid-November to mid-December 2005 is estimated to have been between 0.5 and 0.7 percent of households (531,000 to 797,000 households), or about 12 to 18 percent of the annual rate (see box, "When Food Insecurity Occurs in U.S. Households, It Is Usually Recurrent but not Chronic").

The prevalence of food insecurity declined from 11.9 percent of households in 2004 to 11.0 percent in 2005, about the same level as in 2002. The prevalence of very low food security, however, remained at 3.9 percent of households, unchanged from 2004. The prevalence of very low food security among children remained unchanged at 0.7 percent of households with children. This

## When Food Insecurity Occurs in U.S. Households, It Is Usually Recurrent but not Chronic

When households experience very low food security in the United States, the resulting instances of reduced food intake and disrupted eating patterns are usually occasional or episodic but are not usually chronic. The food security measurement methods used in this report are designed to register these occasional or episodic occurrences. The questions used to assess households' food security status ask whether a condition, experience, or behavior occurred at any time in the past 12 months, and households can be classified as having very low food security based on a single, severe episode during the year. It is important to keep this in mind when interpreting food insecurity statistics.

Analysis of additional information collected in the food security survey on how frequently various food-insecure conditions occurred during the year, whether they occurred during the 30 days prior to the survey, and, if so, on how many days provide further insight into the frequency and duration of food insecurity in U.S. households. These analyses reveal that in 2005:

- About one-third of the households with very low food security at any time during the year experienced the associated conditions rarely or occasionally—in only 1 or 2 months of the year. For two-thirds, the conditions were recurring, experienced in 3 or more months of the year.
- For about one-fifth of food-insecure households and 30 percent of those with very low food security, occurrence of the associated conditions was frequent or chronic. That is, they occurred often, or in almost every month.
- On average, households that were food insecure at some time during the year were food insecure in 6 months during the year (see appendix E). During the 30-day period ending

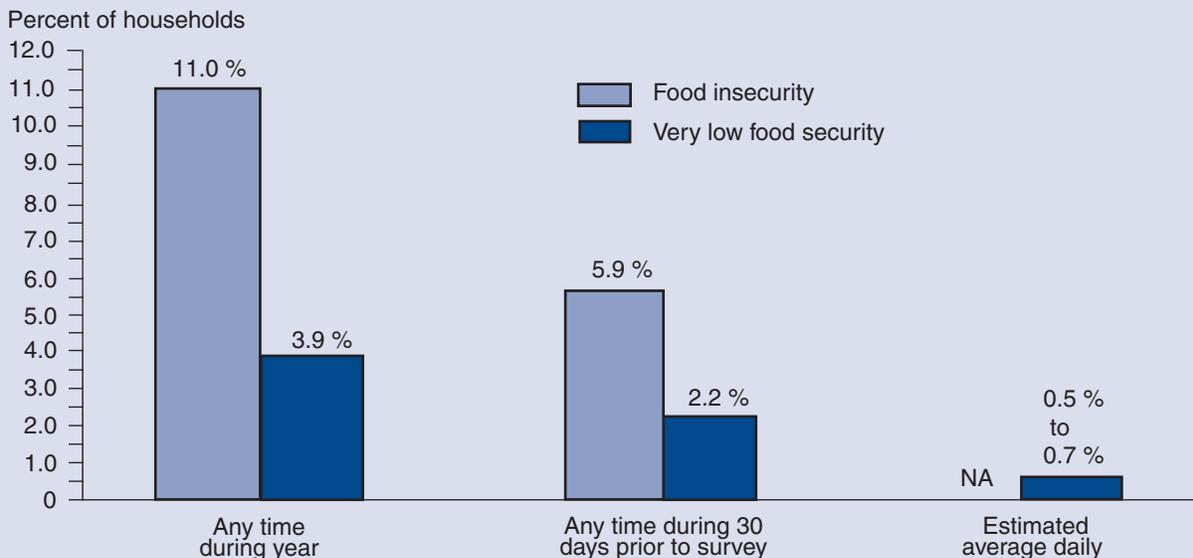
in mid-December 2005, 6.7 million households (5.9 percent) were food insecure—about 53 percent of the number that were food insecure at any time during the year.

- On average, households with very low food security at some time during the year experienced the associated conditions in 7 months during the year (see appendix E). During the 30-day period ending in mid-December 2005, 2.5 million households (2.2 percent) had very low food security—about 57 percent of the number with very low food security at any time during the year.
- Most households that had very low food security at some time during a month experienced the associated conditions in 1 to 7 days of the month. The average daily prevalence of very low food security during the 30-day period ending in mid-December 2005 was probably between 531,000 and 797,000 households (0.5 to 0.7 percent of all households)—about 12 to 18 percent of the annual prevalence.
- The daily prevalence of very low food security among children during the 30-day period ending in early December 2005 was probably between 32,000 and 43,000 households (0.08 to 0.11 percent of households with children)—about 12 to 16 percent of the annual prevalence.

Omitting homeless families and individuals from these daily statistics biases them downward, and the bias may be substantial.

(Appendix A provides information on how often conditions indicating food insecurity occurred as reported by respondents to the December 2005 food security survey. See Nord et al., 2000, for more information about the frequency of food insecurity.)

### Prevalence of food insecurity and very low food security, by reference period



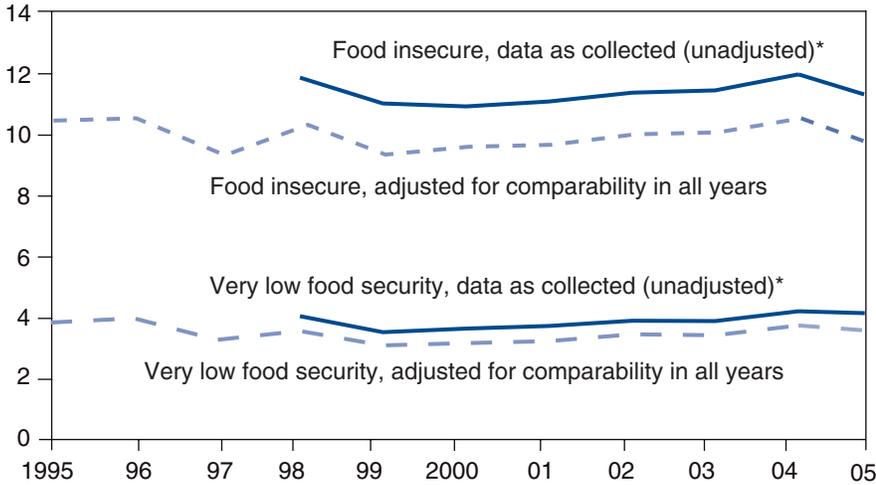
NA = Estimate of average daily occurrence not available

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Figure 2

**Trends in prevalence of food insecurity in U.S. households, 1995-2005**

Percent of households



\*Data as collected in 1995-97 are not directly comparable with data collected in 1998-2005.

Source: Calculated by ERS based on Current Population Survey Food Security Supplement data.

rate has remained in the range of 0.5 to 0.7 percent (with no statistically significant changes) since 1999.

The 2005 decline in the prevalence rate of food insecurity reversed an upward trend from 1999 to 2004 and brought the rate back below the level at which it was first measured in 1995 (fig. 2).<sup>8</sup> The prevalence of very low food security was also at about the 1995 level. From 1995 to 2000, the prevalence rates reflect a 2-year cyclical component that is associated with data collection schedules (Cohen et al., 2002a). The CPS food security surveys over this period were conducted in April in odd-numbered years and August or September in even-numbered years. Measured prevalence of food insecurity was higher in the August/September collections, suggesting a seasonal response effect. Beginning in 2001, the survey has been conducted in early December. Data collection is planned to continue in December in future years, which will avoid further problems of seasonality effects in interpreting annual changes.<sup>9</sup>

**Prevalence of Food Insecurity—Conditions and Trends by Selected Household Characteristics**

The prevalence of food insecurity varied considerably among household types (table 2). Rates of food insecurity were well below the national average of 11.0 percent for households with more than one adult and no children (6.7 percent) and for households with elderly persons (6.0 percent).<sup>10</sup> Rates of food insecurity substantially higher than the national average were registered by the following groups:

- households with incomes below the official poverty line (36.0 percent),<sup>11</sup>

<sup>8</sup>Because of changes in screening procedures used to reduce respondent burden, food security statistics from 1995-97 are not directly comparable with those from 1998-2005. Figure 2 presents statistics for the years 1995-2005, adjusted to be comparable across all years, as well as statistics for 1998-2005 based on data as collected. See Andrews et al. (2000) and Ohls et al. (2001) for detailed information about questionnaire screening and adjustments for comparability.

<sup>9</sup>A smaller food security survey was also conducted in April 2001 to provide a baseline for assessing seasonal effects of data collection in December. Comparison of food security statistics from the April 2001 survey with those from April 1999 and December 2001 suggest that seasonal effects in early December were similar to those in April (Nord et al., 2002a).

<sup>10</sup>“Elderly” in this report refers to persons age 65 and older.

<sup>11</sup>The Federal poverty line was \$19,806 for a family of four in 2005.

Table 2

**Prevalence of food security and food insecurity by selected household characteristics, 2005**

Category	Total <sup>1</sup>	Food security		Food insecurity					
		1,000	Percent	All	Low food security	Very low food security	1,000	Percent	1,000
All households	114,437	101,851	89.0	12,586	11.0	8,158	7.1	4,428	3.9
Household composition:									
With children < 18	39,601	33,404	84.4	6,197	15.6	4,580	11.6	1,617	4.1
With children < 6	17,615	14,671	83.3	2,944	16.7	2,265	12.9	679	3.9
Married-couple families	26,776	24,130	90.1	2,646	9.9	2,040	7.6	606	2.3
Female head, no spouse	9,659	6,680	69.2	2,979	30.8	2,143	22.2	836	8.7
Male head, no spouse	2,536	2,082	82.1	454	17.9	315	12.4	139	5.5
Other household with child <sup>2</sup>	630	510	81.0	120	19.0	83	13.2	37	5.9
With no children < 18	74,836	68,448	91.5	6,388	8.5	3,577	4.8	2,811	3.8
More than one adult	44,267	41,306	93.3	2,961	6.7	1,799	4.1	1,162	2.6
Women living alone	17,019	15,147	89.0	1,872	11.0	1,008	5.9	864	5.1
Men living alone	13,550	11,996	88.5	1,554	11.5	770	5.7	784	5.8
With elderly	26,609	25,017	94.0	1,592	6.0	1,105	4.2	487	1.8
Elderly living alone	10,749	10,063	93.6	686	6.4	473	4.4	213	2.0
Race/ethnicity of households:									
White non-Hispanic	82,144	75,444	91.8	6,700	8.2	4,305	5.2	2,395	2.9
Black non-Hispanic	13,732	10,658	77.6	3,074	22.4	1,894	13.8	1,180	8.6
Hispanic <sup>3</sup>	12,397	10,176	82.1	2,221	17.9	1,559	12.6	662	5.3
Other	6,164	5,573	90.4	591	9.6	400	6.5	191	3.1
Household income-to-poverty ratio:									
Under 1.00	12,646	8,098	64.0	4,548	36.0	2,836	22.4	1,712	13.5
Under 1.30	17,264	11,526	66.8	5,738	33.2	3,555	20.6	2,183	12.6
Under 1.85	27,205	19,515	71.7	7,690	28.3	4,813	17.7	2,877	10.6
1.85 and over	65,030	61,621	94.8	3,409	5.2	2,327	3.6	1,082	1.7
Income unknown	22,202	20,717	93.3	1,485	6.7	1,017	4.6	468	2.1
Area of residence: <sup>4</sup>									
Inside metropolitan area	94,945	84,706	89.2	10,239	10.8	6,593	6.9	3,646	3.8
In principal cities <sup>5</sup>	31,708	27,429	86.5	4,279	13.5	2,661	8.4	1,618	5.1
Not in principal cities	46,998	42,932	91.3	4,066	8.7	2,686	5.7	1,380	2.9
Outside metropolitan area	19,492	17,146	88.0	2,346	12.0	1,565	8.0	781	4.0
Census geographic region:									
Northeast	21,196	19,272	90.9	1,924	9.1	1,338	6.3	586	2.8
Midwest	26,387	23,454	88.9	2,933	11.1	1,859	7.0	1,074	4.1
South	41,653	36,650	88.0	5,003	12.0	3,173	7.6	1,830	4.4
West	25,202	22,475	89.2	2,727	10.8	1,789	7.1	938	3.7

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 395,000 households (0.3 percent of all households.)

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Prevalence rates by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

- households with children, headed by a single woman (30.8 percent) or a single man (17.9 percent),
- Black households (22.4 percent), and
- Hispanic households (17.9 percent).

Overall, households with children reported food insecurity at about double the rate for households without children (15.6 vs. 8.5 percent).<sup>12</sup> Among households with children, those headed by a married couple showed the lowest rate of food insecurity (9.9 percent).

The prevalence rates of food insecurity for households located in principal cities of metropolitan areas (13.5 percent) and nonmetropolitan areas (12.0 percent) substantially exceeded the rate for households in suburbs and other metropolitan areas outside principal cities (8.7 percent).<sup>13</sup> Regionally, the prevalence of food insecurity was higher than the national average in the South (12.0 percent) and lower than the national average in the Northeast (9.1 percent), while prevalence rates in the Midwest (11.1 percent) and West (10.8 percent) were near the national average.

The prevalence rates of very low food security in various types of households followed a pattern similar to that observed for food insecurity. Rates were lowest for married couples with children (2.3 percent), multiple-adult households with no children (2.6 percent), and households with elderly persons (1.8 percent). Very low food security was more prevalent than the national average (3.9 percent) among families with children headed by a single woman (8.7 percent) or a single man (5.5 percent), women living alone (5.1 percent), men living alone (5.8 percent), Black and Hispanic households (8.6 and 5.3 percent, respectively), households with incomes below the poverty line (13.5 percent), and households living in principal cities of metropolitan areas (5.1 percent).

Very low food security among children was least prevalent in married-couple households, White non-Hispanic households, and households with incomes above 185 percent of the poverty line (table 3). Children in households headed by a single woman were more likely to experience very low food security, as were children in households with incomes below 185 percent of the poverty line.

The improvement in food security from 2004 to 2005 appears to have affected primarily households with children (fig. 3). The prevalence of food insecurity declined by statistically significant increments for all households with children, households with children under age 6, and households with children headed by a married couple or a single man. The change for households without children was not statistically significant. Food insecurity improved for households with incomes below 185 percent of the poverty line, in principal cities of metropolitan areas, and in the South and West census regions. The only statistically significant change in the prevalence of very low food security was a decline for households headed by minorities other than Blacks or Hispanics (fig. 4). That category included American Indians, Native Alaskans, Asians, Hawaiians, Pacific Islanders, and persons who identified themselves as of more than one race. Changes in other categories were within a range that could have resulted from sampling variation.

<sup>12</sup>The higher rate of food insecurity for households with children results, in part, from a difference in the measures applied to households with and without children. Responses to questions about children as well as adults are considered in assessing the food security status of households with children, but for both types of households, a total of three indications of food insecurity is required for classification as food insecure. Even with the child-referenced questions omitted from the scale, however, households with children were 47 percent more likely to be food insecure than were households without children. This measurement issue does not bias comparisons of very low food security because a higher threshold is applied to households with children, consistent with the larger number of questions taken into consideration.

<sup>13</sup>Revised metropolitan statistical areas (MSAs) and principal cities within them were delineated by the Office of Management and Budget in 2003 based on revised standards developed by the U.S. Census Bureau in collaboration with other Federal agencies. Food security prevalence statistics by area of residence are comparable with those for 2004, but are not precisely comparable with those for earlier years. Principal cities include the incorporated areas of the largest city in each MSA and other cities in the MSA that meet specified criteria based on population size and commuting patterns.

