

Appendix C: Comparing Prevalence Rates of Food Insecurity and Hunger Across Years

Due to changes in administration of the Food Security Supplement over the first few years of data collection, prevalence statistics cannot be directly compared between some years. Inter-year comparisons to 1995, 1996, or 1997 require adjustment of data in all years to represent, post hoc, a common methodology. In this appendix, reasons for the inter-year differences are described, and tables of prevalence rates based on separate editing protocols are presented to facilitate comparison both to earlier reports and to anticipated future reports.

The main adjustment required for comparability of prevalence estimates is to apply common screening criteria to each year's data. In collecting the CPS food-security data, an initial screener is applied to higher income households to avoid undue interview burden for households showing little indication of a food adequacy problem. The exact specification of that screener was changed several times in the initial years of data collection. Further, in the 1996 and 1997 surveys a similar screen also was applied to lower income households. In any year, households screened out are deemed to be food secure, based on negative responses to the broad initial screening questions. Analysis of the 1995 data conducted after implementation of the 1996 and 1997 surveys indicated that a small but non-trivial proportion of the low-income households screened out in 1996 and 1997 would have been classified as food insecure if they had been asked the full set of food-security indicator questions. For this reason, screening procedures were again revised in 1998. Under the new protocol, all low-income households (with incomes below 185 percent of the poverty line), as well as higher income households that register indications of food stress on either of two preliminary screening questions, are asked the three least severe core food-security questions (or the first five if there are children in the household.) If any of these less severe items is affirmed, then additional, more severe core questions are asked.

To achieve strict comparability across years, data from 1995, 1998, and 1999 were, in effect, adjusted post hoc to the 1996-1997 screening rules.¹ Households that

¹Other minor differences in the screening criteria used in different years also exist. As a result, the common screen

would have been screened out in any year are deemed to be food secure without reference to their actual responses. This method achieves cross-year comparability, but at the cost of discarding valid information and understating the prevalence of food insecurity. This is apparent in appendix figure C-1, which presents prevalence rates based on both common-screen-adjusted data and on full-sample, or unadjusted, data. For example, the best estimate of food-insecurity prevalence in 1999, using all data available, was 10.1 percent, while the estimate based on the more restrictive screening was 8.7 percent. The original 1995 screening method and the revised method adopted for 1998 and 1999, although different in form, show very little difference in their effect on estimated prevalence of food insecurity. However, the data as collected in 1996 and 1997 are problematic for inter-year comparisons. The screening method used in 1996 exerted a significant downward bias on prevalence estimates; this was reduced somewhat in the 1997 screening, but to an extent which is unknown. Consequently, direct comparisons between the unadjusted data appear to be acceptable only for the years 1995, 1998, and 1999.

The estimated prevalence of hunger is less affected by the screening differences across years because most households with this level of severity of food deprivation screen "in" under any year's protocol. The full-data estimate for 1999 is 3.0 percent, compared with estimated prevalence of 2.8 percent based on the more restrictive common screen.

The revised screening protocol initiated in 1998 was continued in 1999 and is planned for 2000 and future data collections. Thus, food security and hunger prevalence statistics based on the full data as collected will be directly comparable from 1998 onward. The present report provides the bridging comparison. Table 1 and appendix table C-1 present 1999 statistics adjusted to be comparable to earlier years' statistics as presented in *Household Food Security in the United States*