Table 3

**Prevalence of food security and food insecurity in households with children  
by selected household characteristics, 2005**

Category	Total <sup>1</sup>	Food-secure households		Food-insecure households <sup>2</sup>		Households with very low food security among children	
		1,000	Percent	1,000	Percent	1,000	Percent
All households with children	39,601	33,404	84.4	6,197	15.6	270	0.7
Household composition:							
With children < 6	17,615	14,671	83.3	2,944	16.7	94	.5
Married-couple families	26,776	24,130	90.1	2,646	9.9	98	.4
Female head, no spouse	9,659	6,681	69.2	2,978	30.8	153	1.6
Male head, no spouse	2,536	2,082	82.1	454	17.9	19	.7
Other household with child <sup>3</sup>	630	511	81.1	119	18.9	0	0.0
Race/ethnicity of households:							
White non-Hispanic	24,962	22,020	88.2	2,942	11.8	111	.4
Black non-Hispanic	5,499	3,995	72.6	1,504	27.4	84	1.5
Hispanic <sup>4</sup>	6,722	5,267	78.4	1,455	21.6	63	.9
Other	2,417	2,121	87.8	296	12.2	11	.5
Household income-to-poverty ratio:							
Under 1.00	5,619	3,246	57.8	2,373	42.2	138	2.5
Under 1.30	7,424	4,408	59.4	3,016	40.6	158	2.1
Under 1.85	11,753	7,733	65.8	4,020	34.2	182	1.5
1.85 and over	21,522	20,008	93.0	1,514	7.0	62	.3
Income unknown	6,326	5,663	89.5	663	10.5	26	.4
Area of residence: <sup>5</sup>							
Inside metropolitan area	33,286	28,140	84.5	5,146	15.5	243	.7
In principal cities <sup>6</sup>	10,453	8,401	80.4	2,052	19.6	114	1.1
Not in principal cities	17,348	15,243	87.9	2,105	12.1	89	.5
Outside metropolitan area	6,315	5,264	83.4	1,051	16.6	27	.4
Census geographic region:							
Northeast	7,074	6,148	86.9	926	13.1	54	.8
Midwest	9,006	7,604	84.4	1,402	15.6	54	.6
South	14,318	11,949	83.5	2,369	16.5	86	.6
West	9,203	7,701	83.7	1,502	16.3	77	.8
Individuals in households with children:							
All individuals in households with children	158,515	133,972	84.5	24,543	15.5	1,141	.7
Adults in households with children	84,911	72,770	85.7	12,141	14.3	536	.6
Children	73,604	61,201	83.1	12,403	16.9	606	.8

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 129,000 households with children (0.3 percent.)

<sup>2</sup>Food-insecure households are those with low or very low food security among adults or children.

<sup>3</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>4</sup>Hispanics may be of any race.

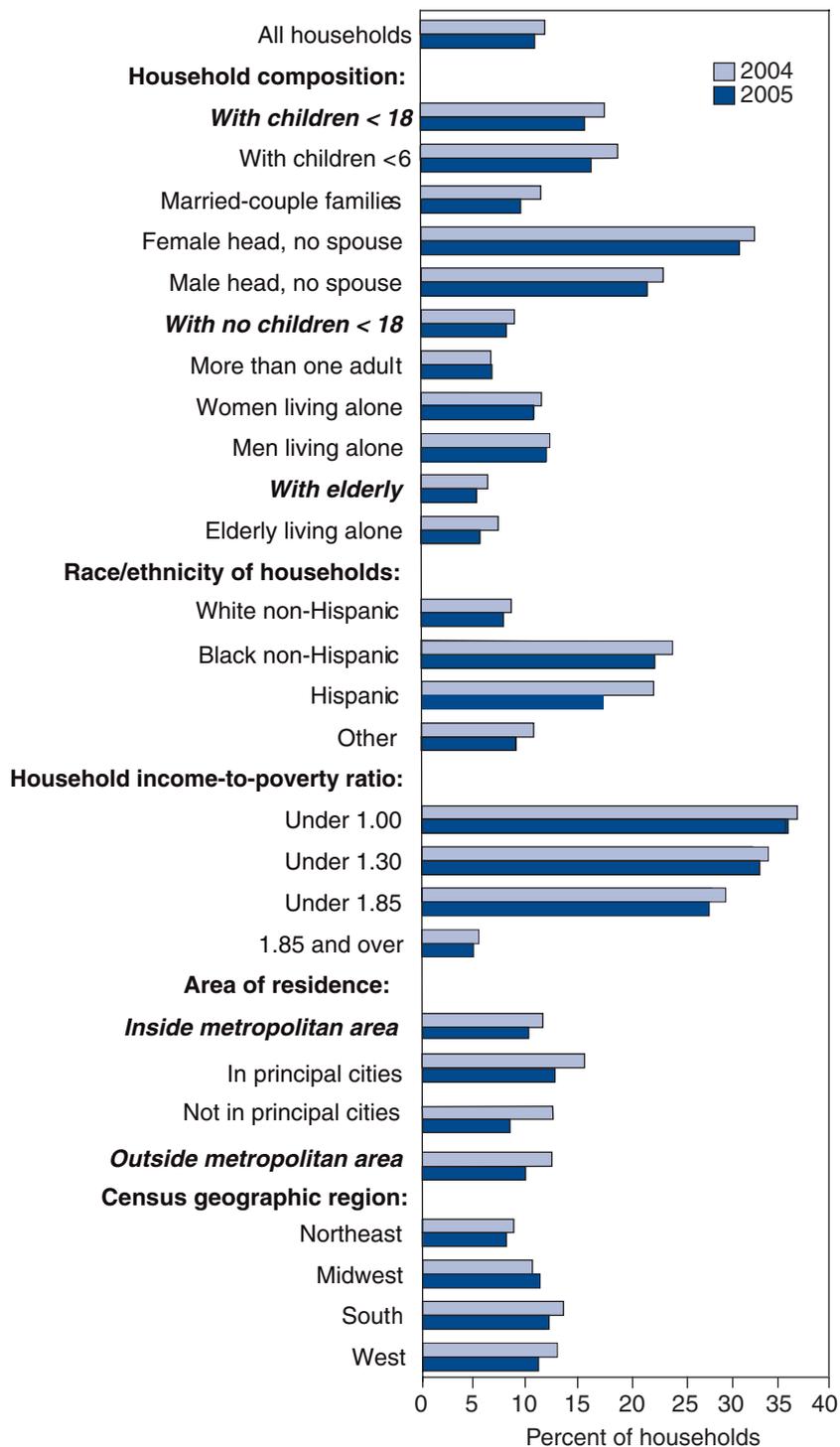
<sup>5</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Prevalence rates by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>6</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Figure 3

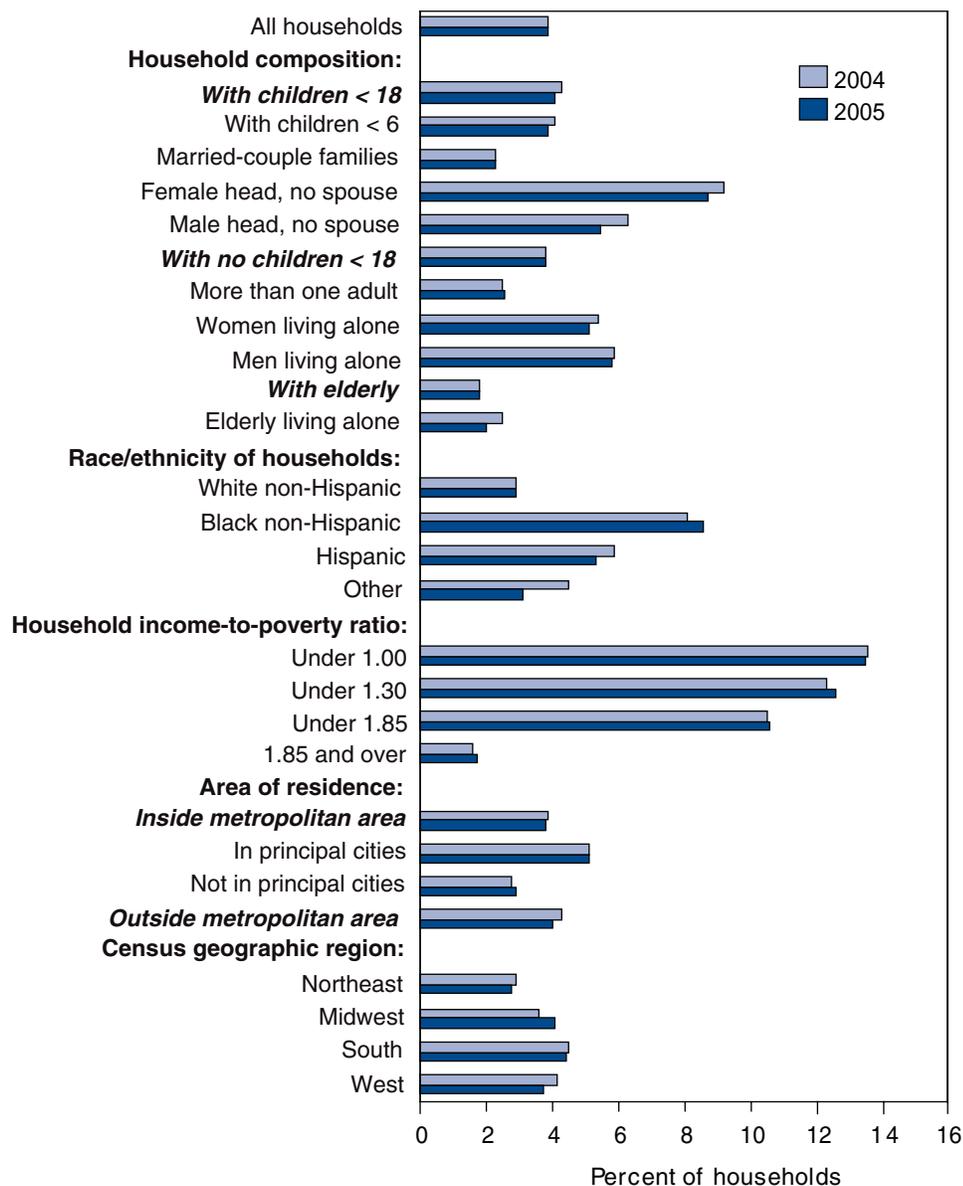
**Prevalence of food insecurity, 2004 and 2005**



Source: Calculated by ERS based on Current Population Survey Food Security Supplement data, December 2004 and December 2005.

Figure 4

**Prevalence of very low food security, 2004 and 2005**



Source: Calculated by ERS based on Current Population Survey Food Security Supplement data, December 2004 and December 2005.

## Food Insecurity in Low-Income Households

Food insecurity is by definition a condition that results from insufficient household resources. In 2005, food insecurity was more than five times as prevalent in households with annual incomes below 185 percent of the poverty line as in households with incomes above that range (table 2). However, many factors that might affect a household's food security (such as job loss, divorce, or other unexpected events) are not captured by an annual income measure. Some households experienced episodes of food insecurity, or even very low food security, even though their annual incomes were well above the poverty line (Nord and Brent, 2002; Gundersen and Gruber, 2001). On the other hand, many low-income households (including almost two-thirds of those with incomes below the official poverty line) were food secure.

Table 4 presents food security statistics for households with annual incomes below 130 percent of the poverty line.<sup>14</sup> One in three of these low-income households was food insecure, including 12.6 percent that had very low food security at times during the year. Low-income households with children were more likely to be food insecure than low-income households without children (40.6 percent vs. 27.7 percent), but were less likely to have very low food security (11.3 percent vs. 13.7 percent). Low-income households with children headed by a single woman were especially vulnerable to food insecurity (45.0 percent), although their rate of very low food security (12.2 percent) was near the average for all low-income households.

### Number of Persons, by Household Food Security Status and Selected Household Characteristics

The food security survey is designed to measure food security status at the household level. While it is informative to examine the number of persons residing in food-insecure households, these statistics should be interpreted carefully. In some households, different household members may have been affected differently by the households' food insecurity. Some members—particularly young children—may have experienced only mild effects or none at all, while adults experienced severe effects. It is more precise, therefore, to describe these statistics as representing “persons living in food-insecure households” rather than as representing “food-insecure persons.” Similarly, “persons living in households with very low food security” is a more precise description than “persons with very low food security.”

In 2005, 35.1 million people lived in food-insecure households (table 1A). They constituted 12.1 percent of the U.S. civilian noninstitutionalized population and included 22.7 million adults and 12.4 million children. Of these individuals, 7.6 million adults and 3.2 million children lived in households with very low food security, and 606,000 children (0.8 percent of U.S. children) lived in households with very low food security among children (table 1B). Tables 5 and 6 present estimates of the number of people and the number of children in the households in each food security status and household type.

<sup>14</sup>Households with income below 130 percent of the poverty line are eligible to receive food stamps, provided they meet other eligibility criteria. Children in these households are eligible for free meals in the National School Lunch and School Breakfast Programs.

Table 4

**Prevalence of food security and food insecurity in households with income below 130 percent of the poverty line by selected household characteristics, 2005**

Category	Total <sup>1</sup>	Food security		Food insecurity					
		1,000	Percent	All	Low food security		Very low food security		
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All low-income households	17,264	11,526	66.8	5,738	33.2	3,555	20.6	2,183	12.6
Household composition:									
With children < 18	7,424	4,409	59.4	3,015	40.6	2,176	29.3	839	11.3
With children < 6	4,111	2,516	61.2	1,595	38.8	1,174	28.6	421	10.2
Married-couple families	2,995	1,927	64.3	1,068	35.7	785	26.2	283	9.4
Female head, no spouse	3,759	2,069	55.0	1,690	45.0	1,230	32.7	460	12.2
Male head, no spouse	539	326	60.5	213	39.5	127	23.6	86	16.0
Other household with child <sup>2</sup>	131	86	65.6	45	34.4	34	26.0	11	8.4
With no children < 18	9,841	7,118	72.3	2,723	27.7	1,379	14.0	1,344	13.7
More than one adult	3,728	2,734	73.3	994	26.7	548	14.7	446	12.0
Women living alone	3,819	2,841	74.4	978	25.6	479	12.5	499	13.1
Men living alone	2,295	1,545	67.3	750	32.7	352	15.3	398	17.3
With elderly	4,412	3,630	82.3	782	17.7	520	11.8	262	5.9
Elderly living alone	2,633	2,240	85.1	393	14.9	260	9.9	133	5.1
Race/ethnicity of household:									
White non-Hispanic	8,829	6,133	69.5	2,696	30.5	1,569	17.8	1,127	12.8
Black non-Hispanic	3,883	2,338	60.2	1,545	39.8	948	24.4	597	15.4
Hispanic <sup>3</sup>	3,613	2,403	66.5	1,210	33.5	853	23.6	357	9.9
Other	941	654	69.5	287	30.5	185	19.7	102	10.8
Area of residence: <sup>4</sup>									
Inside metropolitan area	13,393	8,954	66.9	4,439	33.1	2,727	20.4	1,712	12.8
In principal cities <sup>5</sup>	5,849	3,809	65.1	2,040	34.9	1,220	20.9	820	14.0
Not in principal cities	4,945	3,460	70.0	1,485	30.0	928	18.8	557	11.3
Outside metropolitan area	3,872	2,573	66.5	1,299	33.5	828	21.4	471	12.2
Census geographic region:									
Northeast	2,618	1,842	70.4	776	29.6	543	20.7	233	8.9
Midwest	3,548	2,274	64.1	1,274	35.9	757	21.3	517	14.6
South	7,346	4,893	66.6	2,453	33.4	1,502	20.4	951	12.9
West	3,752	2,516	67.1	1,236	32.9	753	20.1	483	12.9
Individuals in low-income households (by food security status of household):									
All individuals	46,149	29,591	64.1	16,558	35.9	11,087	24.0	5,471	11.9
Adults	29,880	19,905	66.6	9,975	33.4	6,390	21.4	3,585	12.0
Children	16,269	9,686	59.5	6,583	40.5	4,697	28.9	1,886	11.6

<sup>1</sup>Totals exclude households whose income was not reported (about 19 percent of households), and those whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale (0.6 percent of low-income households).

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Prevalence rates by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 19 percent of low-income households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 5

**Number of individuals by food security status of households and selected household characteristics, 2005**

Category	Total <sup>1</sup>	In food-insecure households							
		In food-secure households		All		In households with low food security		In households with very low food security	
		1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All individuals in households	291,501	256,373	87.9	35,128	12.1	24,349	8.4	10,779	3.7
Household composition:									
With children < 18	158,515	133,972	84.5	24,543	15.5	18,231	11.5	6,312	4.0
With children < 6	74,486	61,692	82.8	12,794	17.2	9,810	13.2	2,984	4.0
Married-couple families	114,423	102,283	89.4	12,140	10.6	9,247	8.1	2,893	2.5
Female head, no spouse	33,199	22,726	68.5	10,473	31.5	7,612	22.9	2,861	8.6
Male head, no spouse	8,589	7,061	82.2	1,528	17.8	1,079	12.6	449	5.2
Other household with child <sup>2</sup>	2,304	1,902	82.6	402	17.4	293	12.7	109	4.7
With no children < 18	132,986	122,402	92.0	10,584	8.0	6,118	4.6	4,466	3.4
More than one adult	102,417	95,260	93.0	7,157	7.0	4,339	4.2	2,818	2.8
Women living alone	17,019	15,147	89.0	1,872	11.0	1,008	5.9	864	5.1
Men living alone	13,550	11,996	88.5	1,554	11.5	770	5.7	784	5.8
With elderly	50,843	47,227	92.9	3,616	7.1	2,636	5.2	980	1.9
Elderly living alone	10,749	10,063	93.6	686	6.4	473	4.4	213	2.0
Race/ethnicity of household:									
White non-Hispanic	198,318	181,234	91.4	17,084	8.6	11,858	6.0	5,226	2.6
Black non-Hispanic	35,097	26,823	76.4	8,274	23.6	5,372	15.3	2,902	8.3
Hispanic <sup>3</sup>	40,700	32,741	80.4	7,959	19.6	5,840	14.3	2,119	5.2
Other	17,386	15,575	89.6	1,811	10.4	1,280	7.4	531	3.1
Household income-to-poverty ratio:									
Under 1.00	33,880	20,841	61.5	13,039	38.5	8,906	26.3	4,133	12.2
Under 1.30	46,149	29,591	64.1	16,558	35.9	11,087	24.0	5,471	11.9
Under 1.85	73,231	51,047	69.7	22,184	30.3	14,975	20.4	7,209	9.8
1.85 and over	164,731	155,881	94.6	8,850	5.4	6,446	3.9	2,404	1.5
Income unknown	53,539	49,445	92.4	4,094	7.6	2,928	5.5	1,166	2.2
Area of residence: <sup>4</sup>									
Inside metropolitan area	243,242	214,297	88.1	28,945	11.9	19,925	8.2	9,020	3.7
In principal cities <sup>5</sup>	78,513	66,549	84.8	11,964	15.2	7,993	10.2	3,971	5.1
Not in principal cities	124,560	112,931	90.7	11,629	9.3	8,147	6.5	3,482	2.8
Outside metropolitan area	48,259	42,076	87.2	6,183	12.8	4,425	9.2	1,758	3.6
Census geographic region:									
Northeast	53,812	48,454	90.0	5,358	10.0	3,944	7.3	1,414	2.6
Midwest	64,986	57,467	88.4	7,519	11.6	5,186	8.0	2,333	3.6
South	105,238	91,332	86.8	13,906	13.2	9,382	8.9	4,524	4.3
West	67,466	59,120	87.6	8,346	12.4	5,837	8.7	2,509	3.7

<sup>1</sup>Totals exclude individuals in households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 997,000 individuals (0.3 percent of all individuals.)

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Prevalence rates by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of individuals living in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 6

**Number of children by food security status of households and selected household characteristics, 2005**

Category	Total <sup>1</sup>	In food-secure households		In food-insecure households <sup>2</sup>		In households with very low food security among children	
		1,000	Percent	1,000	Percent	1,000	Percent
All children	73,604	61,201	83.1	12,403	16.9	606	0.8
Household composition:							
With children < 6	37,045	30,197	81.5	6,848	18.5	310	0.8
Married-couple families	51,322	45,537	88.7	5,785	11.3	276	.5
Female head, no spouse	17,546	11,788	67.2	5,758	32.8	304	1.7
Male head, no spouse	3,797	3,097	81.6	700	18.4	25	.7
Other household with child <sup>3</sup>	938	778	82.9	160	17.1	0	0.0
Race/ethnicity of household:							
White non-Hispanic	45,162	39,665	87.8	5,497	12.2	219	.5
Black non-Hispanic	10,753	7,618	70.8	3,135	29.2	202	1.9
Hispanic <sup>4</sup>	13,352	10,194	76.3	3,158	23.7	156	1.2
Other	4,338	3,725	85.9	613	14.1	29	.7
Household income-to-poverty ratio:							
Under 1.00	12,135	6,983	57.5	5,152	42.5	357	2.9
Under 1.30	16,269	9,686	59.5	6,583	40.5	417	2.6
Under 1.85	24,404	15,862	65.0	8,542	35.0	454	1.9
1.85 and over	37,827	35,250	93.2	2,577	6.8	108	.3
Income unknown	11,373	10,089	88.7	1,284	11.3	44	.4
Area of residence: <sup>5</sup>							
Inside metropolitan area	62,032	51,654	83.3	10,378	16.7	528	.9
In principal cities <sup>6</sup>	19,671	15,479	78.7	4,192	21.3	274	1.4
Not in principal cities	32,499	28,301	87.1	4,198	12.9	174	.5
Outside metropolitan area	11,572	9,548	82.5	2,024	17.5	77	.7
Census geographic region:							
Northeast	12,874	11,055	85.9	1,819	14.1	126	1.0
Midwest	16,271	13,701	84.2	2,570	15.8	90	.6
South	26,725	21,914	82.0	4,811	18.0	197	.7
West	17,734	14,531	81.9	3,203	18.1	193	1.1

<sup>1</sup>Totals exclude children in households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 253,000 children (0.3 percent.)

<sup>2</sup>Food-insecure households are those with low or very low food security among adults or children.

<sup>3</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>4</sup>Hispanics may be of any race.

<sup>5</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Prevalence rates by area of residence are comparable with those for 2004, but are not precisely comparable with those of earlier years.

<sup>6</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 16 percent of children living in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

## Prevalence of Food Insecurity by State, Average 2003-05

The prevalence of food insecurity varied considerably from State to State. Data for 3 years, 2003-05, were combined to provide more reliable statistics at the State level (table 7). Measured prevalence rates of food insecurity during this 3-year period ranged from 6.4 percent in North Dakota to 16.8 percent in New Mexico; measured prevalence rates of very low food security ranged from 1.9 percent in Delaware to 6.3 percent in South Carolina.

The margin of error for the State prevalence rates should be taken into consideration when interpreting these statistics and especially when comparing prevalence rates across States. The margin of error reflects sampling variation—the uncertainty associated with estimates that are based on information from a limited number of households in each State. The margins of error presented in table 7 indicate the range (above or below the estimated prevalence rate) within which the true prevalence rate is 90 percent likely to fall.

In some States, margins of error were larger than 2 percentage points for estimated prevalence rates of food insecurity and larger than 1 percentage point for estimated prevalence rates of very low food security. For example, considering the margin of error, it is not certain (statistically significant) that the rate of food insecurity was higher in New Mexico than in the States with the next seven highest prevalence rates of food insecurity.

Taking into account the margins of error of the State and U.S. estimates, the prevalence of food insecurity was higher (i.e., statistically significantly higher) than the national average in 11 States and lower than the national average in 20 States. In the remaining 19 States and the District of Columbia, differences from the national average were not statistically significant. The prevalence of very low food security was higher than the national average in 11 States, lower than the national average in 15 States, and not significantly different from the national average in 24 States and the District of Columbia.

The 2003-05 State-level food security statistics are compared with those for 2000-02 and 1996-98 in appendix D. The 1996-98 statistics originally published by ERS in *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999) cannot be compared directly with those for later years because of changes over the years in screening procedures used to reduce respondent burden in the food security surveys. The 1996-98 statistics presented in appendix D have been adjusted for these screening differences.

Table 7

**Prevalence of household-level food insecurity and very low food security by State, average 2003-05<sup>1</sup>**

State	Number of households		Food insecurity (low or very low food security)		Very low food security	
	Average 2003-05 <sup>2</sup>	Interviewed	Prevalence	Margin of error <sup>3</sup>	Prevalence	Margin of error <sup>3</sup>
	<i>Number</i>	<i>Number</i>	<i>Percent</i>	<i>Percentage points</i>	<i>Percent</i>	<i>Percentage points</i>
U.S.	113,206,000	142,185	11.4	0.15	3.8	0.15
AK	239,000	1,837	12.2	0.96	4.9*	1.08
AL	1,848,000	1,874	12.3	1.30	3.4	0.69
AR	1,102,000	1,762	14.7*	0.95	5.6*	0.59
AZ	2,130,000	1,908	12.2	2.01	3.8	0.52
CA	12,785,000	9,712	11.7	0.40	3.6	0.28
CO	1,830,000	2,958	12.0	1.13	3.9	0.54
CT	1,341,000	2,582	8.2*	1.16	2.6*	0.64
DC	276,000	1,900	11.4	1.03	3.8	0.90
DE	321,000	2,015	6.6*	1.10	1.9*	0.55
FL	7,006,000	5,946	9.4*	0.50	3.5	0.48
GA	3,440,000	2,522	12.4	1.43	5.1*	0.68
HI	429,000	1,748	7.8*	1.03	2.8*	0.75
IA	1,208,000	2,737	10.9	1.37	3.5	0.73
ID	519,000	1,738	14.1*	1.58	3.7	0.66
IL	4,948,000	4,671	9.1*	0.39	3.2*	0.44
IN	2,469,000	2,629	11.1	0.71	4.1*	0.34
KS	1,082,000	2,432	12.3	1.19	4.6*	0.53
KY	1,698,000	2,031	12.8*	1.03	4.2	0.85
LA	1,642,000	1,366	12.8	1.72	3.6	0.94
MA	2,551,000	2,482	7.8*	1.14	3.0*	0.43
MD	2,130,000	2,780	9.4*	0.74	3.6	0.47
ME	543,000	2,956	12.3	0.96	4.6*	0.61
MI	3,941,000	3,731	11.5	0.60	4.1	0.76
MN	1,997,000	3,118	7.7*	1.07	3.0*	0.54
MO	2,342,000	2,480	11.7	0.95	4.0	0.30
MS	1,092,000	1,326	16.5*	1.01	4.4	0.81
MT	393,000	1,727	11.2	1.44	4.6	1.16
NC	3,361,000	3,041	13.2*	0.69	4.5*	0.63
ND	263,000	2,147	6.4*	0.93	2.2*	0.45
NE	700,000	2,362	10.3*	0.87	4.0	0.57
NH	504,000	2,651	6.5*	0.60	2.2*	0.71
NJ	3,203,000	2,909	8.1*	1.30	2.6*	0.39
NM	747,000	1,493	16.8*	2.76	5.7*	1.11
NV	869,000	2,398	8.4*	0.68	3.0*	0.37
NY	7,448,000	6,072	10.4*	0.46	3.1*	0.31
OH	4,582,000	4,325	12.6*	0.79	3.8	0.46
OK	1,419,000	1,884	14.6*	1.69	4.8*	0.59
OR	1,421,000	2,125	11.9	1.19	3.9	0.73
PA	4,907,000	4,894	9.8*	0.77	2.9*	0.27
RI	426,000	2,411	12.4	1.34	4.1	0.59
SC	1,647,000	1,931	15.5*	1.52	6.3*	1.06
SD	319,000	2,384	9.5*	1.04	3.2*	0.39
TN	2,378,000	1,877	13.0	1.80	4.2	1.07
TX	8,243,000	6,217	16.0*	0.69	5.1*	0.22
UT	782,000	1,715	14.5*	1.84	5.1	1.70
VA	2,784,000	2,647	8.4*	0.83	2.7*	0.52
VT	257,000	2,159	9.5*	0.93	3.9	0.91
WA	2,459,000	2,602	11.2	1.14	3.9	0.58
WI	2,245,000	2,976	9.5*	1.08	2.7*	0.66
WV	734,000	1,918	8.9*	1.08	3.0	0.91
WY	204,000	2,079	11.1	0.84	4.1	0.51

\*Difference from U.S. average was statistically significant with 90-percent confidence ( $t > 1.645$ ).

<sup>1</sup>Prevalence rates for 1996-98 reported in *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999) are not directly comparable with the rates reported here because of differences in screening procedures in the CPS Food Security Supplements from 1995 to 1998. Comparable statistics for the earlier period are presented in appendix D.

<sup>2</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. These represented about 0.3 percent of all households in each year.

<sup>3</sup>Margin of error with 90-percent confidence (1.645 times the standard error of the estimated prevalence rate)

Source: Prepared by ERS using data from the December 2003, December 2004, and December 2005 Current Population Survey Food Security Supplements.

## Household Spending on Food

This section provides information on how much households spent on food, as reported in the December 2005 food security survey. Food insecurity is a condition that arises specifically from lack of money and other resources to acquire food. In most households, the majority of food consumed by household members is purchased—either from supermarkets or grocery stores to be eaten at home, or from cafeterias, restaurants, or vending machines to be eaten outside the home. The amount of money that a household spends on food, therefore, provides insight into how adequately it is meeting its food needs.<sup>15</sup> When households reduce food spending below some minimum level because of constrained resources, various aspects of food insecurity such as disrupted eating patterns and reduced food intake may result.

### Methods

The household food expenditure statistics in this report are based on usual weekly spending for food, as reported by respondents after they were given a chance to reflect on the household's actual food spending during the previous week.<sup>16</sup> Respondents were first asked to report the amounts of money their households had spent on food in the week prior to the interview (including any purchases made with food stamps) at: (a) supermarkets and grocery stores; (b) stores other than supermarkets and grocery stores such as meat markets, produce stands, bakeries, warehouse clubs, and convenience stores; (c) restaurants, fast-food places, cafeterias, and vending machines; and (d) any other kind of place.<sup>17</sup>

Total spending for food, based on responses to this series of questions, was verified with the respondent, and the respondent was then asked how much the household usually spent on food during a week. Earlier analyses by ERS researchers found that food expenditures estimated from data collected by this method were consistent with estimates from the Consumer Expenditure Survey (CES)—the principal source of data on U.S. household expenditures for goods and services (Oliveira and Rose, 1996).

Food spending was adjusted for household size and composition in two ways. The first adjustment was calculated by dividing each household's usual weekly food spending by the number of persons in the household, yielding the "usual weekly food spending per person" for that household. The second adjustment accounts more precisely for the different food needs of households by comparing each household's usual food spending to the estimated cost of the Thrifty Food Plan for that household in December 2005.

The Thrifty Food Plan—developed by USDA—serves as a national standard for a nutritious, low-cost diet. It represents a set of "market baskets" of food that people of specific ages and genders could consume at home to maintain a healthful diet that meets current dietary standards, taking into account the food consumption patterns of U.S. households.<sup>18</sup> Each household's reported usual weekly food spending was divided by the cost of the

<sup>15</sup>Food spending is only an indirect indicator of food consumption. It understates food consumption in households that receive food from in-kind programs, such as the National School Lunch and School Breakfast Programs, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), meal programs for children in child care and for the elderly, and private charitable organizations. (Purchases with food stamps, however, are counted as food spending in the CPS food security survey.) Food spending also understates food consumption in households that acquire a substantial part of their food supply through gardening, hunting, or fishing, as well as in households that eat more meals at friends' or relatives' homes than they provide to friends or relatives. (Food spending overstates food consumption in households with the opposite characteristics.) Food spending also understates food consumption in geographical areas with relatively low food prices and overstates consumption in areas with high food prices.

<sup>16</sup>In CPS food security surveys, median reported food spending in the previous week is somewhat higher than median reported usual food spending. This finding was consistent across the various years in which the survey was conducted and across different household types. The reasons for this difference are under study. Pending outcomes of this research, analysts should be aware of a possible downward bias on food spending statistics based on "usual" food spending data.

<sup>17</sup>For spending in the first two categories of stores, respondents were also asked how much of the amount was for "nonfood items such as pet food, paper products, detergents, or cleaning supplies." These amounts are not included in calculating spending for food.

<sup>18</sup>The Thrifty Food Plan, in addition to its use as a research tool, is used as a basis for setting the maximum benefit amounts of the Food Stamp Program. (See appendix C for further information on the Thrifty Food Plan and estimates of the weekly cost of the Thrifty Food Plan and three other USDA food plans for each age-gender group.)

Thrifty Food Plan for that household, calculated based on the age and gender of each household member and the number of persons in the household (see table C-1).<sup>19</sup>

The medians of the two food spending measures (spending per person per week and spending relative to the cost of the Thrifty Food Plan) were estimated at the national level and for households in various categories to represent the usual weekly food spending of the typical household in each category. Medians are reported rather than averages because medians are not unduly affected by the few unexpectedly high values of usual food spending that are believed to be reporting errors or data entry errors. Thus, the median better reflects what a typical household spent.

Data were weighted using food security supplement weights provided by the Census Bureau so that the interviewed households would represent all households in the United States. About 7 percent of households interviewed in the CPS food security survey did not respond to the food spending questions and were excluded from the analysis. As a result, the total number of households represented in tables 8 and 9 is somewhat smaller than that in tables 1 and 2.

## Food Expenditures, by Selected Household Characteristics

In 2005, the typical U.S. household spent \$40 per person each week for food (table 8). Median household food spending relative to the cost of the Thrifty Food Plan was 1.26. That is, the typical household usually spent 26 percent more on food than the cost of the Thrifty Food Plan for its household type. Median spending for food relative to the cost of the Thrifty Food Plan in 2005 was statistically unchanged from the 2004 level (1.25).