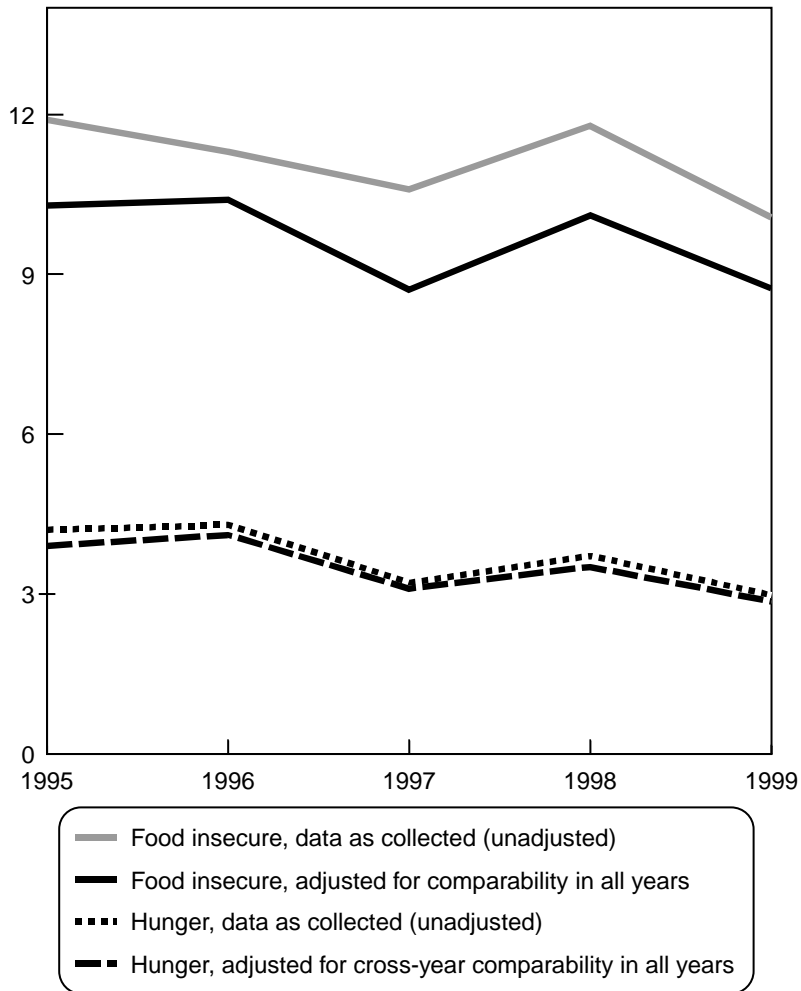
applied in the 5 years is actually somewhat more restrictive than the screen applied in any single year, representing the least restrictive screening rules that could be applied uniformly across all 5 years. Details of the screening changes and construction of a common screen will be provided in a forthcoming FNS technical report.

1995-1998: *Advance Report*. Tables 2 and 3 present 1999 statistics based on full-sample data as collected. These are comparable to unadjusted 1998 statistics and to those for future years. Appendix tables C-2 and C-3 present 1998 statistics based on unadjusted data to complete the baseline of statistics based on the new screening protocol.

Appendix figure C-1

Comparison of prevalences of food insecurity and hunger in U.S. households, 1995-99

Percent of households



Data as collected in 1996 and 1997 are not comparable with 1995, 1998, and 1999.

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

Table C-1--1999: Prevalence of food security, food insecurity, and hunger by selected characteristics of households

(Based on data adjusted for cross-year comparability)

Category	Total*	Food secure		Food insecure:					
		1,000	1,000	Percent	All	Without hunger	With hunger	1,000	Percent
All households	104,816	95,664	91.3	9,152	8.7	6,166	5.9	2,987	2.8
All persons in households	270,609	243,652	90.0	26,957	10.0	19,441	7.2	7,515	2.8
Adults in households	199,116	182,793	91.8	16,323	8.2	11,447	5.8	4,875	2.4
Children in households	71,493	60,859	85.1	10,634	14.9	7,994	11.2	2,640	3.7
Household composition:									
With children < 6	17,260	14,782	85.6	2,478	14.4	1,967	11.4	511	3.0
With children < 18	37,927	33,030	87.1	4,897	12.9	3,682	9.7	1,215	3.2
Married couple families	26,318	24,205	92.0	2,113	8.0	1,691	6.4	421	1.6
Female head, no spouse	8,769	6,404	73.0	2,365	27.0	1,686	19.2	679	7.8
Male head, no spouse	2,187	1,857	84.9	330	15.1	244	11.1	87	4.0
Other household with child **	653	564	86.3	89	13.7	61	9.4	28	4.3
With no children < 18	66,889	62,634	93.6	4,255	6.4	2,483	3.7	1,772	2.7
More than one adult	39,603	37,758	95.3	1,845	4.7	1,158	2.9	686	1.7
Women living alone	16,068	14,715	91.6	1,353	8.4	706	4.4	646	4.0
Men living alone	11,218	10,160	90.6	1,058	9.4	619	5.5	439	3.9
Households with elderly	24,748	23,567	95.2	1,181	4.8	811	3.3	370	1.5
Elderly living alone	10,077	9,547	94.7	529	5.3	322	3.2	207	2.1
Race/ethnicity of households:									
White non-Hispanic	79,076	74,276	93.9	4,800	6.1	3,189	4.0	1,611	2.0
Black non-Hispanic	12,643	10,251	81.1	2,392	18.9	1,618	12.8	774	6.1
Hispanic***	9,218	7,580	82.2	1,638	17.8	1,156	12.5	482	5.2
Other non-Hispanic	3,878	3,556	91.7	322	8.3	203	5.2	119	3.1
Household income-to-poverty ratio:									
Under 0.50	4,570	2,882	63.1	1,688	36.9	1,070	23.4	618	13.5
Under 1.00	11,344	7,474	65.9	3,870	34.1	2,505	22.1	1,365	12.0
Under 1.30	17,474	12,216	69.9	5,258	30.1	3,419	19.6	1,839	10.5
Under 1.85	27,335	20,726	75.8	6,609	24.2	4,431	16.2	2,178	8.0
1.85 and over	63,925	62,002	97.0	1,923	3.0	1,350	2.1	573	.9
Income not known	13,556	12,936	95.4	620	4.6	384	2.8	236	1.7
Area of residence:									
Inside metropolitan area	84,415	77,081	91.3	7,334	8.7	4,882	5.8	2,452	2.9
In central city****	26,771	23,568	88.0	3,203	12.0	2,130	8.0	1,073	4.0
Not in central city****	43,145	40,249	93.3	2,896	6.7	1,917	4.4	979	2.3
Outside metropolitan area	20,401	18,583	91.1	1,818	8.9	1,284	6.3	534	2.6
Census geographic region:									
Northeast	20,002	18,544	92.7	1,458	7.3	963	4.8	495	2.5
Midwest	24,610	22,877	93.0	1,733	7.0	1,231	5.0	502	2.0
South	37,640	33,989	90.3	3,651	9.7	2,480	6.6	1,171	3.1
West	22,564	20,253	89.8	2,311	10.2	1,492	6.6	819	3.6