Households with children under age 18 generally spent less for food, relative to the Thrifty Food Plan, than those without children. The typical household with children spent 13 percent more than the cost of the Thrifty Food Plan, while the typical household with no children spent 38 percent more than the cost of the Thrifty Food Plan. Median food expenditures relative to the Thrifty Food Plan were lower for single females with children (1.04) and for single males with children (1.06) than for married couples with children (1.16). Median food expenditures relative to the Thrifty Food Plan were highest for men living alone (1.60).

Median food expenditures relative to the Thrifty Food Plan were lower for Black households (1.04) and Hispanic households (1.09) than for non-Hispanic White households (1.35). This pattern is consistent with the lower average incomes and higher poverty rates of these racial and ethnic minorities.

As expected, higher income households spent more money on food than lower income households.<sup>20</sup> The typical household with income below the poverty line spent about 5 percent less than the cost of the Thrifty Food Plan, while the typical household with income above 185 percent of the poverty line spent 41 percent more than the cost of the Thrifty Food Plan.

<sup>19</sup>Thrifty Food Plan costs are estimated separately for Alaska and Hawaii using adjustment factors calculated from USDA's Thrifty Food Plan costs for those States for the second half of 2003.

<sup>20</sup>However, food spending does not rise proportionately with income increases, so high-income households actually spend a smaller *proportion* of their income on food than do low-income households.

Table 8

**Weekly household food spending per person and relative to the cost of the Thrifty Food Plan (TFP), 2005**

Category	Number of households <sup>1</sup>	Median weekly food spending	
		Per person	Relative to cost of TFP
	<i>1,000</i>	<i>Dollars</i>	<i>Ratio</i>
All households	106,857	40.00	1.26
Household composition:			
With children < 18	37,632	33.33	1.13
At least one child < 6	16,872	30.00	1.12
Married-couple families	25,427	33.33	1.16
Female head, no spouse	9,227	30.00	1.04
Male head, no spouse	2,370	33.33	1.06
Other household with child <sup>2</sup>	608	33.33	1.13
With no children < 18	69,226	50.00	1.38
More than one adult	41,027	45.00	1.34
Women living alone	15,561	50.00	1.38
Men living alone	12,637	60.00	1.60
With elderly	23,831	40.00	1.19
Elderly living alone	9,491	45.00	1.24
Race/ethnicity of household:			
White non-Hispanic	76,944	45.00	1.35
Black non-Hispanic	12,511	33.33	1.04
Hispanic <sup>3</sup>	11,686	33.33	1.09
Other	5,716	40.00	1.23
Household income-to-poverty ratio:			
Under 1.00	12,079	30.00	0.95
Under 1.30	16,487	30.00	0.96
Under 1.85	26,010	30.00	0.98
1.85 and over	62,618	49.00	1.41
Income unknown	18,229	40.00	1.23
Area of residence: <sup>4</sup>			
Inside metropolitan area	88,562	42.00	1.32
In principal cities <sup>5</sup>	29,425	42.50	1.31
Not in principal cities	43,865	43.33	1.35
Outside metropolitan area	18,296	37.50	1.12
Census geographic region:			
Northeast	19,592	42.50	1.35
Midwest	24,634	38.50	1.19
South	38,927	40.00	1.25
West	23,704	45.00	1.36

<sup>1</sup>Totals exclude households that did not answer the questions about spending on food. These represented 6.9 percent of all households.

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Food spending statistics by area of residence are comparable with those for 2004, but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Median food spending relative to the cost of the Thrifty Food Plan for households outside metropolitan areas was 1.12, compared with 1.32 for households inside metropolitan areas. Median spending on food by households in the Midwest (1.19) and South (1.25) was slightly lower than that for households in the other census regions.

## Food Expenditures and Household Food Security

Food-secure households typically spent more on food than food-insecure households. Median food spending relative to the cost of the Thrifty Food Plan was 1.33 among food-secure households, compared with 0.99 among food-insecure households (table 9). Thus, the typical food-secure household spent 34 percent more for food than the typical household of the same size and composition that was food insecure.

The relationship between food expenditures and food security was consistent across household structure, race/ethnicity, income, metropolitan residence, and geographic region (table 10). For every household type, median food spending relative to the cost of the Thrifty Food Plan was higher for food-secure than food-insecure households. This was true even for households within the same income category. For example, among households with incomes below the poverty line, median food spending relative to the cost of the Thrifty Food Plan was 0.88 for food-insecure households, compared with 0.97 for food-secure households. Furthermore, median food spending by food-secure households was at, or higher than, the cost of the Thrifty Food Plan for every category except those with incomes below 130 percent of the poverty line.

Although the *relationship* between food expenditures and food security was consistent, the *levels* of food expenditure varied substantially across household types, even within the same food security status. For food-insecure households, food expenditures of typical households in most categories were close to the cost of the Thrifty Food Plan, but there were some notable exceptions. Food insecure individuals living alone—especially men living alone—spent substantially more on food than the cost of the Thrifty Food Plan for their age and gender. Food-insecure households with incomes above 185 percent of the poverty line also registered median food expenditures substantially higher than the cost of the Thrifty Food Plan.<sup>21</sup>

<sup>21</sup>ERS analysis has found that the experiences of food insecurity of higher and middle-income households are, disproportionately, occasional and of short duration (Nord et al., 2000). Their food expenditures during those food-insecure periods may have been lower than the amount they reported as their “usual” weekly spending for food.

Table 9

### Weekly household food spending per person and relative to the cost of the Thrifty Food Plan (TFP) by food security status, 2005

Category	Number of households <sup>1</sup>	Median weekly food spending	
		Per person	Relative to cost of TFP
	<i>1,000</i>	<i>Dollars</i>	<i>Ratio</i>
All households	106,857	40.00	1.26
Food security status:			
Food-secure households	94,559	42.50	1.33
Food-insecure households	12,112	30.00	0.99
Households with low food security	7,856	30.00	0.99
Households with very low food security	4,256	32.50	0.99

<sup>1</sup>Total for all households excludes households that did not answer the questions about spending on food. These represented 6.9 percent of all households. Totals in the bottom section also exclude households that did not answer any of the questions in the food security scale.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 10

**Weekly household food spending relative to the cost of the Thrifty Food Plan (TFP) by food security status and selected household characteristics, 2005**

Category	Median weekly food spending relative to TFP <sup>1</sup>	
	Food secure	Food insecure
	<i>Ratio</i>	
All households	1.33	0.99
Household composition:		
With children < 18	1.16	.95
At least one child < 6	1.15	.93
Married-couple families	1.19	.92
Female head, no spouse	1.09	.95
Male head, no spouse	1.07	.96
Other household with child <sup>2</sup>	1.14	NA
With no children < 18	1.38	1.05
More than one adult	1.40	.94
Women living alone	1.38	1.10
Men living alone	1.62	1.23
With elderly	1.19	.94
Elderly living alone	1.30	1.10
Race/ethnicity of households:		
White non-Hispanic	1.38	1.03
Black non-Hispanic	1.08	.95
Hispanic <sup>3</sup>	1.13	.96
Other	1.29	.90
Household income-to-poverty ratio:		
Under 1.00	.97	.88
Under 1.30	.98	.89
Under 1.85	1.00	.93
1.85 and over	1.41	1.16
Income unknown	1.25	.98
Area of residence: <sup>4</sup>		
Inside metropolitan area	1.36	1.01
In principal cities <sup>5</sup>	1.36	1.00
Not in principal cities	1.38	1.04
Outside metropolitan area	1.13	.89
Census geographic region:		
Northeast	1.38	1.04
Midwest	1.22	.98
South	1.30	.95
West	1.38	1.05

<sup>1</sup>Statistics exclude households that did not answer the questions about spending on food and those that did not provide valid responses to any of the questions on food security. These represented 6.9 percent of all households.

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Food spending statistics by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

NA = Median not reported; fewer than 100 interviewed households in the category.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

## Use of Federal and Community Food Assistance Programs

Households with limited resources employ a variety of methods to help meet their food needs. Some participate in one or more of the Federal food assistance programs or obtain food from emergency food providers in their communities to supplement the food they purchase. Households that turn to Federal and community food assistance programs typically do so because they are having difficulty in meeting their food needs. The use of such programs by low-income households and the relationship between their food security status and use of food assistance programs provide insight into the extent of their difficulties in obtaining enough food and the ways they cope with those difficulties.

This section presents information about the food security status and food expenditures of households that participated in the three largest Federal food assistance programs and the two most common community food assistance programs. (See box on p. 28, “Federal and Community Food Assistance Programs.”) It also provides information about the extent to which food-insecure households participated in these programs and about the characteristics of households that obtained food from community food pantries. Total participation in the Federal food assistance programs, participation rates of eligible households in those programs, and characteristics of participants in those programs are not described in this report. Extensive information on those topics is available from the USDA’s Food and Nutrition Service.<sup>22</sup>

### Methods

The December 2005 CPS food security survey included a number of questions about the use of Federal and community-based food assistance programs. All households with incomes below 185 percent of the Federal poverty threshold were asked these questions. In order to minimize the burden on respondents, households with incomes above that range were not asked the questions unless they indicated some level of difficulty in meeting their food needs on preliminary screener questions (listed in footnote 5). The questions analyzed in this section are:

- “During the past 12 months...did anyone in this household get food stamp benefits, that is, either food stamps or a food-stamp benefit card?” Households that responded affirmatively were then asked in which months they received food stamp benefits and on what date they last received them. Information from these three questions was combined to identify households that received food stamps in the 30 days prior to the survey.
- “During the past 30 days, did any children in the household...receive free or reduced-cost lunches at school?” (Only households with children between the ages of 5 and 18 were asked this question.)
- “During the past 30 days, did any women or children in this household get food through the WIC program?” (Only households with a child age 0-5 or a woman age 15-45 were asked this question.)

<sup>22</sup>Information on Federal food and nutrition assistance programs, including participation rates and characteristics of participants, is available from the Food and Nutrition Service website at [www.fns.usda.gov](http://www.fns.usda.gov). Additional research findings on the operation and effectiveness of these programs are available from the ERS website at [www.ers.usda.gov/briefing/foodnutritionassistance](http://www.ers.usda.gov/briefing/foodnutritionassistance).

## Federal and Community Food Assistance Programs

### *Federal Food Assistance Programs*

USDA's Food and Nutrition Service (FNS) administers 15 domestic food and nutrition assistance programs. The three largest programs are:

- The Food Stamp Program (FSP). The program provides benefits, through electronic benefit transfers or paper coupons, to eligible low-income households. Clients qualify for the program based on available household income, assets, and certain basic expenses. Food stamps can be used to purchase food from eligible retailers. In an average month of fiscal year 2005, the FSP provided benefits to 25.7 million people in the United States, totaling over \$28 billion for the year. The average benefit was about \$93 per person per month.
- The National School Lunch Program (NSLP). The program operates in about 100,000 public and nonprofit private schools and residential child-care institutions. All meals served under the program receive Federal subsidies, and free or reduced-price lunches are available to low-income students. In 2005, the program provided lunches to an average of more than 29 million children each school day. About 60 percent of the lunches served in 2005 were free or reduced-price.
- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The program is a federally funded preventive nutrition program that provides grants to States to support distribution of supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and nonbreastfeeding postpartum women, for infants in low-income families, and for children under age 5 in low-income families who are found to be at nutritional risk. Most State WIC programs provide vouchers that participants use to acquire supplemental food packages at authorized food stores. In fiscal year 2005, WIC served an average 8 million participants per month with an average monthly benefit of about \$38 per person.

### *Community Food-Assistance Providers*

Food pantries and emergency kitchens are the main direct providers of emergency food assistance. These agencies are locally based and rely heavily on volunteers. The majority of them are affiliated with faith-based organizations. (See Ohls et al., 2002, for more information.) Most of the food distributed by food pantries and emergency kitchens comes from local resources, but USDA supplements these resources through The Emergency Food Assistance Program (TEFAP). In 2005, TEFAP supplied 476 million pounds of commodities to community emergency food providers. Over half of all food pantries and emergency kitchens received TEFAP commodities in 2000, and these commodities accounted for about 14 percent of all food distributed by them (Ohls et al., 2002). Pantries and kitchens play different roles, as follows:

- Food pantries distribute unprepared foods for offsite use. An estimated 32,737 pantries operated in 2000 (the last year for which nationally representative statistics are available) distributed, on average, 239 million pounds of food per month. Households using food pantries received an average of 38.2 pounds of food per visit.
- Emergency kitchens (sometimes referred to as soup kitchens) provide individuals with prepared food to eat at the site. In 2000, an estimated 5,262 emergency kitchens served a total of 474,000 meals on an average day.

- “In the last 12 months, did you or other adults in your household ever get emergency food from a church, a food pantry, or food bank?” The use of these resources any time during the previous 12 months is referred to in the rest of this section as “food pantry use.” Households that reported using a food pantry in the last 12 months were asked, “How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?” Households reporting that they did not use a food pantry in the last 12 months were asked, “Is there a church, food pantry, or food bank in your community where you could get emergency food if you needed it?”

- “In the last 12 months, did you or other adults in your household ever eat any meals at a soup kitchen?” The use of this resource is referred to as “use of an emergency kitchen” in the following discussion.

Prevalence rates of food security, food insecurity, and very low food security, as well as median food expenditures relative to the cost of the Thrifty Food Plan, were calculated for households reporting use of each food assistance provider and for comparison groups of nonparticipating households with incomes and household compositions similar to those of food assistance recipients. Statistics for participating households excluded households with incomes above the ranges specified for the comparison groups.<sup>23</sup> The proportions of food-insecure households participating in each of the three largest Federal food assistance programs—the Food Stamp Program, National School Lunch Program, and WIC—were calculated, as well as the proportion that participated in any of the three programs. These analyses were restricted to households with annual incomes below 185 percent of the poverty line because most households with incomes above this range were not asked whether they participated in these programs.

The numbers and proportions of households using food pantries and emergency kitchens were calculated at the national level, and the proportions of households in selected categories that used food pantries were calculated. Households were assumed not to have used these resources if they had incomes above 185 percent of the poverty line and gave no indication of food insecurity on either of two preliminary screener questions (listed in footnote 5). Analysis (not shown) indicated that this assumption resulted in only a negligible under-estimate of numbers of households that used these facilities.

Estimates of the proportion of households using emergency kitchens based on the CPS food security surveys almost certainly understate the proportion of the population that actually uses these providers. The CPS selects households to interview from an address-based list and therefore interviews only persons who occupy housing units. People who are homeless at the time of the survey are not included in the sample, and those in tenuous housing arrangements (for instance, temporarily doubled up with another family) also may be missed. These two factors—exclusion of the homeless and underrepresentation of those who are tenuously housed—bias estimates of emergency kitchen use downward, especially among certain subgroups of the population. This is much less true for food pantry users because they need cooking facilities to make use of items from a food pantry.<sup>24</sup> Therefore, detailed analyses in this section focus primarily on the use of food pantries.

Finally, among households that participated in the three largest Federal food programs, the proportions who also obtained food from food pantries and emergency kitchens were calculated. This analysis was restricted to households with annual incomes below 185 percent of the poverty line.

Data for all calculations were weighted using food security supplement weights. These weights, provided by the Census Bureau, are based on sampling probabilities and enable the interviewed households to statistically represent all civilian households in the United States.

<sup>23</sup>Some program participants reported incomes that were higher than the program eligibility criteria. They may have had incomes below the eligibility threshold during part of the year, or subfamilies within the household may have had incomes low enough to have been eligible.

<sup>24</sup>Previous studies of emergency kitchen users and food pantry users confirm these assumptions. For example, a nationally representative survey of people who use food pantries and emergency kitchens found that about 36 percent of emergency kitchen clients and 8 percent of households that received food from food pantries were homeless in 2001 (Briefel et al., 2003).

## Food Security and Food Spending of Households That Received Food Assistance

The relationship between food security and the use of food assistance programs is complex. There are reasons to expect that households that report using food assistance programs in a one-time survey can either be more food secure or less food secure than low-income households not using food assistance. Since these programs provide food and other resources to reduce the severity of food insecurity, households are expected to be more food secure after receiving program benefits than before doing so. On the other hand, it is the more food-insecure households, having greater difficulty meeting their food needs, that seek assistance from the programs.<sup>25</sup> Nearly half of food stamp households and around 40 percent of households that received free or reduced-cost school lunches or WIC were food insecure (table 11). The prevalence rates of very low food security among households participating in the Food Stamp Program or receiving free or reduced-cost school lunches were about twice those of nonparticipating households in the same income ranges and with similar household composition. About 68 percent of households that obtained emergency food from community food pantries were food insecure, and one in three had very low food security. For those who ate meals at emergency kitchens, rates of food insecurity were even higher.

A possible complicating factor in the preceding analysis is that food insecurity was measured over a 12-month period. An episode of food insecurity may have occurred at a different time during the year than the use of a specific food assistance program. A similar analysis using a 30-day measure of food insecurity largely overcomes this potential problem because measured food insecurity and reported use of food assistance programs are more likely to refer to contemporaneous conditions when both are referenced to the previous 30 days. That analysis (see appendix E and table E-2) found associations between prevalence rates of food insecurity and the use of food assistance programs that were generally similar to those in table 11.

Households that received food assistance also spent less for food than nonrecipient households (table 12).<sup>26</sup> Typical (median) food expenditures of households that received food stamps were 90 percent of the cost of the Thrifty Food Plan.<sup>27</sup> The corresponding statistics were 88 percent for households with children who received free or reduced-price school lunches, 90 percent for households receiving WIC, and 87 percent for households that received emergency food from food pantries. Typical food expenditures for nonparticipating households in these various programs' eligible income ranges were higher than those of participating households.

### Participation in Federal Food Assistance Programs by Food-Insecure Households

Somewhat more than half (55.6 percent) of food-insecure households received assistance from at least one of the three largest Federal food assistance programs during the month prior to the December 2005 food security survey (table 13). The largest share of food-insecure households was

<sup>25</sup>This "self-selection" effect is evident in the association between food security and food program participation that is observed in the food security survey. Participating households were less food secure than similar nonparticipating households. More complex analysis using methods to account for this self-targeting is required to assess the extent to which the programs improve food security (see Wilde and Nord, 2005; Gundersen and Oliveira, 2001; Gundersen and Gruber, 2001; Nelson and Lurie, 1998).

<sup>26</sup>Food purchased with food stamps is included in household food spending as calculated here. However, the value of school lunches and food obtained with WIC vouchers is not included. Food from these sources supplemented the food purchased by many of these households.

<sup>27</sup>The maximum benefit for food stamp households is approximately equal to the cost of the Thrifty Food Plan. About 31 percent of the FSP caseload receives the maximum benefit. Households with countable income receive less.

Table 11

**Prevalence of food security and food insecurity by participation in selected Federal and community food assistance programs, 2005**

Category	Food security	Food insecurity		
		All	Low food security	Very low food security
<i>Percent</i>				
Income less than 130 percent of poverty line:				
Received food stamps previous 30 days	49.5	50.5	31.5	19.1
Did not receive food stamps previous 30 days	73.6	26.4	16.3	10.1
Income less than 185 percent of poverty line; school-age children in household:				
Received free or reduced-price school lunch previous 30 days	56.7	43.3	30.7	12.5
Did not receive free or reduced-price school lunch previous 30 days	77.4	22.6	16.5	6.1
Income less than 185 percent of poverty line; children under age 5 in household:				
Received WIC previous 30 days	60.5	39.5	29.3	10.2
Did not receive WIC previous 30 days	71.7	28.3	21.1	7.2
Income less than 185 percent of poverty line:				
Received emergency food from food pantry previous 12 months	32.3	67.7	33.9	33.8
Did not receive emergency food from food pantry previous 12 months	76.7	23.3	15.6	7.6
Ate meal at emergency kitchen previous 12 months	27.7	72.3	26.1	46.2
Did not eat meal at emergency kitchen previous 12 months	72.5	27.5	17.5	10.0

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 12

**Weekly household food spending relative to the cost of the Thrifty Food Plan (TFP) by participation in selected Federal and community food assistance programs, 2005**

Category	Median weekly food spending relative to cost of the TFP
<i>Ratio</i>	
Income less than 130 percent of poverty line:	
Received food stamps previous 30 days	0.90
Did not receive food stamps previous 30 days	.97
Income less than 185 percent of poverty line; school-age children in household:	
Received free or reduced-price school lunch previous 30 days	.88
Did not receive free or reduced-price school lunch previous 30 days	.90
Income less than 185 percent of poverty line; children under age 5 in household:	
Received WIC previous 30 days	.90
Did not receive WIC previous 30 days	.94
Income less than 185 percent of poverty line:	
Received emergency food from food pantry previous 12 months	.87
Did not receive emergency food from food pantry previous 12 months	.99

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 13

**Participation of food-insecure households in selected Federal food assistance programs, 2005**

Program	Share of food-insecure households that participated in the program during the previous 30 days <sup>1</sup>	Share of households with very low food security that participated in the program during the previous 30 days <sup>1</sup>
<i>Percent</i>		
Food stamps	35.6	35.9
Free or reduced-price school lunch	32.8	25.3
WIC	12.6	8.7
Any of the three programs	55.6	50.9
None of the three programs	44.4	49.1

<sup>1</sup>Analysis is restricted to households with annual incomes less than 185 percent of the poverty line because most households with incomes above that range were not asked whether they participated in food assistance programs.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

reached by the Food Stamp Program (35.6 percent), followed by the National School Lunch Program (32.8 percent) and the WIC program (12.6 percent).<sup>28</sup> Half of households classified as having very low food security participated in one or more of the three largest Federal food assistance programs, and the largest share of these (35.9 percent) participated in the Food Stamp Program.<sup>29</sup>

## Use of Food Pantries and Emergency Kitchens

Some 4 million households (3.5 percent of all households) obtained emergency food from food pantries one or more times during the 12-month period ending in December 2005 (table 14). A much smaller number—638,000 households (0.6 percent)—had members who ate one or more meals at an emergency kitchen. (See box on page 28 for descriptions of these facilities.) Households that obtained food from food pantries included 6.9 million adults and 4.1 million children. Of the households that reported having obtained food from a food pantry in the last 12 months, 48 percent reported that this had occurred in only 1 or 2 months; 21 percent reported that it had occurred in almost every month; and the remaining 31 percent reported that it had occurred in “some months, but not every month” (analysis not shown).

## Use of Food Pantries and Emergency Kitchens, by Food Security Status

Use of food pantries and emergency kitchens was strongly associated with food insecurity. Food-insecure households were 17 times as likely as food-secure households to have obtained food from a food pantry, and 19 times as likely as food-secure households to have eaten a meal at an emergency kitchen (table 14). Furthermore, among food-insecure households, those with very low food security were considerably more likely to have used a food pantry or an emergency kitchen than were those with low food security.

A large majority (78 percent) of food-insecure households, and even of households with very low food security (71 percent), did not use a food pantry at any time during the previous year. In some cases, this was because

<sup>28</sup>These statistics may be biased downward somewhat. It is known from comparisons between household survey data and administrative records that food program participation is underreported by household survey respondents, including those in the CPS. This is probably true for food-insecure households as well, although the extent of underreporting by these households is not known. Statistics are based on the subsample of households with annual incomes below 185 percent of the poverty line. Not all these households were eligible for certain of the programs. (For example, those without pregnant women or children and with incomes above 130 percent of poverty would not have been eligible for any of the programs.)

<sup>29</sup>The statistics in table 13 were also calculated for households that were food insecure during the 30-day period prior to the survey. In principle, that analysis is preferable because food security status and use of programs are more certainly contemporaneous than when food insecurity is assessed over a 12-month period. However, the results differed only slightly from those in table 13 and are not presented separately.

Table 14

**Use of food pantries and emergency kitchens, 2005**

Category	Pantries			Kitchens		
	Total <sup>1</sup>	Users		Total <sup>1</sup>	Users	
	1,000	1,000	Percent	1,000	1,000	Percent
All households	114,121	3,975	3.5	114,188	638	0.56
All persons in households	290,644	10,989	3.8	290,842	1,386	.48
Adults in households	217,331	6,923	3.2	217,471	1,007	.46
Children in households	73,314	4,066	5.5	73,371	378	.52
Households by food security status:						
Food secure households	101,578	1,281	1.3	101,593	189	.19
Food insecure households	12,432	2,679	21.5	12,464	442	3.55
Households with low food security	8,048	1,391	17.3	8,067	156	1.93
Households with very low food security	4,384	1,288	29.4	4,397	286	6.50

<sup>1</sup>Totals exclude households that did not answer the question about food pantries or emergency kitchens. Totals in the bottom section also exclude households that did not answer any of the questions in the food security scale.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

there was no food pantry available or because the household believed there was none available. Among food-insecure households that did not use a food pantry, 25 percent reported that there was no such resource in their community, and an additional 20 percent said they did not know if there was one. Nevertheless, even among food-insecure households that knew there was a food pantry in their community, only 33 percent availed themselves of it.

About 32 percent of households that used food pantries and emergency kitchens were classified as food secure. Statistics not shown in table 14 indicate that almost half (49 percent) of these food-secure households did, however, report some concerns or difficulties in obtaining enough food by responding positively to 1 or 2 of the 18 indicators of food insecurity, indicating marginal food security. (A household must report occurrence of at least three of the indicators to be classified as food insecure; see appendix A). The proportions using food pantries and emergency kitchens were much higher among households with marginal food security (those that reported one or two indicators of food insecurity) than among households with high food security (those that reported no indicators of food insecurity)—10 times as high for food pantry use and 6 times as high for use of emergency kitchens.

### **Use of Food Pantries, by Selected Household Characteristics**

The use of food pantries varied considerably by household structure and by race and ethnicity (table 15). Households with children were nearly twice as likely as those without children to use food pantries (4.8 percent compared with 2.8 percent). Food pantry use was especially high among female-headed households with children (10.5 percent), while use by married couples with children (2.7 percent) and households with elderly members (2.3 percent) was lower than the national average. Use of food pantries was higher among Blacks (7.8 percent) and Hispanics (3.9 percent) than among non-Hispanic Whites (2.7 percent), consistent with the higher rates of poverty and food insecurity of these minorities. In spite of their lower use

rate, non-Hispanic Whites comprised a majority (55 percent) of food-pantry users because of their larger share in the general population.

About 16 percent of households with incomes below the poverty line received food from food pantries, compared with 0.9 percent of households with incomes above 185 percent of the poverty line.<sup>30</sup> Among households with incomes above the poverty line but below 185 percent of the poverty line, 1.0 million (3.0 million less 2.0 million) used food pantries in 2005, comprising 25 percent of all households using food pantries and 6.9 percent of households in that income range.

Use of food pantries was higher in principal cities of metropolitan areas (4.3 percent) and in nonmetropolitan areas (4.3 percent) than in metropolitan areas outside of central cities (2.4 percent). There was not a large regional variation in the use of food pantries, although use was somewhat more common in the West (3.9 percent) and the Midwest (3.8 percent).

## **Combined Use of Federal and Community Food Assistance**

Both Federal and community food assistance programs are important resources for low-income households. To design and manage these programs so that they function together effectively as a nutrition safety net, it is important to know how they complement and supplement each other. The extent to which households that participate in Federal food assistance programs also receive assistance from community food assistance programs provides information about these relationships.

Just over one in four (27.0 percent) of the households that received food stamps in the month prior to the survey also obtained food from a food pantry at some time during the year (table 16). These households comprised 48.6 percent of all households that reported using a food pantry. Food pantry use was somewhat less common among households with members who participated in the National School Lunch Program (17.5 percent) and the WIC Program (17.8 percent), reflecting the higher income-eligibility criteria of these programs. A sizeable majority of food pantry users (66.2 percent) received food from at least one of the three largest Federal food assistance programs. The remainder of food pantry users (33.8 percent) did not participate in any of these Federal programs.

Only small proportions (from 1 to 4 percent) of households that received assistance from the three largest Federal food assistance programs reported that any household member had eaten a meal at an emergency kitchen during the 12 months prior to the survey. Nevertheless, these households comprised a sizeable share of emergency kitchen users in the housed population. Among households with incomes less than 185 percent of the poverty line who reported that someone in the household ate one or more meals at an emergency kitchen, 49.3 percent received food stamps, 18.2 percent received free or reduced-cost meals in the National School Lunch Program, 9.2 percent received WIC benefits, and 59.7 percent participated in at least one of these three programs. These statistics probably overstate the actual

<sup>30</sup>Use of food pantries by households with incomes higher than 1.85 times the poverty line was probably slightly underreported by the CPS food security survey. Households in this income range were not asked the question about using a food pantry unless they had indicated some level of food stress on at least one of two preliminary screener questions (listed in footnote 5). However, analysis of the use of food pantries by households at different income levels below 1.85 times the poverty line (and thus not affected by the screen) indicates that the screening had only a small effect on the estimate of food pantry use by households with incomes above that range.

Table 15

**Use of food pantries by selected household characteristics, 2005**

Category	Total <sup>1</sup>	Pantry users	
	1,000	1,000	Percent
All households	114,121	3,975	3.5
Household composition:			
With children < 18	39,454	1,903	4.8
At least one child < 6	17,548	943	5.4
Married-couple families	26,732	713	2.7
Female head, no spouse	9,568	1,008	10.5
Male head, no spouse	2,526	116	4.6
Other household with child <sup>2</sup>	628	67	10.7
With no children < 18	74,667	2,072	2.8
More than one adult	44,202	880	2.0
Women living alone	16,964	690	4.1
Men living alone	13,501	502	3.7
With elderly	26,517	608	2.3
Elderly living alone	10,701	333	3.1
Race/ethnicity of households:			
White non-Hispanic	82,001	2,185	2.7
Black non-Hispanic	13,651	1,069	7.8
Hispanic <sup>3</sup>	12,314	477	3.9
Other	6,155	244	4.0
Household income-to-poverty ratio:			
Under 1.00	12,527	2,007	16.0
Under 1.30	17,116	2,448	14.3
Under 1.85	26,984	3,004	11.1
1.85 and over	65,003	566	0.9
Income unknown	22,133	406	1.8
Area of residence: <sup>4</sup>			
Inside metropolitan area	94,660	3,144	3.3
In principal cities <sup>5</sup>	31,558	1,372	4.3
Not in principal cities	46,892	1,129	2.4
Outside metropolitan area	19,461	831	4.3
Census geographic region:			
Northeast	21,144	624	3.0
Midwest	26,310	1,039	3.9
South	41,548	1,352	3.3
West	25,119	960	3.8

<sup>1</sup>Totals exclude households that did not answer the question about getting food from a food pantry. They represented 0.6 percent of all households.

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation. Food pantry statistics by area of residence are comparable with those for 2004 but are not precisely comparable with those of earlier years.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

Table 16

**Combined use of Federal and community food assistance programs by low-income households,<sup>1</sup> 2005**

Category	Share of category that obtained food from food pantry	Share of food pantry users in category	Share of category that ate meal at emergency kitchen	Share of emergency kitchen users in category
	<i>Percent</i>			
Received food stamps previous 30 days	27.0	48.6	4.2	49.3
Received free or reduced-price school lunch previous 30 days	17.5	33.5	1.5	18.2
Received WIC previous 30 days	17.8	14.4	1.7	9.2
Participated in one or more of the three Federal programs	20.5	66.2	2.8	59.7
Did not participate in any of the three Federal programs	5.9	33.8	1.1	40.3

<sup>1</sup>Analysis is restricted to households with annual incomes less than 185 percent of the poverty line because most households with incomes above that range were not asked whether they participated in food assistance programs.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

shares of emergency kitchen users who participate in the Federal food assistance programs, however. The households most likely to be underrepresented in the food security survey—those homeless or tenuously housed—are also less likely than other households to participate in the Federal food assistance programs.

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## Appendix A. Household Responses to Questions in the Food Security Scale

The 18 questions from which the food security measure is calculated ask about conditions, experiences, and behaviors that characterize a wide range of severity of food insecurity. One way the range of severity represented by the questions is observed is in the percentages of households that respond affirmatively to the various questions. For example, the condition described by the least severe question, *We worried whether our food would run out before we got money to buy more*, was reported by 15.6 percent of households in 2005 (table A-1). *Adults cutting the size of meals or skipping meals because there wasn't enough money for food* was reported by 6.2 percent of households. The most severe item, *children not eating for a whole day because there wasn't enough money for food*, was reported by 0.1 percent of households with children. (See box on page 3 for the complete wording of these questions.)

The two least severe questions refer to uncertainty about having enough food and the experience of running out of food. The remaining 16 items indicate reductions in quality, variety, or desirability of diets, increasingly severe disruptions of normal eating patterns, and reductions in food intake. Three or more affirmative responses are required for a household to be classified as food insecure. Thus, all households with that classification affirmed at least one item indicating reduced diet quality, disruption of normal eating patterns, or reduction in food intake. Most food-insecure households reported multiple indicators of these conditions (table A-2).