* , ** , *** , **** —See Notes to tables, page 9.

Table C-2--1998: Prevalence of food security, food insecurity, and hunger, by selected characteristics of households

(Based on unadjusted data)

Category	Total*	Food secure		Food insecure:					
				All		Without hunger		With hunger	
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All households	103,309	91,121	88.2	12,188	11.8	8,353	8.1	3,835	3.7
All persons in households	268,366	232,219	86.5	36,147	13.5	26,290	9.8	9,857	3.7
Adults in households	197,084	174,964	88.8	22,120	11.2	15,632	7.9	6,488	3.3
Children in households	71,282	57,255	80.3	14,027	19.7	10,658	15.0	3,369	4.7
Household composition:									
With children < 6	17,087	13,882	81.2	3,206	18.8	2,529	14.8	676	4.0
With children < 18	38,036	31,335	82.4	6,701	17.6	5,049	13.3	1,652	4.3
Married Couple families	26,306	23,284	88.5	3,022	11.5	2,468	9.4	554	2.1
Female head, no spouse	8,807	5,692	64.6	3,115	35.4	2,183	24.8	932	10.6
Male head, no spouse	2,153	1,727	80.2	426	19.8	308	14.3	118	5.5
Other household with child**	770	632	82.1	138	17.9	89	11.6	49	6.3
With no children < 18	65,273	59,786	91.6	5,487	8.4	3,304	5.1	2,183	3.3
More than one adult	38,563	36,107	93.6	2,456	6.4	1,560	4.0	896	2.3
Women living alone	15,502	13,848	89.3	1,654	10.7	988	6.4	666	4.3
Men living alone	11,207	9,830	87.7	1,377	12.3	756	6.7	621	5.5
Households with elderly	24,309	22,741	93.5	1,568	6.5	1,105	4.6	463	1.9
Elderly living alone	10,006	9,374	93.7	632	6.3	421	4.2	211	2.1
Race/ethnicity of households:									
White non-Hispanic	78,238	71,775	91.7	6,462	8.3	4,413	5.6	2,049	2.6
Black non-Hispanic	12,471	9,443	75.7	3,028	24.3	1,971	15.8	1,058	8.5
Hispanic**	8,678	6,509	75.0	2,169	25.0	1,583	18.2	586	6.8
Other non-Hispanic	3,922	3,394	86.5	528	13.5	385	9.8	143	3.6
Household income-to-poverty ratio:									
Under 0.50	5,128	2,979	58.1	2,149	41.9	1,320	25.7	829	16.2
Under 1.00	12,270	7,596	61.9	4,673	38.1	2,999	24.4	1,674	13.6
Under 1.30	17,804	11,697	65.7	6,107	34.3	3,988	22.4	2,119	11.9
Under 1.85	28,833	20,758	72.0	8,075	28.0	5,406	18.8	2,669	9.3
1.85 and over	62,223	59,024	94.9	3,199	5.1	2,352	3.8	847	1.4
Income not known	12,253	11,339	92.5	914	7.5	595	4.9	319	2.6
Area of residence:									
Inside metropolitan area	83,064	73,278	88.2	9,786	11.8	6,647	8.0	3,138	3.8
In central city****	26,559	22,205	83.6	4,354	16.4	2,825	10.6	1,530	5.8
Not in central city****	42,217	38,311	90.8	3,905	9.2	2,770	6.6	1,135	2.7
Outside metropolitan area	20,245	17,843	88.1	2,402	11.9	1,705	8.4	697	3.4
Census geographic region:									
Northeast	19,576	17,501	89.4	2,075	10.6	1,419	7.2	657	3.4
Midwest	24,227	21,980	90.7	2,247	9.3	1,572	6.5	675	2.8
South	37,322	32,561	87.2	4,760	12.8	3,233	8.7	1,528	4.1
West	22,184	19,079	86.0	3,105	14.0	2,129	9.6	976	4.4