A large majority of food-secure households (74.3 percent of all households with children and 84.9 percent of those without children) reported no problems or concerns in meeting their food needs. However, households that reported only one or two indications of food insecurity (10.0 percent of households with children and 6.6 percent of households without children) are also classified as food secure. Most of these households affirmed one or both of the first two items, indicating uncertainty about having enough food or about exhausting their food supply, but did not indicate actual disruptions of normal eating patterns or reductions in food intake.

Although these households are classified as food secure, the food security of some of them may have been tenuous at times, especially in the sense that they lacked “assured ability to acquire acceptable foods in socially acceptable ways,” a condition that the Life Sciences Research Office includes in its definition of food insecurity (Anderson, 1990, p. 1598). Research examining health and children’s development in households that affirm just one or two food insecurity indicators is ongoing. Findings to date indicate that outcomes in these marginally food-secure households are either intermediate between those in fully food-secure and food-insecure households or more closely resemble those in food-insecure households (Radimer and Nord, 2005; Winicki and Jemison, 2003; Wilde and Peterman, 2006).

Table A-1

**Responses to items in the food security scale, 2002-05<sup>1</sup>**

Scale item <sup>3</sup>	Households affirming item <sup>2</sup>			
	2002	2003	2004	2005
	<i>Percent</i>			
Household items:				
Worried food would run out before (I/we) got money to buy more	15.6	15.7	16.6	15.6
Food bought didn't last and (I/we) didn't have money to get more	12.4	12.3	13.1	12.2
Couldn't afford to eat balanced meals	10.5	10.8	11.6	10.7
Adult items:				
Adult(s) cut size of meals or skipped meals	6.0	6.2	6.6	6.2
Respondent ate less than felt he/she should	5.9	5.9	6.3	6.5
Adult(s) cut size or skipped meals in 3 or more months	4.2	4.4	4.8	4.6
Respondent hungry but didn't eat because couldn't afford	2.7	2.7	3.1	2.9
Respondent lost weight	1.8	1.7	2.0	2.0
Adult(s) did not eat for whole day	1.2	1.2	1.3	1.3
Adult(s) did not eat for whole day in 3 or more months	.8	.9	1.0	.9
Child items:				
Relied on few kinds of low-cost food to feed child(ren)	16.5	16.1	17.1	14.7
Couldn't feed child(ren) balanced meals	8.9	8.9	9.8	8.5
Child(ren) were not eating enough	4.3	4.7	4.6	3.7
Cut size of child(ren)'s meals	1.2	1.0	1.2	1.3
Child(ren) were hungry	.9	.7	1.0	.8
Child(ren) skipped meals	.7	.4	.6	.6
Child(ren) skipped meals in 3 or more months	.5	.3	.4	.4
Child(ren) did not eat for whole day	.1	.1	.1	.1

<sup>1</sup>Survey responses weighted to population totals.

<sup>2</sup>Households not responding to item are excluded from the denominator. Households without children are excluded from the denominator of child-referenced items.

<sup>3</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

Source: Calculated by ERS using data from the December 2002, December 2003, December 2004, and December 2005 Current Population Survey Food Security Supplements.

## Frequency of Occurrence of Behaviors, Experiences, and Conditions That Indicate Food Insecurity

Most of the questions used to calculate the food security scale also elicit information about how often the food-insecure behavior, experience, or condition occurred. The food security scale does not take all of this frequency-of-occurrence information into account, but analysis of these responses can provide insight into the frequency and duration of food insecurity. Frequency-of-occurrence information is collected in the CPS Food Security Supplements using two different methods (see box, "Questions Used To Assess the Food Security of Households in the CPS Food Security Survey," on page 3):

- **Method 1:** A condition is described, and the respondent is asked whether this was often, sometimes, or never true for his or her household during the past 12 months.

Table A-2

**Percentage of households by food security raw score, 2005**

<i>Panel A: Households with children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households <sup>1</sup>	Cumulative percent of households <sup>1</sup>	Food security status
0	74.32	74.32	Food secure (84.35 percent)
1	5.68	80.00	
2	4.35	84.35	
3	3.34	87.69	Low food security (11.57 percent)
4	2.69	90.37	
5	2.34	92.72	
6	1.91	94.62	
7	1.29	95.92	
8	1.23	97.14	Very low food security (4.08 percent)
9	.85	98.00	
10	.68	98.68	
11	.39	99.07	
12	.31	99.38	
13	.25	99.63	
14	.11	99.74	
15	.15	99.90	
16	.06	99.96	
17	.03	99.99	
18	.01	100.00	
<i>Panel B: Households with no children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households <sup>1</sup>	Cumulative percent of households <sup>1</sup>	Food security status
0	84.86	84.86	Food secure (91.46 percent)
1	3.65	88.51	
2	2.95	91.46	
3	2.44	93.91	Low food security (4.78 percent)
4	1.28	95.19	
5	1.06	96.24	
6	1.33	97.58	Very low food security (3.76 percent)
7	1.02	98.60	
8	.60	99.20	
9	.31	99.51	
10	.49	100.00	

<sup>1</sup>Survey responses weighted to population totals.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

- **Method 2:** Respondents who answer “yes” to a yes/no question are asked, “How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?”

Table A-3 presents responses to each food security question broken down by reported frequency of occurrence for all households interviewed in the December 2005 survey. Questions using method 1 are presented in the top panel of the table and those using method 2 are presented in the bottom panel. Most households that responded affirmatively to method 1 questions reported that the behavior, experience, or condition occurred “sometimes,” while 17 to 24 percent (depending on the specific question) reported that it occurred “often.” For example, 3.6 percent of households reported that in

the past 12 months they had often worried whether their food would run out before they got money to buy more, and 12.0 percent reported that this had occurred sometimes (but not often). Thus, a total of 15.6 percent of households reported that this had occurred at some time during the past 12 months and, of those, 23 percent reported that it had occurred often. (Note that calculations across some rows in table A-3 differ from tabled values because of rounding in each column.)

In response to method 2 questions, 23 to 31 percent of households that responded “yes” to the base question reported that the behavior, experience, or condition occurred “in almost every month;” 36 to 46 percent reported that it occurred in “some months, but not every month;” and 26 to 35 percent reported that it occurred “in only 1 or 2 months.” For example, 6.2 percent of households reported that an adult cut the size of a meal or skipped a meal because there was not enough money for food. In response to the followup question asking how often this happened, 2.0 percent said that it happened in almost every month (i.e., 31 percent of those who responded “yes” to the base question), 2.6 percent said it happened in some months but not every month (42 percent of those who responded “yes” to the base question), and 1.6 percent said it happened in only 1 or 2 months (26 percent of those who responded “yes” to the base question).

Table A-4 presents the same frequency-of-occurrence response statistics for households classified as having very low food security. Almost all of these households responded affirmatively (either “often” or “sometimes”) to the first four questions—questions that are sensitive to less severe aspects of food insecurity—and 39 to 49 percent of those who responded affirmatively reported that these conditions had occurred often during the past year. In response to method 2 questions, 31 to 44 percent of households that affirmed adult-referenced questions and 24 to 28 percent of households that affirmed child-referenced questions reported that the conditions had occurred in “almost every month.”

## **Monthly and Daily Occurrence of Food-Insecure Conditions**

Respondents also reported whether the behaviors and experiences that indicate food insecurity had occurred during the 30 days prior to the survey. (Responses to these questions are used to assess the food security status of households during the 30-day period prior to the survey. Statistics based on this measure are reported in appendix E.) For seven of these behaviors and experiences, respondents also reported how many days the condition had occurred during that period. Responses to these questions are summarized in table A-5.

Most households that reported the occurrence of reduced food intake or being hungry during the 30 days prior to the survey reported that these conditions were of relatively short duration, although some households reported longer or more frequent spells. For example, of the 4 percent of households in which adults cut the size of meals or skipped meals during the previous 30 days because there wasn’t enough money for food, 66 percent reported that this had occurred in 1 to 7 days, 14 percent reported

Table A-3

**Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during the year	Frequency of occurrence					
		Often	Sometimes	Often	Sometimes	Often	Sometimes
		—Percent of all households—				Percent of “ever during the year”	
Worried food would run out before (I/we) got money to buy more	15.6	3.6	12.0	23	77		
Food bought didn't last and (I/we) didn't have money to get more	12.2	2.4	9.9	19	81		
Couldn't afford to eat balanced meals	10.7	2.6	8.1	24	76		
Relied on few kinds of low-cost food to feed child(ren)	14.7	3.4	11.3	23	77		
Couldn't feed child(ren) balanced meals	8.5	1.5	7.0	17	83		
Child(ren) were not eating enough	3.7	.7	3.0	19	81		

Condition <sup>2</sup>	Frequency of occurrence							
	Ever during the year	Almost every month	Some months but not every month	In only 1 or 2 months	Almost every month	Some months but not every month	In only 1 or 2 months	
	—Percent of all households—				Percent of “ever during the year”			
Adult(s) cut size of meals or skipped meals	6.2	2.0	2.6	1.6	31	42	26	
Respondent ate less than felt he/she should	6.4	1.8	2.9	1.7	28	45	27	
Respondent hungry but didn't eat because couldn't afford	2.9	.9	1.2	0.8	31	41	28	
Respondent lost weight	2.0	NA	NA	NA	NA	NA	NA	
Adult(s) did not eat for whole day	1.3	.4	.5	.5	29	36	35	
Cut size of child(ren)'s meals	1.3	.3	.6	.4	26	45	29	
Child(ren) were hungry	.8	.2	.4	.3	24	43	33	
Child(ren) skipped meals	.6	.1	.3	.2	23	46	31	
Child(ren) did not eat for whole day	.1	NA	NA	NA	NA	NA	NA	

<sup>1</sup>Survey responses weighted to population totals. Households not responding to an item or not responding to the followup question about frequency of occurrence are excluded from the calculation of percentages for that item. Households without children are excluded from the calculation of percentages for child-referenced items.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., “...because (I was/we were) running out of money to buy food,” or “...because there wasn't enough money for food.”

NA = Frequency-of-occurrence information was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

that it had occurred in 8-14 days, and 20 percent reported that it had occurred in 15 days or more of the previous 30 days. On average, households reporting occurrence of this condition at any time in the previous 30 days reported that it occurred in about 8 days. The daily occurrence patterns were generally similar for all of the indicators of reduced food intake and disrupted eating patterns. Average days of occurrence (for those reporting occurrence at any time during the month) ranged from 5.8 days for *adult did not eat for whole day* to 9.3 days for *respondent ate less than he/she felt he/she should*.

Average daily prevalence of the various behaviors, experiences, and conditions characterizing very low food security were calculated based on the proportion of households reporting the condition at any time during the previous 30 days and the average number of days in which the condition

Table A-4

**Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by households with very low food security, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during the year	Frequency of occurrence			
		Often	Sometimes	Often	Sometimes
	—Percent of all households—			Percent of “ever during the year”	
Worried food would run out before (I/we) got money to buy more	98.2	48.2	50.0	49	51
Food bought didn't last and (I/we) didn't have money to get more	96.2	38.0	58.3	39	61
Couldn't afford to eat balanced meals	94.4	41.6	52.8	44	56
Relied on few kinds of low-cost food to feed child(ren)	96.1	42.8	53.3	45	55
Couldn't feed child(ren) balanced meals	89.0	26.6	62.4	30	70
Child(ren) were not eating enough	59.9	15.6	44.3	26	74

Condition <sup>2</sup>	Frequency of occurrence						
	Ever during the year	Almost every month	Some months but not every month	In only 1 or 2 months	Almost every month	Some months but not every month	In only 1 or 2 months
	—Percent of all households—				Percent of “ever during the year”		
Adult(s) cut size of meals or skipped meals	95.8	42.5	43.7	9.6	44	46	10
Respondent ate less than felt he/she should	94.0	37.4	44.8	11.8	40	48	13
Respondent hungry but didn't eat because couldn't afford	59.9	22.0	25.5	12.4	37	43	21
Respondent lost weight	43.6	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	31.0	9.6	12.0	9.4	31	39	30
Cut size of child(ren)'s meals	27.1	7.6	12.9	6.5	28	48	24
Child(ren) were hungry	19.4	5.0	8.5	5.9	26	44	30
Child(ren) skipped meals	14.0	3.3	6.8	3.9	24	49	28
Child(ren) did not eat for whole day	2.7	NA	NA	NA	NA	NA	NA

<sup>1</sup>Survey responses weighted to population totals. Households not responding to an item or not responding to the followup question about frequency of occurrence are excluded from the calculation of percentages for that item. Households without children are excluded from the calculation of percentages for child-referenced items.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

NA = Frequency-of-occurrence information was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

occurred.<sup>31</sup> These daily prevalence rates ranged from 1.16 percent for *respondent ate less than he/she felt he/she should* to 0.07 percent for *children skipped meals*.

No direct measure of the daily prevalence of very low food security has yet been developed. However, the ratio of daily prevalence to annual prevalence of the various indicator conditions provides a basis for estimating the likely range for the average daily prevalence of very low food security during the reference 30-day period. For the adult-referenced items, daily prevalences ranged from 20 to 31 percent of their prevalence at any time during the month (table A-5) and from 12 to 18 percent of their prevalence at any time during the year (table A-3). The corresponding ranges for the child-referenced items

<sup>31</sup>Average daily prevalence is calculated as the product of the 30-day prevalence and the average number of days divided by 30.

Table A-5

**Monthly and daily occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during previous 30 days	For households reporting condition at any time during previous 30 days			Monthly average occurrence	Average daily prevalence
		Number of days out of previous 30 days				
		1-7 days	8-14 days	15-30 days		
	— — — —	—Percent <sup>3</sup> —	— — — —		Days <sup>3</sup>	Percent <sup>3</sup>
Worried food would run out before (I/we) got money to buy more	6.93	NA	NA	NA	NA	NA
Food bought didn't last and (I/we) didn't have money to get more	5.98	NA	NA	NA	NA	NA
Couldn't afford to eat balanced meals	6.12	NA	NA	NA	NA	NA
Relied on few kinds of low-cost food to feed child(ren)	8.28	NA	NA	NA	NA	NA
Couldn't feed child(ren) balanced meals	5.28	NA	NA	NA	NA	NA
Child(ren) were not eating enough	2.48	NA	NA	NA	NA	NA
Adult(s) cut size of meals or skipped meals	4.03	66	14	20	8.3	1.12
Respondent ate less than felt he/she should	3.75	61	15	24	9.3	1.16
Respondent hungry but didn't eat because couldn't afford	1.72	65	14	21	8.6	.49
Respondent lost weight	1.26	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	.82	79	11	10	5.8	.16
Cut size of child(ren)'s meals	.79	69	17	14	7.3	.19
Child(ren) were hungry	.46	64	20	16	8.1	.13
Child(ren) skipped meals	.35	72	23	5	6.3	.07
Child(ren) did not eat for whole day	.09	NA	NA	NA	NA	NA

<sup>1</sup>Survey responses weighted to population totals. The 30-day and daily statistics refer to the 30-day period from mid-November to mid-December; the survey was conducted during the week of December 11-17, 2005.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

<sup>3</sup>Households without children are excluded from the denominator of child-referenced items.

NA = Number of days of occurrence was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

were 20 to 28 percent of monthly prevalence and 12 to 16 percent of annual prevalence. These findings are generally consistent with those of Nord et al. (2000), and are used to estimate upper and lower bounds of the daily prevalence of very low food security described in the first section of this report.

## Appendix B. Background on the U.S. Food Security Measurement Project

This report of household food security in 2005 is the latest in a series of reports on *Measuring Food Security in the United States*. Previous reports in the series are:

- *Household Food Security in the United States in 1995: Summary Report of the Food Security Measurement Project* (Hamilton et al., 1997a)
- *Household Food Security in the United States in 1995: Technical Report* (Hamilton et al., 1997b)
- *Household Food Security in the United States, 1995-1998: Advance Report* (Bickel et al., 1999)
- *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999)
- *Guide to Measuring Household Food Security, Revised 2000* (Bickel et al., 2000)
- *Household Food Security in the United States, 1999* (Andrews et al., 2000)
- *Household Food Security in the United States, 1995-1997: Technical Issues and Statistical Report* (Ohls et al., 2001)
- *Household Food Security in the United States, 1998 and 1999: Detailed Statistical Report* (Cohen et al., 2002b)
- *Household Food Security in the United States, 1998 and 1999: Technical Report* (Cohen et al., 2002a)
- *Household Food Security in the United States, 2000* (Nord et al., 2002b)
- *Measuring Children's Food Security in U.S. Households, 1995-99* (Nord and Bickel, 2002)
- *Household Food Security in the United States, 2001* (Nord et al., 2002a)
- *A 30-Day Food Security Scale for Current Population Survey Food Security Supplement Data* (Nord 2002)
- *Household Food Security in the United States, 2002* (Nord et al., 2003)
- *Household Food Security in the United States, 2003* (Nord et al., 2004)
- *Household Food Security in the United States, 2004* (Nord et al., 2005)

The series was inaugurated in September 1997 with the three-volume report, *Household Food Security in the United States in 1995* (Hamilton et al., 1997a and 1997b, Price et al., 1997). The advance report of findings for 1995-98 (Bickel, Carlson, and Nord, 1999) was released in July 1999, and a report detailing prevalence rates of food insecurity by State for the 1996-98 period (Nord, Jemison, and Bickel, 1999) was released in September 1999. Summary reports of findings for 1999 (Andrews et al., 2000), 2000 (Nord et al., 2002b), 2001 (Nord et al., 2002a), 2002 (Nord et al., 2003), and 2003 (Nord et al., 2004) continued the national report series and expanded its scope. Detailed statistical reports for 1995-97 (Ohls et al., 2001) and for 1998-99 (Cohen et al., 2002b) provided additional prevalence statistics,

along with standard errors for prevalence estimates, and explored technical issues in food security measurement.

The estimates contained in all of these reports are based on a direct survey measure developed over several years by the U.S. Food Security Measurement Project, an ongoing collaboration among Federal agencies, academic researchers, and both commercial and nonprofit private organizations (Carlson et al., 1999; Olson, 1999.) The measure was developed in response to the National Nutrition Monitoring and Related Research Act of 1990. The Ten-Year Comprehensive Plan developed under the Act specified the following task:

*Recommend a standardized mechanism and instrument(s) for defining and obtaining data on the prevalence of “food insecurity” or “food insufficiency” in the U.S. and methodologies that can be used across the NNMRR Program and at State and local levels.*<sup>32</sup>

Beginning in 1992, USDA staff reviewed the existing research literature, focusing on the conceptual basis for measuring the severity of food insecurity and hunger and on the practical problems of developing a survey instrument for use in sample surveys at national, State, and local levels.

In January 1994, USDA’s Food and Nutrition Service (FNS) joined with the U.S. Department of Health and Human Services’ National Center for Health Statistics (NCHS), in sponsoring a National Conference on Food Security Measurement and Research. This meeting brought together leading academic experts and other private researchers and key staff of the concerned Federal agencies. The conference identified the consensus among researchers in the field as to the strongest conceptual basis for a national measure of food insecurity and hunger. It also led to a working agreement about the best method for implementing such a measure in national surveys (USDA, 1995).

After extensive cognitive assessment, field testing, and analysis by the U.S. Census Bureau, a food security survey questionnaire was fielded by the bureau as a supplement to the Current Population Survey (CPS) of April 1995.<sup>33</sup> The CPS food security survey was repeated in September 1996, April 1997, August 1998, April 1999, September 2000, April 2001, December 2001, December 2002, and December 2003. Minor modifications to the questionnaire format and screening procedures were made over the first several years, and a more substantial revision in screening and format, designed to reduce respondent burden and improve data quality, was introduced with the August 1998 survey. However, the content of the 18 questions upon which the U.S. Food Security Scale is based remained constant in all years.

Initial analysis of the 1995 data was undertaken by Abt Associates, Inc., through a cooperative venture with FNS, the interagency working group, and other key researchers involved in developing the questionnaire. The Abt team used nonlinear factor analysis and other state-of-the-art scaling methods to produce a measurement scale for the severity of deprivation in basic food needs, as experienced by U.S. households. Extensive testing was carried out to establish the validity and reliability of the scale and its applicability across

<sup>32</sup>Task V-C-2.4, U.S. Department of Health and Human Services and U.S. Department of Agriculture: Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program. *Federal Register* 1993, 58:32 752-806.

<sup>33</sup>The Current Population Survey (CPS) is a representative national sample of approximately 60,000 households conducted monthly by the U.S. Census Bureau for the U.S. Department of Labor, Bureau of Labor Statistics. Its primary purpose is to monitor labor force participation and employment in the United States and each of the 50 States. Various Federal agencies sponsor collection of specialized supplementary data by the CPS following the labor-force interview. The CPS food security survey has been conducted annually since 1995 as one such CPS supplement, sponsored by USDA. From 1995 to 2000, the food security survey alternated between April and August/September; beginning in 2001, it has been conducted in early December.

various household types in the broad national sample (Hamilton et al., 1997a, 1997b).<sup>34</sup>

Following collection of the September 1996 and April 1997 CPS food security data, Mathematica Policy Research, Inc. (MPR), under a contract awarded by FNS, reproduced independently the results from the 1995 CPS food security data, estimated prevalences of food insecurity and food insecurity with hunger for 1996 and 1997, and assessed the stability and robustness of the measurement model when applied to the separate datasets. The MPR findings (Ohls et al., 2001) establish the stability of the food security measure over the 1995-97 period. That is, the relative severities of the items were found to be nearly invariant across years and across major population groups and household types.

In 1998, USDA's Economic Research Service (ERS) assumed sponsorship of the Census Bureau's annual CPS food security data collection for USDA. ERS and IQ Solutions (working under a contract awarded by ERS) analyzed the 1998 and 1999 data, applying and refining the procedures developed for USDA in the Abt and MPR research. These analyses found continuing stability of the measure in those 2 years (Cohen et al., 2002a). Research by ERS and FNS also developed measurement methods for assessing the food security of children (Nord and Bickel, 2002) and for measuring the food security of households during the 30 days prior to interview based on the CPS food security survey data available from 1994 to 2005 (Nord, 2002).

In 2003-06, an expert panel convened by the Committee on National Statistics (CNSTAT) of the National Academies conducted a thorough review of the food security measurement methods. USDA requested the review by CNSTAT to ensure that the measurement methods USDA uses to assess households' access—and lack of access—to adequate food and the language used to describe those conditions are conceptually and operationally sound and that they convey useful and relevant information to policy officials and the public. The panel convened by CNSTAT to conduct this study included economists, sociologists, nutritionists, statisticians, and other researchers. One of the central issues the CNSTAT panel addressed was whether the concepts and definitions underlying the measurement methods—especially the concept and definition of hunger and the relationship between hunger and food insecurity—were appropriate for the policy context in which food security statistics are used.

The CNSTAT panel recommended that USDA continue to measure and monitor food insecurity regularly in a household survey, affirmed the appropriateness of the general methodology currently used to measure food insecurity, and suggested several ways in which the methodology might be refined (contingent on confirmatory research). Research on these issues is currently underway at ERS.

The CNSTAT panel recommended that USDA make a clear and explicit distinction between food insecurity and hunger. Food insecurity—the condition assessed in the food security survey and represented in the statistics in this report—is a household-level economic and social condition of limited or uncertain access to adequate food. Hunger is an individual-level physiological

<sup>34</sup>The food security scale reported here is based on the Rasch measurement model, an application of maximum likelihood estimation in the family of Item Response Theory models (Wright, 1977, 1983). These statistical measurement models were developed in educational testing, where test items vary systematically in difficulty and the overall score measures the level of difficulty that the tested individual has mastered. In the present application, the items vary in the severity of food insecurity to which they refer, and the overall score measures the severity of food insecurity recently experienced by household members.

condition that may result from food insecurity. The word “hunger,” the panel stated in its final report, “...should refer to a potential consequence of food insecurity that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation.” To measure hunger in this sense would require collection of more detailed and extensive information on physiological experiences of individual household members than could be accomplished effectively in the context of the CPS-FSS. In the CPS-FSS, one person provides information on all household members, and the basic CPS, which carries the CPS-FSS as a supplement, is focused primarily on employment and other labor force issues. The panel recommended, therefore, that new methods be developed to measure hunger and that a national assessment of hunger be conducted using an appropriate survey of individuals rather than a survey of households.

The CNSTAT panel also recommended that USDA consider alternate labels to convey the severity of food insecurity without using the word “hunger,” since hunger is not adequately assessed in the food security survey. USDA concurs with this recommendation and, accordingly, has introduced the new labels “low food security” and “very low food security” to replace “food insecurity without hunger” and “food insecurity with hunger,” respectively, in this year’s report. USDA is collaborating with partners in the food security measurement community to explore how best to implement other recommendations of the CNSTAT panel.

A large number of independent researchers in the academic and nutrition communities also have used the U.S. food security survey module and food security scale to assess the severity and prevalence of food insecurity in various population groups. One general result of these studies has been to verify the consistency of the measurement construct and the robustness of the measurement method in diverse populations and survey contexts. A summary list of many of these studies is available from the Brandeis University Center on Hunger and Poverty at [www.centeronhunger.org](http://www.centeronhunger.org).

Nonetheless, the following caveats need to be kept in mind when interpreting the prevalence estimates in this report:

- The Current Population Survey, which carries the food security survey as a supplement, is representative of the noninstitutionalized population of the United States. It is based on a complete address list of sampled areas (counties and metropolitan areas), but does not include homeless persons who are not in shelters. This may result in an underestimate of the number of persons with very low food security.
- Case study and ethnographic research suggests that some parents are reluctant to report inadequate food intake for their children even when it has occurred (Hamilton et al., 1997b, p. 88). This may result in an underestimate of the prevalence of very low food security among children based on food security survey data.
- Small, random measurement errors, combined with the nature of the distribution of households across the range of severity of food insecurity, may result in a modest overestimate of food insecurity and very low food security. False positives—the incorrect classification

of food-secure households as food insecure—are more likely than false negatives because there are more households just above the food insecurity threshold than in a similar range just below it. (Most households are food secure, and the number in each range of severity declines as severity increases.) The same is true at the very-low-food-security threshold (Hamilton et al., 1997a, p. 65; Hamilton et al., 1997b, p. 89).

## Appendix C. USDA's Thrifty Food Plan

The Thrifty Food Plan—developed by USDA—serves as a national standard for a nutritious diet at low cost. It represents a set of “market baskets” of food that people of specific age and gender could consume at home to maintain a healthful diet that meets current dietary standards, taking into account the food consumption patterns of U.S. households. The cost of the meal plan for each age/gender category is calculated based on average national food prices adjusted for inflation.<sup>35</sup>

The cost of the market basket for a household is further adjusted by household size to account for economies of scale. The cost of the Thrifty Food Plan is used in this report to adjust household spending on food so that spending can be compared meaningfully among households of different sizes and age-gender compositions. It provides a baseline that takes into account differences in households' calorie and nutrient requirements due to these differences in household composition. This appendix provides background information on the Thrifty Food Plan and details of how it is calculated for each household.

In 1961, USDA developed four cost-specific, nutritionally balanced food plans: Economy, Low-cost, Moderate-cost, and Liberal. The food plans were developed by studying the food-purchasing patterns of households in the United States and modifying these choices by the least amount necessary to meet nutritional guidelines at specific cost objectives. The Economy Food Plan and the Thrifty Food Plan that replaced it at the same designated cost level in 1975 have been used for a number of important policy and statistical purposes over the years. In the 1960s, a low-income threshold based on the Economy Food Plan was adopted as the official poverty threshold of the United States (Citro and Michael, 1995, p. 110). The cost of the Thrifty Food Plan is used by USDA's Food and Nutrition Service as a basis for determining families' maximum food stamp allotments.<sup>36</sup>

The Thrifty Food Plan was last revised by USDA's Center for Nutrition Policy and Promotion (CNPP) in 1999. This was done to reflect updated dietary recommendations and food composition data and current food prices and consumption patterns, while maintaining the cost at the level of the previous market baskets (USDA, 1999). CNPP updates the cost of each of USDA's four food plans monthly to reflect changes in food prices, as measured by the Consumer Price Index for specific food categories. Table C-1 lists estimated weekly costs of the four USDA food plans for the month of December 2005—the month the 2005 CPS food security survey was conducted.

The cost of the Thrifty Food Plan was calculated for each household in the food security survey, based on the information in table C-1, and was used as a baseline for comparing food expenditures across different types of households.<sup>37</sup> The food plan costs in table C-1 are given for individuals in the context of four-person families. For households that are larger or smaller than four persons, the costs must be adjusted for economies of scale, as specified in the first footnote of table C-1. For example, the weekly Thrifty Food Plan cost for a household composed of a married couple with no children, ages 29

<sup>35</sup>The costs of the Thrifty Food Plan for residents of Alaska and Hawaii are calculated based on State food prices rather than average national food prices.

<sup>36</sup>The Thrifty Food Plan was revised several times over the years (with major changes in 1983 and 1999) in order to take into account new information about nutritional needs, nutritional values of foods, food consumption preferences, and food prices (Kerr et al., 1984; USDA, 1999). In these revisions, USDA gave attention both to cost containment—keeping the cost of the Thrifty Food Plan near the food stamp benefit level—and to the buying patterns of households (Citro and Michael, 1995, p. 111).

<sup>37</sup>For residents in Alaska and Hawaii, the Thrifty Food Plan costs were adjusted upward by 14.6 percent and 43.7 percent, respectively, to reflect the higher cost of the Thrifty Food Plan in those States.

Table C-1

**Weekly cost of USDA food plans: cost of food at home at four levels, December 2005**

Age-gender group <sup>1</sup>	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
<i>Dollars</i>				
Child:				
1 year <sup>2</sup>	18.10	22.80	26.60	32.20
2 years	18.10	22.50	26.90	32.40
3-5 years	19.90	24.70	30.50	36.80
6-8 years	25.10	33.30	41.10	48.00
9-11 years	29.40	37.40	48.00	55.80
Male:				
12-14 years	30.60	42.30	52.30	61.90
15-19 years	31.70	43.70	54.50	63.40
20-50 years	33.90	43.60	54.40	66.50
51 years and over	30.90	41.60	51.30	61.70
Female:				
12-19 years	30.50	36.70	44.50	53.70
20-50 years	30.60	38.00	46.50	60.00
51 years and over	30.20	37.00	46.10	55.40
Examples of families				
1. Couple: 20-50 years	70.90	89.80	111.00	139.10
2. Couple, 20-50 years, with 2 children ages 2 and 3-5 years	102.50	128.80	158.30	195.60

<sup>1</sup>The costs given are for individuals in 4-person families. For individuals in other-size families, the following adjustments are suggested: 1-person, add 20 percent; 2-person, add 10 percent; 3-person, add 5 percent; 5- or 6-person, subtract 5 percent; 7- (or more) person, subtract 10 percent.

<sup>2</sup>USDA does not have official food plan cost estimates for children less than 1-year old. Since the Thrifty Food Plan identifies the most economical sources of food, in this analysis we assume a food plan based on breastfeeding. We arbitrarily set the cost of feeding a child under 1-year old at half the cost of feeding a 1-year old child, in order to account for the added food intake of mothers and other costs associated with breastfeeding. While this estimate is rather arbitrary, it affects only 2.5 percent of households in our analysis.

Source: USDA, Center for Nutrition Policy and Promotion, <http://www.usda.gov/cnpp/FoodPlans/Updates/fooddec05.pdf>.

(husband) and 30 (wife), is given by adding the individual Thrifty Food Plan costs for the husband (\$33.90) and wife (\$30.60) and adjusting the total upward by 10 percent. The adjusted total (\$70.90) represents the cost of the Thrifty Food Plan for this type of household.

## Appendix D. Prevalence Rates of Food Insecurity by State, 1996-98, 2000-2002, and 2003-05

State-level prevalence rates of food insecurity and very low food security for the period 2003-05 are compared with 3-year average rates for 2000-02 and 1996-98 in table D-1. The statistics for 2003-05 are repeated from table 7. The statistics for the two earlier periods were reported previously in *Household Food Security in the United States, 2002* (Nord et al., 2003). The statistics for 1996-98 presented here and in *Household Food Security in the United States, 2002* were revised from those reported in *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999) to adjust for differences in data collection procedures in the two periods.<sup>38</sup>

In four States—Florida, Hawaii, North Dakota, and Oregon—prevalence rates of food insecurity declined from 2000-02 to 2003-05 by statistically significant percentages, while 15 States registered statistically significant increases. The prevalence of very low food security increased by statistically significant percentages in 14 States and the District of Columbia during that period, and no State registered a statistically significant decline.<sup>39</sup>

Statistically significant changes from 1996-98 to 2003-05 were as follows: Prevalence rates of food insecurity declined in 6 States and increased in 17 States. Prevalence rates of very low food security declined in 5 States and increased in 15 States.