*, **, ***, **** —See Notes to tables, page 9.

Table C-3--1998: Prevalence of food security, food insecurity, and hunger in households with income below 130 percent of the poverty line, by selected characteristics of households

(Based on unadjusted data)

Category	Total*	Food secure		Food insecure:					
				All		Without hunger		With hunger	
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All low-income households	17,804	11,697	65.7	6,107	34.3	3,988	22.4	2,119	11.9
Persons in low-income households	49,530	30,364	61.3	19,166	38.7	13,392	27.0	5,774	11.7
Adults in low-income households	31,050	20,306	65.4	10,744	34.6	7,267	23.4	3,477	11.2
Children in low-income households	18,481	10,059	54.4	8,422	45.6	6,125	33.1	2,297	12.4
Household composition:									
With children < 6	4,397	2,517	57.2	1,880	42.8	1,437	32.7	443	10.1
With children < 18	8,162	4,556	55.8	3,606	44.2	2,581	31.6	1,025	12.6
Married couple families	3,285	2,038	62.0	1,247	38.0	965	29.4	282	8.6
Female head, no spouse	4,119	2,067	50.2	2,052	49.8	1,402	34.0	650	15.8
Male head, no spouse	548	322	58.8	226	41.2	166	30.3	60	11.0
Other household with child**	211	129	61.4	82	38.6	49	23.0	33	15.6
With no children < 18	9,642	7,141	74.1	2,501	25.9	1,408	14.6	1,094	11.3
More than one adult	4,151	3,099	74.7	1,052	25.3	659	15.9	393	9.5
Women living alone	3,558	2,740	77.0	818	23.0	470	13.2	348	9.8
Men living alone	1,934	1,302	67.3	632	32.7	279	14.4	353	18.2
Households with elderly	4,815	3,912	81.2	903	18.8	634	13.2	269	5.6
Elderly living alone	2,840	2,436	85.8	404	14.2	253	8.9	151	5.3
Race/ethnicity of households:									
White non-Hispanic	9,710	6,980	71.9	2,730	28.1	1,685	17.4	1,045	10.8
Black non-Hispanic	4,068	2,310	56.8	1,758	43.2	1,172	28.8	587	14.4
Hispanic***	3,281	1,899	57.9	1,382	42.1	972	29.6	411	12.5
Other non-Hispanic	744	508	68.3	236	31.7	160	21.5	76	10.2
Area of residence:									
Inside metropolitan area	13,189	8,456	64.1	4,733	35.9	3,069	23.3	1,664	12.6
In central city****	5,940	3,511	59.1	2,429	40.9	1,570	26.4	859	14.5
Not in central city****	4,699	3,194	68.0	1,505	32.0	967	20.6	538	11.4
Outside metropolitan area	4,615	3,241	70.2	1,374	29.8	919	19.9	455	9.9
Census geographic region:									
Northeast	2,997	1,970	65.7	1,027	34.3	659	22.0	369	12.3
Midwest	3,408	2,424	71.1	984	28.9	615	18.1	369	10.8
South	7,193	4,737	65.8	2,456	34.2	1,615	22.5	841	11.7
West	4,205	2,566	61.0	1,639	39.0	1,099	26.2	540	12.8

*, **, ***, **** —See Notes to tables, page 9.