<sup>38</sup>To reduce the burden on survey respondents, households—especially those with higher incomes—that report no indication of any food access problems on two or three “screener” questions are not asked the questions in the food security module. They are classified as food secure. Screening procedures in the CPS food security surveys were modified from year to year prior to 1998 to achieve an acceptable balance between accuracy and respondent burden. Since 1998, screening procedures have remained unchanged. The older, more restrictive screening procedures depressed prevalence estimates—especially for food insecurity—compared with those in use since 1998 because a small proportion of food insecure households were screened out along with those that were food secure. To provide an appropriate baseline for assessing changes in State prevalence rates of food insecurity, statistics from the 1996-98 report were adjusted upward to offset the estimated effects of the earlier screening procedures on each States’ prevalence rates. The method used to calculate these adjustments was described in detail in *Household Food Security in the United States, 2001* (Nord et al., 2002), appendix D.

<sup>39</sup>Seasonal effects on food security measurement (discussed in section 1) probably bias prevalence rates for 1996-98 and 2000-02 upward somewhat compared with 2003-05. At the national level, this effect may have raised the measured prevalence rate of food insecurity in 1996-98 by about 0.8 percentage points and the prevalence rate of very low food security by about 0.4 percentage points. Effects for the period 2000-02 were probably about half as large. However, seasonal effects may have differed from State to State.

Table D-1

**Prevalence of household-level food insecurity and very low food security by State, 1996-98 (average), 2000-02 (average), and 2003-05 (average)<sup>1</sup>**

State	Food Insecurity (low or very low food security)					Very low food security				
	Average	Average	Average	Change	Change	Average	Average	Average	Change	Change
	2003-05	2000-02	1996-98 <sup>1</sup>	2000-02 to 2003-05*	1996-98 to 2003-05*	2003-05	2000-02	1996-98 <sup>1</sup>	2000-02 to 2003-05*	1996-98 to 2003-05*
	Percent			Percentage points		Percent			Percentage points	
U.S.	11.4	10.8	11.3	0.6*	0.1	3.8	3.3	3.7	0.5*	0.1
AK	12.2	11.8	8.7	.4	3.5*	4.9	4.3	3.6	.6	1.3
AL	12.3	12.5	12.5	-.2	-.2	3.4	3.7	3.3	-.3	.1
AR	14.7	14.6	13.7	.1	1.0	5.6	4.4	4.8	1.2	.8*
AZ	12.2	12.5	14.6	-.3	-2.4	3.8	3.7	4.3	.1	-.5
CA	11.7	11.7	13.3	.0	-1.6*	3.6	3.5	4.3	.1	-.7*
CO	12.0	9.2	10.8	2.8*	1.2*	3.9	2.8	3.8	1.1*	.1
CT	8.2	7.6	11.0	.6	-2.8	2.6	2.8	4.1	-.2	-1.5
DC	11.4	9.3	13.7	2.1*	-2.3	3.8	2.3	4.7	1.5*	-.9
DE	6.6	6.8	8.1	-.2	-1.5	1.9	1.9	2.9	.0	-1.0
FL	9.4	11.8	13.2	-2.4*	-3.8*	3.5	3.7	4.5	-.2	-1.0*
GA	12.4	12.9	10.9	-.5	1.5	5.1	3.5	3.4	1.6*	1.7*
HI	7.8	11.9	12.9	-4.1*	-5.1*	2.8	3.6	3.1	-.8	-.3
IA	10.9	9.1	8.0	1.8*	2.9*	3.5	2.8	2.6	.7	.9
ID	14.1	13.7	11.3	.4	2.8*	3.7	4.3	3.3	-.6	.4
IL	9.1	8.6	9.6	.5	-.5	3.2	2.7	3.2	.5	.0
IN	11.1	8.9	9.0	2.2*	2.1*	4.1	2.8	2.9	1.3*	1.2*
KS	12.3	11.7	11.5	.6	.8	4.6	3.9	4.2	.7	.4
KY	12.8	10.8	9.7	2.0*	3.1*	4.2	2.9	3.4	1.3*	.8
LA	12.8	13.1	14.4	-.3	-1.6	3.6	2.9	4.4	.7	-.8
MA	7.8	6.4	7.5	1.4	.3	3.0	2.1	2.1	.9*	.9*
MD	9.4	8.2	8.7	1.2	.7	3.6	2.9	3.3	.7	.3
ME	12.3	9.0	9.8	3.3*	2.5*	4.6	2.8	4.0	1.8*	.6
MI	11.5	9.2	9.6	2.3*	1.9*	4.1	3.0	3.1	1.1*	1.0*
MN	7.7	7.1	8.6	.6	-.9	3.0	2.2	3.1	.8	-.1
MO	11.7	9.9	10.1	1.8*	1.6*	4.0	3.3	3.0	.7*	1.0*
MS	16.5	14.8	14.6	1.7*	1.9	4.4	4.5	4.2	-.1	.2
MT	11.2	12.8	11.2	-1.6	.0	4.6	4.1	3.0	.5	1.6*
NC	13.2	12.3	9.8	.9	3.4*	4.5	3.7	2.7	.8	1.8*
ND	6.4	8.1	5.5	-1.7*	.9	2.2	2.0	1.6	.2	.6*
NE	10.3	10.7	8.7	-.4	1.6*	4.0	3.1	2.5	.9	1.5*
NH	6.5	6.7	8.6	-.2	-2.1*	2.2	2.1	3.1	.1	-.9
NJ	8.1	8.5	8.9	-.4	-.8	2.6	2.7	3.1	-.1	-.5*
NM	16.8	14.3	16.5	2.5	.3	5.7	3.8	4.8	1.9*	.9
NV	8.4	9.3	10.4	-.9	-2.0	3.0	3.3	4.0	-.3	-1.0
NY	10.4	9.4	11.9	1.0*	-1.5*	3.1	2.9	4.1	.2	-1.0*
OH	12.6	9.8	9.7	2.8*	2.9*	3.8	3.3	3.5	.5	.3
OK	14.6	14.3	13.1	.3	1.5	4.8	5.1	4.2	-.3	.6
OR	11.9	13.7	14.2	-1.8*	-2.3	3.9	5.0	6.0	-1.1	-2.1*
PA	9.8	9.4	8.3	.4	1.5*	2.9	2.7	2.6	.2	.3
RI	12.4	10.1	10.2	2.3*	2.2*	4.1	3.4	2.7	.7	1.4*
SC	15.5	12.3	11.0	3.2*	4.5*	6.3	4.3	3.5	2.0*	2.8*
SD	9.5	8.0	8.2	1.5*	1.3*	3.2	2.2	2.2	1.0*	1.0*
TN	13.0	11.3	11.8	1.7	1.2	4.2	3.3	4.4	.9	-.2
TX	16.0	14.8	15.2	1.2	.8	5.1	4.1	5.5	1.0*	-.4
UT	14.5	15.2	10.3	-.7	4.2*	5.1	4.6	3.1	.5	2.0*
VA	8.4	7.3	10.2	1.1	-1.8	2.7	1.8	3.0	.9*	-.3
VT	9.5	9.0	8.8	.5	.7	3.9	2.4	2.7	1.5*	1.2*
WA	11.2	12.3	13.2	-1.1	-2.0*	3.9	4.4	4.7	-.5	-.8
WI	9.5	8.1	8.5	1.4*	1.0	2.7	3.3	2.6	-.6	.1
WV	8.9	9.4	9.5	-.5	-.6	3.0	2.7	3.1	.3	-.1
WY	11.1	10.7	9.9	.4	1.2	4.1	4.3	3.5	-.2	.6

\*Change was statistically significant with 90-percent confidence ( $t > 1.645$ ).

<sup>1</sup> Statistics for 1996-98 were revised to account for changes in survey screening procedures introduced in 1998.

Source: Prepared by ERS based on Current Population Survey Food Security Supplement data.

## Appendix E. Food Security During 30 Days Prior to Food Security Survey

The annual food security survey was initially designed with the primary objective of assessing households' food security during the 12-month period prior to the survey. Some information was also collected with reference to the 30-day period prior to the survey, but before 2005, this included only a subset of the food security questions—those indicating more severe levels of food insecurity.

Beginning with the 2005 survey, information on the full set of food security questions was collected for both the 30 days and 12 months prior to the survey. Households that responded affirmatively to the 12-month question were asked whether the same behavior, experience, or condition occurred during the last 30 days. Responses to these questions were used to assess the food security status of households during the 30 days prior to the survey, following the same protocols that were used for the 12-month measure. The new methodology supports estimates for food security, low food security, and very low food security during the 30-day period prior to the survey, whereas the older methodology supported only estimates of very low food security.

About 94 percent of households were food secure throughout the 30-day period from mid-November to mid-December 2005 (table E-1).<sup>40</sup> About 6.7 million households (5.9 percent) were food insecure at some time during that period, including 2.5 million (2.2 percent) that had very low food security.<sup>41</sup>

The prevalence of food insecurity during the 30 days from mid-November to mid-December was 54 percent of that for the entire 12 months prior to the survey; the corresponding statistic for very low food security was 57 percent. If food insecurity during this 30-day period was similar to that for other 30-day periods throughout the year, then these comparisons imply that the average household that was food insecure at some time during the year experienced this condition in 6 months of the year, and the average household with very low food security experienced that condition in 7 months of the year.<sup>42</sup> However, analysis of food insecurity in different months suggests that food insecurity is somewhat more prevalent in the summer months (July-September) than in March-April and November-December (Cohen et al., 2002a; Nord and Romig, forthcoming), so typical frequencies may be somewhat higher than the 6 and 7 months implied by the December data.

The prevalence rates of food insecurity and very low food security during the 30 days prior to the survey varied across household types following the same general pattern as the 12-month measure. Prevalence rates were lowest for married-couple families with children, households with two or more adults without children, households that included an elderly person, White non-Hispanic households, and households with incomes higher than 185 percent of the poverty line. Prevalence rates were highest for single parents, Blacks, Hispanics, and households with low incomes. Relationships between 30-day and 12-month prevalence rates did not differ greatly across the categories of households listed in table E-1 except that 30-day prevalences were a larger

<sup>40</sup> The food security survey was conducted during the week of December 11-17, 2005.

<sup>41</sup> Because of this change in methodology, the 30-day statistics for very low food security in this report are not directly comparable with 30-day statistics for food insecurity with hunger in previous years' reports. Using the previous years' methodology, the prevalence of very low food security during the 30 days prior to the December 2005 survey would have been 2.9 percent (essentially unchanged from 2004) compared with 2.1 percent using the new methodology.

<sup>42</sup> The implied frequency of very low food security (7 months) for those experiencing the condition at any time during the year is lower than that reported in previous years (8 to 9 months). The new methodology for measuring very low food security is more consistent with the 12-month measure than was the method used in previous years.

Table E-1

**Prevalence of food security and food insecurity during the 30 days prior to the food security survey by selected household characteristics, 2005<sup>1</sup>**

Category	Total <sup>1</sup>	Food insecurity							
		Food security		All				Very low food security	
		1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All households	114,437	107,704	94.1	6,733	5.9	4,203	3.7	2,530	2.2
Household composition:									
With children < 18	39,601	36,342	91.8	3,259	8.2	2,340	5.9	919	2.3
With children < 6	17,615	16,119	91.5	1,496	8.5	1,096	6.2	400	2.3
Married-couple families	26,776	25,399	94.9	1,377	5.1	1,041	3.9	336	1.3
Female head, no spouse	9,659	8,078	83.6	1,581	16.4	1,101	11.4	480	5.0
Male head, no spouse	2,536	2,298	90.6	238	9.4	152	6.0	86	3.4
Other household with child <sup>2</sup>	630	567	90.0	63	10.0	46	7.3	17	2.7
With no children < 18	74,836	71,362	95.4	3,474	4.6	1,863	2.5	1,611	2.2
More than one adult	44,267	42,726	96.5	1,541	3.5	850	1.9	691	1.6
Women living alone	17,019	15,981	93.9	1,038	6.1	530	3.1	508	3.0
Men living alone	13,550	12,655	93.4	895	6.6	483	3.6	412	3.0
With elderly	26,609	25,879	97.3	730	2.7	502	1.9	228	0.9
Elderly living alone	10,749	10,432	97.1	317	2.9	212	2.0	105	1.0
Race/ethnicity of households:									
White non-Hispanic	82,144	78,571	95.7	3,573	4.3	2,190	2.7	1,383	1.7
Black non-Hispanic	13,732	12,120	88.3	1,612	11.7	982	7.2	630	4.6
Hispanic <sup>3</sup>	12,397	11,166	90.1	1,231	9.9	835	6.7	396	3.2
Other	6,164	5,846	94.8	318	5.2	197	3.2	121	2.0
Household income-to-poverty ratio:									
Under 1.00	12,646	10,026	79.3	2,620	20.7	1,588	12.6	1,032	8.2
Under 1.30	17,264	13,978	81.0	3,286	19.0	1,980	11.5	1,306	7.6
Under 1.85	27,205	22,909	84.2	4,296	15.8	2,630	9.7	1,666	6.1
1.85 and over	65,030	63,361	97.4	1,669	2.6	1,068	1.6	601	0.9
Income unknown	22,202	21,434	96.5	768	3.5	505	2.3	263	1.2
Area of residence: <sup>4</sup>									
Inside metropolitan area	94,945	89,422	94.2	5,523	5.8	3,436	3.6	2,087	2.2
In principal cities <sup>5</sup>	31,708	29,366	92.6	2,342	7.4	1,384	4.4	958	3.0
Not in principal cities	46,998	44,845	95.4	2,153	4.6	1,389	3.0	764	1.6
Outside metropolitan area	19,492	18,280	93.8	1,212	6.2	768	3.9	444	2.3
Census geographic region:									
Northeast	21,196	20,221	95.4	975	4.6	662	3.1	313	1.5
Midwest	26,387	24,752	93.8	1,635	6.2	1,026	3.9	609	2.3
South	41,653	39,042	93.7	2,611	6.3	1,555	3.7	1,056	2.5
West	25,202	23,689	94.0	1,513	6.0	961	3.8	552	2.2

<sup>1</sup>The 30-day prevalence rates refer to the 30-day period from mid-November to mid-December; the survey was conducted during the week of December 12-18, 2004. Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2005, these represented 395,000 households (0.3 percent of all households.) The 30-day statistics for very low food security are based on a different methodology than 30-day statistics on food insecurity with hunger reported in previous years and are not comparable.

<sup>2</sup>Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area residence is based on 2003 Office of Management and Budget delineation.

<sup>5</sup>Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

proportion of 12-month prevalences in households with lower incomes than in those with incomes above 185 percent of the poverty line.

The 30-day food security measure facilitates a more temporally precise analysis of the relationship between households' food insecurity and their use of Federal and community food assistance programs than does the 12-month measure. That is, measured food insecurity and reported use of food assistance programs are more likely to refer to contemporaneous conditions when both are referenced to the previous 30 days than when one or both is referenced to the previous 12 months. For households that left the Food Stamp Program during the year, the 30-day measure of food security can also provide information about their food security status after they left the program.

The 30-day prevalence of food insecurity (32.4 percent) and very low food security (13.9 percent) among households that left the Food Stamp Program during the year were more than twice the corresponding rates for households in the same low-income range that did not receive food stamps at any time during the year (14.6 percent for food-insecure households and 5.7 percent for households with very low food security; table E-2). Prevalence rates among food stamp leavers were similar to, or slightly higher than, those among households that received food stamps during the 30 days prior to the survey. This implies that not all households that left the Food Stamp Program did so because their economic situations had improved to a level that assured access to enough food without food stamps. Associations of 30-day prevalence rates of very low food security with use of other food assistance programs were similar to those of the 12-month measure reported in table 11.

Table E-2

**Prevalence of food insecurity during the 30 days prior to the food security survey,  
by participation in selected Federal and community food assistance programs, 2005<sup>1</sup>**

Category	Food insecurity (low or very low food security)	Very low food security
	<i>Percent</i>	
Income less than 130 percent of poverty line:		
Received food stamps previous 30 days	28.2	11.2
Received food stamps previous 12 months but not previous 30 days (food stamp leavers)	32.4	13.9
Did not receive food stamps previous 12 months	14.6	5.7
Income less than 185 percent of poverty line; school-age children in household:		
Received free or reduced-price school lunch previous 30 days	23.6	7.4
Did not receive free or reduced-price school lunch previous 30 days	11.3	2.8
Income less than 185 percent of poverty line; children under age 5 in household:		
Received WIC previous 30 days	22.6	5.9
Did not receive WIC previous 30 days	13.7	4.2
Income less than 185 percent of poverty line:		
Received emergency food from food pantry previous 30 days	53.8	24.8
Did not receive emergency food from food pantry previous 30 days	13.7	5.1
Ate meal at emergency kitchen previous 30 days	62.7	34.1
Did not eat meal at emergency kitchen previous 30 days	15.3	5.9

<sup>1</sup>The 30-day prevalence rates refer to the 30-day period from mid-November to mid-December; the survey was conducted during the week of December 11-17, 2005.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.